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Original Articles.

THE NON-SUPPURATIVE INFLAMMATIONS OF THE BRAIN, WITH REPORT OF A CASE OF HEMORRHAGIC (MALARIAL?) ENCEPHALITIS.

BY CHARLES L. DANA, M.D., AND M. G. SCHLAPP, M.D.,
NEW YORK.

Forms of Non-Suppurative Brain Inflammation.—The chief inflammatory disease of the brain, and the one with which every one is more or less clinically familiar, is suppurative encephalitis, which causes the various forms of brain abscesses. This is the only type of acute inflammation that, until recent years, has been described definitely in systematic works. Within the last ten years it has, however, been found that there are forms of acute brain inflammation which do not end in suppuration and which are curable. Some of these are distinctly and easily recognized, while our knowledge of others is still imperfect. In sifting out the mass of material which has been contributed to the subject of acute, non-suppurative encephalitis, we find that we can make out the following pretty well recognizable forms:[1]

First: The infectious encephalitis of infants. There is no doubt whatever now of the actual existence of a pathological condition of this kind, although it does not involve the cortex alone, as Strümpell first supposed, but is a more or less diffuse process.

Second: The hemorrhagic polioencephalitis of adults (polioencephalitis superior and inferior).

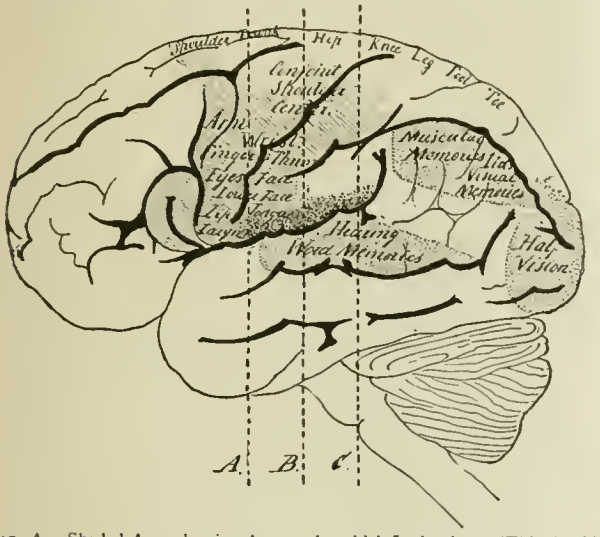

FIG. A.—Shaded Area showing Area under which Lesion lay. (This should represent the right hemisphere.)

This is usually alcoholic in origin and affects the gray matter in the floor of the fourth ventricle, and the aqueduct, causing acute ophthalmoplegia and bulbar palsy.

Third: Hemorrhagic encephalitis of adults, due often to influenza or some other infection, called sometimes an "influenzal encephalitis."

Under this last head we class cases of acute hemorrhagic encephalitis which vary somewhat in cause

FIG. B.—Section through *A*, Showing Location of the Lesion. The darkest spot represents a solid clot of blood.

and symptoms, though always acute, and accompanied with small hemorrhages. It is to this group of "hemorrhagic encephalitis of adults" that the case here reported belongs. The patient was an old man, whereas in most cases hemorrhagic encephalitis of adults affects persons in early or middle life. There was a distinct history of alcoholism, but at the same time no evidence that he belonged to the worst type of such cases; besides this, his blood-vessels were not atheromatous, nor was there a general arterial sclerosis throughout the brain. He had, on the other hand, distinct malarial infection, and it is extremely probable that the influence of a malarial infection, acting upon the blood-vessels weakened by the use of alcohol, led to the condition from which he suffered. Cases of this kind may be classed as those of degenerative, infectious encephalitis, and they lead to clinical types which resemble those of ordinary apoplexy with hemiplegia plus an encephalitic process. Such cases are mentioned by Strümpell; they are, however, certainly rare in the ordinary history of hospital experience. Looking over the records of the autopsies in sixty-seven cases of apoplexy which are in our possession, we find that there were of hemorrhagic apoplexy, 42; embolic apoplexy, 11; thrombotic apoplexy, 11; encephalitic apoplexy, 3. This would give the proportion of encephalitic apoplexies as about four per cent., and that seems to us to represent about the correct number of cases of this kind which we meet with in post-mortem examinations.

The case we have to report seems to belong to the

[1] The history and literature of encephalitis has been recently and fully studied by Oppenheim (Nothnagel's "Special Pathologie," art. "Encephalitis"). A valuable addition to the literature has been made by M. Köppen: "Encephalitis," Arch. f. Psych. Bd. xxx., p. 954.

same class as that described by Köppen.[1] The disease has a tendency to affect the smaller vessels supplying the cortex and the gray matter of the cranial

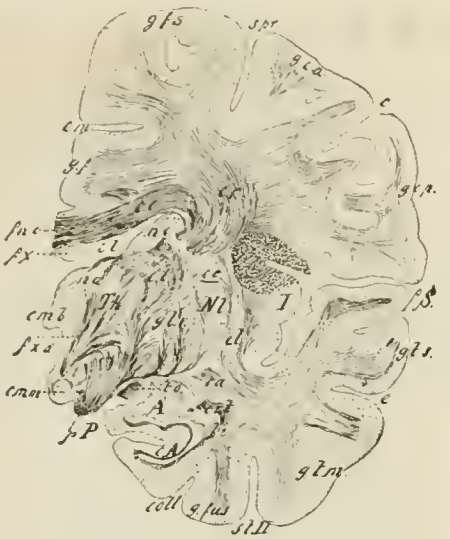

FIG. C.—Section through *B*.

nerve nuclei, though it is not strictly limited to those parts; still it is in contrast to the morbid processes which lead to atheroma of the larger arteries, to miliary aneurisms, embolisms, thrombosis, and massive hemorrhages.

History of Case.—Christian S——, age sixty-seven, German, married; occupation gardener; was brought to Bellevue Hospital on June 4, 1899, in a semi-conscious state. The family history was unimportant, there being no record of apoplexy or paralysis, so far as friends knew. The patient had never used tobacco; he had, however, drunk beer and whiskey all his life, also a great deal of kümmel. The testimony of some of his friends was to the effect that he had been immoderate in the use of alcohol. We could get no specific history. His wife was a healthy woman, but had never had children. He had never been acutely and seriously ill. Fifteen years ago his right leg had been frozen and this had left him with an ulcer which had not healed, but had never been septic. Six years ago he suffered from a sunstroke and ever after was extremely sensitive to

FIG. D.—Section through *C*.

heat. He had become somewhat of an invalid, not doing much work, but going out every day and generally to a saloon to drink beer and play cards. There was some weakness of the extremities during this time, and they were always cold and feeble, but he was not paralyzed. He was a right-handed man.

On June 4, 1899, the patient complained of a headache. He took two cups of strong tea and went to bed at about 8 o'clock P.M. At 10 o'clock he fell out of bed, and was then discovered by his wife to be suffering from left hemiplegia. He was brought in a semi-conscious condition to Bellevue in a carriage. Under medication he rallied and the following day he became conscious. At the time of his admission his temperature was 104.5° F., but it dropped the next day to 99.25° F. and continued so for several days. The pulse on admission was 108, respiration, 34.

A physical examination on June 5th showed him to be a man of good physique and nutrition, but with evidence of his years. He lay in bed conscious and appreciative, but unable to speak a word and quite hemiplegic on the left side. He could not protrude

FIG. 1.—General View of the Seat of Lesion. × 1-inch objective. *A*, *B*, *C*, Hemorrhagic and softened areas.

the tongue, and it lay almost immobile in the mouth. He could, however, draw it back a little and could swallow without much difficulty, showing that there was no paralysis of the throat. His larynx was also normal. He breathed naturally and could make sounds. He was paralyzed almost completely on the left side as regarded the arm and leg and the lower face. He could close the eyes and lift the eyebrows, but the lips were markedly affected. He could not purse them up to whistle. The tongue was somewhat coated. The pupils were even and normal. The heart showed a systolic murmur at the apex. The pulse was full and irregular. The lungs showed some broncho-vesicular breathing posteriorly at the base. The abdomen was somewhat rigid and tympanitic over the iliac fossa. The patella reflexes were normal. Ankle clonus was absent. There was some hyperæsthesia over the left side of the body to touch; sensation to heat and cold was normal. The urine was normal.

The patient continued in about the same condition until the 25th of June, a period of three weeks. Four

[1] *Loc. cit.*

days after his admission he had a chill and temperature of 105.5° F. His blood was examined and was found to contain the plasmodium of malaria. The temperature fell to normal the next day and rose again four days later to 102° F. After that it continued normal until the day of his death. He had thus three attacks of considerable fever and one chill. His paralysis and dysarthria continued, remaining about the same during his illness in the hospital.

A physical examination made by me after he had been in the hospital a week gave the following: He was still partly paralyzed on the left side, the left arm being very weak, the left leg less so. There was no paralysis of the right leg or right arm. The knee jerks of the left side were somewhat exaggerated and there was some rigidity of the arm and leg. The face showed paralysis of the lower portion of the left side. The most notable feature of his condition, as already noted, was the paralysis of the tongue and of the lips. The patient was quite unable to protrude the tongue and could lift it and retract it only slightly. It was practically an immobile organ; he could, however, swallow both liquids and solids without much difficulty. He had, in addition, a paresis of the lips so that he could not extend the lips when told to show the teeth, and could not purse up the lips when told to make the motion of whistling or blowing. The patient was unable to articulate a single word with any distinctness—he made simply inarticulate sounds, and could not even say "yes" or "no"; this, however, was not due to loss of memory of words, but simply to the defect in the peripheral muscles of speech. He could swallow as already stated, and could cough, and there was no evidence of laryngeal palsy. He understood perfectly what was said to him, and he was able to read as shown by various tests. He understood the uses of things and had no evidence in any way of sensory aphasia. His mind was at times confused and he was occasionally somewhat delirious. He had no convulsions or spasmodic movements. The patient died June 25th, three weeks after his admission.

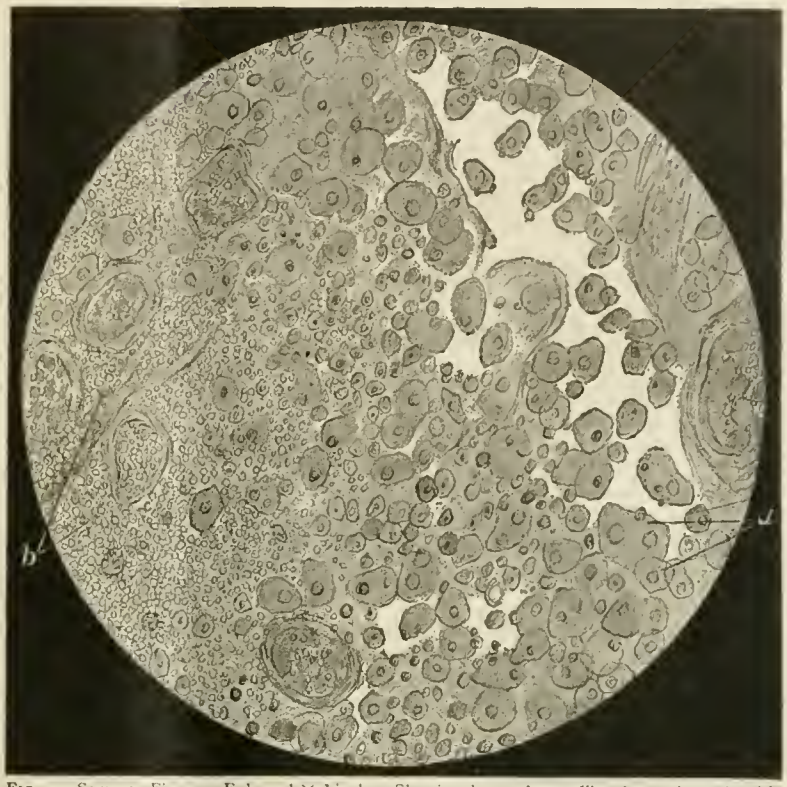

FIG. 3.—Same as Fig. 2. Enlarged × ⅛ inch. Showing hemorrhage, dilated vessels, and epithelioid cells.

FIG. 2.—Softened and Hemorrhagic Area. Indicated at *A* in Fig. 1.

Autopsy: At the autopsy, made by Dr. Dana and the house physician, Dr. Armstrong, on the following day, only the brain and cord could be examined. Upon opening the skull, which presented no anomalies, the dura mater was found non-adherent and normal. Removal of this membrane showed slight œdema and congestion of the pia-arachnoid, but no evidences of hemorrhage or softening in any part. The vessels of the base were not at all atheromatous, and, on following them up in the Sylvian fissure, no evidence of thrombosis could be found. The crura cerebri were cut and the cerebellum was removed with the medulla and pons, and a longitudinal incision dividing the hemispheres was made. Transverse sections were then carried through each hemisphere. In the right hemisphere an area of capillary hemorrhages and softening was found lying in the lower portion of the posterior central convolution and the anterior part of the marginal gyrus. It involved mainly the cortex of the deep part of the upper lip of the fissure of Sylvius and extended for a distance of an inch and a half from the posterior part of the lower end of the posterior central convolution to the posterior end of the fissure of Sylvius (Figs. A, B, C, D). In the centrum ovale to the inter-

nal and upper side of the large lesion were two or three small areas of capillary hemorrhage almost punctate in size. No evidence of hemorrhage or softening was seen in any other part of the brain or in the cere-

Fig. 4.—Showing Epithelioid Cells (Schlapp).

bellum or pons. The spinal cord showed two small foci of similar hemorrhagic degeneration, one in the upper dorsal and one in the lumbar region. The brain and cord were placed in formalin solution until hardened, and were then stained in various ways for the purpose of microscopic study of the diseased part.

General Results of Microscopical Examination.—Sections were made of the brain, medulla, and cord, by Dr. M. G. Schlapp, and stained by Nissl, Weigert, hæmatoxylon, and fuchsin methods.

The brain: The disease was confined to the region described (Fig. 1). There were two specially affected areas, one in the cortex chiefly, the other in the white matter beneath. The former showed enormously distended blood-vessels, small hemorrhages, and round-cell infiltration. The vessel walls were not much thickened. The deeper-lying areas showed small hemorrhages and much softened and destroyed tissue. Here were found lying around the capillaries and small vessels peculiar, large, globular, so-called "epithelioid" cells, which have been described by previous observers and appear to be characteristic of the process. They are perhaps derived from neuroglia cells.

Medulla: There were found here a few very small hemorrhages which must have occurred shortly before death. There were no "epithelioid" cells, which characterize a later stage of the encephalitic or degenerative process.

Spinal cord: The vessels here were enormously distended and thickened. A small spot of recent hemorrhagic softening was found in the second to third dorsal segments and another in the lumbar cord.

The nerves were not examined.

Summary: Relatively large capillary hemorrhagic and inflammatory focus with "epithelioid" proliferation deep in the upper lip of the fissure of Sylvius under the foot of the post-central convolution and involving the anterior part of the supra-marginal convolution. Small and more recent hemorrhagic foci in the medulla and in the spinal cord. Great general congestion and distention of the spinal vessels near the affected areas.

Detail of Microscopical Examination (By Dr. Schlapp).—The location of the different lesions having been described, it remains but to give a brief description of the histological nature of each lesion. That these lesions which are so widely distributed in the nervous system are caused by some toxin circulating in the blood is hardly to be questioned, and in this case the toxin was probably produced by the malaria germs. The blood-vessels, as above stated, were enormously distended throughout the whole nervous system, and in two of the lesions, namely, in the medulla and in the cortex, hemorrhages were found. The lesion in the cortex shows two distinct areas of tissue change viewed with a low-power lens. In the one area which seems to be almost entirely confined to the cortex, we have the enormously distended blood-vessels, the hemorrhages, and the round-cell infiltration. In the other area which surrounds the former but which seems to be confined to the white substance only, one can plainly distinguish a very marked distention of the capillaries. Around the capillaries there is also to be seen the round-cell infiltration, but not to such a degree as in the former picture. The most characteristic appearance of this area is the presence of very large round globular cells. A striking thing about this area containing the epithelioid or globular cells is that it extends to the cortex but not into it. It seems as if the gray matter resisted the penetration of these large proliferating cells.

Viewing the area in the gray matter with a high power, the pia shows to a not very marked degree round-cell infiltration, but is not very much thickened. In the walls of the blood-vessels (which are not much altered) can be seen round cells, and surrounding them these round cells are present in great numbers (Fig. 6); they, however, do not spread very far from the

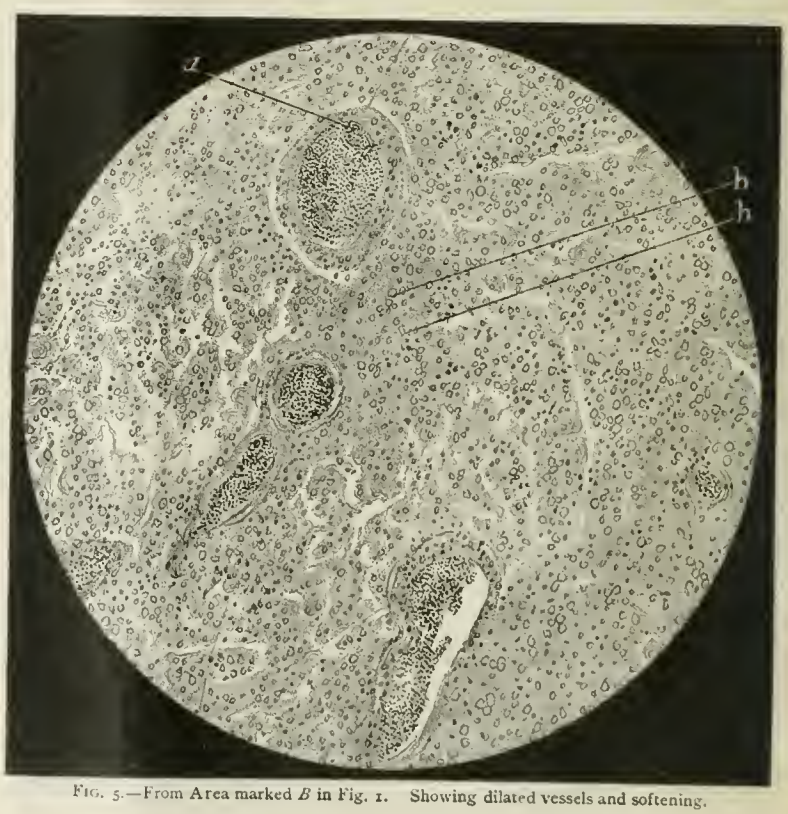

Fig. 5.—From Area marked *B* in Fig. 1. Showing dilated vessels and softening.

vessels. The blood-vessels are enormously distended with blood. The hemorrhages are almost exclusively confined to the gray matter and are of an infiltrating nature (Fig. 2). Brown and yellow pigment particles are

seen throughout the hemorrhagic area. The ganglion cells are destroyed around the hemorrhages; some, however, still showing the nucleus and nucleolus surrounded by a broken and torn mass, the remaining cell

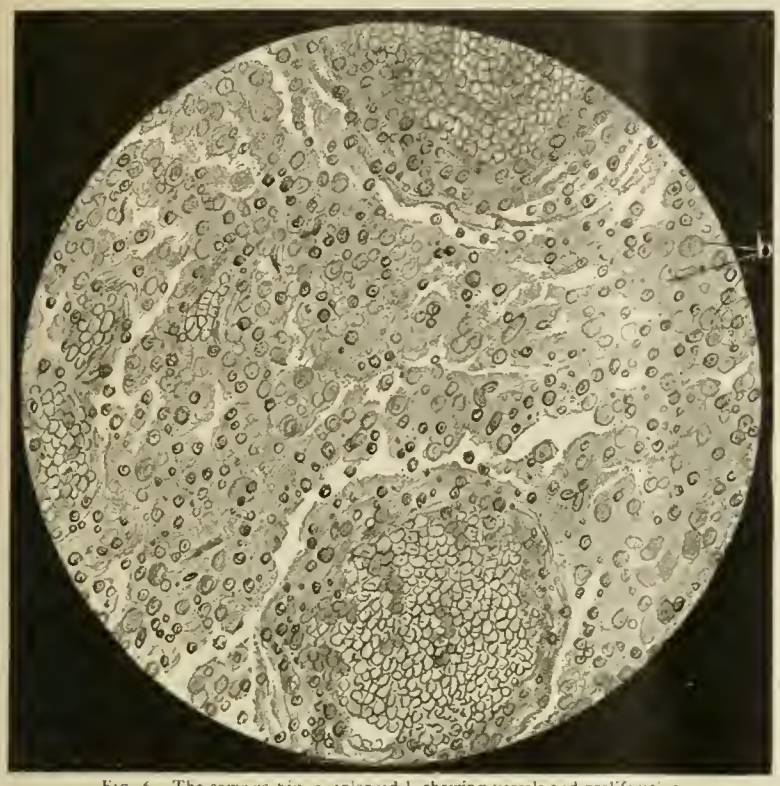

Fig. 6.—The same as Fig. 5, enlarged ½, showing vessels and proliferation.

body. Around the hemorrhages and in the whole infiltrated area the nerve fibres have been destroyed. Here and there a single fibre is seen, thickened, running a very tortuous course, the sheath of Schwann being torn and distorted (Weigert's method). The other area, which, as above stated, is confined to the white matter adjoining the hemorrhagic area in the gray matter, shows very interesting and characteristic features. The capillaries are all enormously distended, the nervous tissue is destroyed, and in its place we find placed side by side large and small cells whose bodies are sharply outlined by what seems to be a membrane. These are the globular or "epithelioid" cells (Fig. 3). The protoplasm of the bodies of these cells shows the network structure. The spaces between the meshes are filled with a homogeneous mass (Delafield hæmatoxylon stain, formol). The nucleus is sharply set off from the protoplasm of the cell. The nuclei of these large proliferating cells do not all present the same appearance in size and structure. One kind is small, round, has more than one nucleolus well defined, usually three or four, and its protoplasm is more intensely stained than the other larger kind (Delafield hæmatoxylon). With the Weigert method this small round nucleus stains intensely black. The other kind of nucleus is large, irregular in shape, usually shows only one well-defined nucleolus, and its protoplasm is not so intensely stained. There are, however, small granules in the protoplasm of the nucleus besides what seems to be the nucleolus, and these granules seem to be connected by a fine fibrillar network. This large nucleus does not stain black with the Weigert method, has rather a reddish tinge, and its nucleolus and granules can be clearly distinguished (Fig. 4). These epithelioid cells are massed in greater numbers around the capillaries, and are smaller here, increasing in size as we recede from them. The nuclei show both direct (amitotic) and indirect (mitotic) cell division. The amitotic cell division is not seen so frequently as the mitotic, and the cell body proper in which the amitotic divisions are taking place is small and irregular in shape, whereas the cell bodies in which the mitotic changes are going on are large, well-developed, and usually regular in shape (Fig. 5).

There were found in the sections no cells which Köppen described as cells having no nucleolus, but instead a mass of chromatic substance lying in the centre of the cell. The greater number of cells contain one nucleus; many contain two (about one-fifth), and here and there one can see a cell having three nuclei. Where this area of epithelioid-cell proliferation meets the relatively healthy tissue, we see these large cells massed in larger numbers; some, however, can be seen entering the normal tissue to some distance like advance guards, but their cell body soon begins to break down. Vacuoles appear in the protoplasm of the cell body, and it finally breaks up in pieces, leaving the nucleus apparently intact and alone, or still surrounded by the remaining pieces of the cell body.

The lesions in the medulla oblongata were confined to several small hemorrhages which must have occurred very shortly before death. There was here and there only a little round-cell infiltration, but no pigmentary deposit. A large number of the cells of the different cranial nerve nuclei throughout the medulla and the ganglion cells in the olivary bodies show pigmentary degeneration. The pigment had, in some cells, entirely replaced the chromatic substance, and in these cells the nucleolus had taken a position at the periphery of the cell-body, in some instances even partly protruding therefrom.

Throughout the whole spinal cord the blood-vessels were distended, and the connective tissue surrounding the blood-vessels was so much increased that in some places even in the nerve roots the nerve tissue seems

Fig. 7.—Showing Spinal Cord, Upper Dorsal Region, Congestion, and Dilated Vessels (Schlapp).

to have suffered from it (Fig. 7). In the region of the second and third dorsal roots there was an area of softening about 1 cm. in length, confined almost entirely to the gray matter. There were deposits of blood pigment in patches around this lesion, and at several places

very small hemorrhagic areas surrounding small blood-vessels (Fig. 8). Scattered throughout the cord in this region, and less so in other regions, there are quite a number of corpora amylacea. A remarkable feature of this lesion consists in the almost entire absence of round-cell infiltration; so that the lesion has not the appearance of an inflammatory one, but looks more like the breaking down of tissue due to occlusion of the blood-vessel or vessels supplying this area.

In the lumbar cord there is an area, however, not so large as the above, and not having progressed so far in its disintegration. The tissue around the blood-vessels is beginning to break down, showing in some instances spaces filled partly with disintegrated tissue. There were no secondary systemic degenerations present in the white matter, but around the large lesion in the dorsal region the sheath of Schwann and myelin substance of the white matter were destroyed in patches here and there.

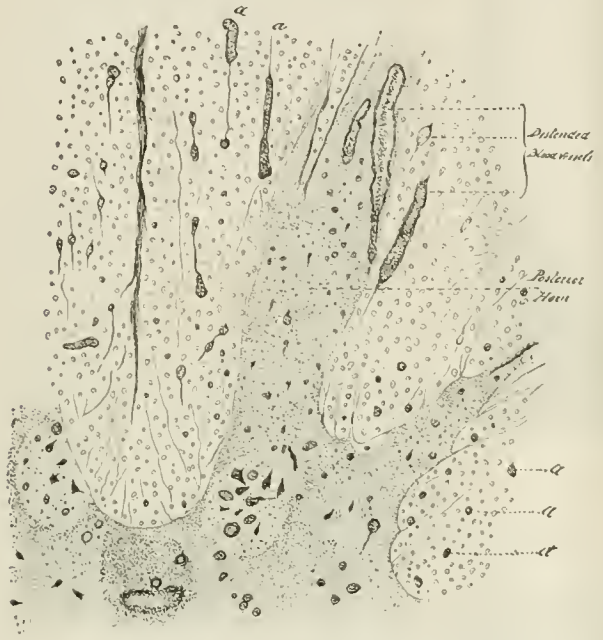

FIG. 8.—Showing Same Area as in Fig. 7. Central canal, Clarke's columns, posterior horn, greatly dilated vessels (Schlapp).

Remarks (By Dr. Dana).—The foregoing case is, as has been shown, undoubtedly an illustration of a form of hemorrhagic encephalitis. It differs somewhat from the ordinary (third) type in that the patient was an old man, whereas in most cases this trouble affects persons in early or middle life. There was a distinct history of alcoholism, but at the same time no evidence that he belonged to the worse type of such cases. Besides this, his blood-vessels were not atheromatous, nor was there a general arterial sclerosis throughout the brain. The undoubted existence of malarial infection is interesting and I believe unique. According to Marchiafava and Bignami,[1] the parasites of malaria do not have a tendency to attack the brain tissue very markedly, while in pernicious malarial fever it is common to find the blood-vessels of the brain filled with the parasites and even many punctate hemorrhages. The authors state that the relative rarity of any nerve changes led them to discontinue any systematic research. The parasites seem to produce special changes in the endothelium of the capillaries, and in very bad conditions small hemorrhages and also chromatolysis and nuclear changes in the nerve cells. Although it seems to be pretty well established that the malarial germs do not have any special tendency to produce reactive changes in the brain tissue, yet when infection occurs in an aged person with the blood-vessels already damaged by a previous sunstroke and the excessive use of alcohol, a destructive inflammation may well be deemed possible. The symptoms are not like those in the more classical cases. In these there is usually a high fever associated with vertigo, vomiting, and delirium, and other symptoms of cerebral irritation followed by symptoms of cerebral depression, such as semi-coma or stupor. There is then often some paralysis such as occurred in this disease, and at times there may be an epileptic convulsion. Perhaps on the whole the chief difference between my own and the ordinary cases is the early occurrence of the apoplexy.

Hemorrhagic encephalitis has to be distinguished from acute meningitis, and from an ordinary cerebral hemorrhage. In encephalitis there are not the stiff neck, the small pupils, or the general rigidity and twitching of meningitis. On the other hand, there do occur occasional convulsions, and sooner or later some form of paralysis. Usually the disease can be distinguished from a hemorrhage or thrombosis by the signs of severe cerebral irritation lasting for from one to four or five days before any paralysis occurs. The fact that the patient has had an attack of grippe, or some severe infection, helps the diagnosis, as does also the presence of some alcoholic history, although alcoholism is not usually present in the grippe cases.

It is possible that examination of the blood and the absence of leucocytosis may assist in excluding the suppurative process. Optic neuritis may occur in this trouble, but certainly very rarely; much less often than in suppurative encephalitis or any suppurative meningitis. There is much practical importance in being able to recognize encephalitis, because the non-suppurative forms are sometimes curable, especially if the paralysis is not extensive. There still remains a good deal to be done, however, in order to enable one to make the diagnosis with certainty.

[1] "Twentieth Century Practice of Medicine," vol. xix.

PRELIMINARY REPORT ON THE PRESENCE AND NATURE OF PARASITIC AMŒBÆ (CANCRIAMŒBA MACROGLOSSA) IN THE EPITHELIAL CARCINOMATA.

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THE following account is intended to be a preliminary report upon parasitic amœbæ found in epithelial carcinomata, which are undoubtedly the cause of the peculiar structure of these tumors and probably of the tumors themselves. The object of this paper is to engage the attention of other workers in this field of research in order that they may with the same methods, or with better ones, corroborate or refute the conclusions at which I have arrived. I have been engaged for several years in the study of the structure of carcinomata and their so-called cell degeneration, but it is only within the last few weeks that I have succeeded in demonstrating satisfactorily, to my own mind, the nature of these cell enclosures or degenerations, so called, and in proving that parasitic amœbæ are certainly the cause of the carcinomatous structure and probably also the cause of the tumor itself. My investigations are not yet so far advanced that a final report is ready, including an account of the reproduction of the parasites and the effect of injections of their cultures into animal tissues. These researches, I hope, will be finished during the present year. In this report I merely wish to set forth the main points in my conclusions, leaving a full review of the subject to some other time.

Cause of Previous Failures.—The failure of my

early investigations as well as those of many other investigators is, I think, entirely due to the methods employed in fixing the tissue. No success was had by the old methods in so differentiating the amœba that it could with certainty be decided if the darker staining centre constituted a nucleus or not. On the contrary it suggested itself to me that this darker centre could best be compared with that part of the cytoplasm known as the sphere, and I based on this supposition a theory which, however, my new researches prove to be erroneous, as the nucleus of the amœba can be most beautifully differentiated by the new method.

Another cause of failure refers to the form of the amœbæ, which by the employment of the old methods could not be ascertained. As will be stated more fully in the next paragraph, the cancriamœbæ are readily contracted, and when in this state cannot be properly studied. All effort must thus be directed toward the instantaneous fixing of the tissue and with it of the parasitic amœbæ, which I take to be the prime cause of epithelial carcinomata (and perhaps also of other forms of carcinomata), and for which I propose the name of Cancriamœba macroglossa, on account of the most characteristic feature—the long snouts—of the animal. There is little doubt that other methods will be found which will differentiate these amœbæ, but the one directly to be described accomplishes this in a manner much superior to any others tried by me.

It is not my intention to claim that the cancriamœbæ here to be described, have not previously been seen. On the contrary, I am satisfied that the organisms found, for instance, by Plimmer are identical, not with the fully developed cancriamœba, but with its spores. The fully developed cancriamœbæ, when badly fixed and contracted, have repeatedly been taken for cell degenerations, cornifications, etc. The methods advocated in this paper are capable of fixing these bodies instantaneously, and in such a manner that no doubt can remain as to their true nature.

Method for Differentiating the Amœba.—This method is based upon the necessity of fixing the amœba while it is yet alive. I found that in all carcinoma tissue which had been allowed to lie for some little time at common room temperature the amœbæ could not be properly recognized as such. Instead of characteristic amœbæ only contracted globules were found, and these were so distorted that no trace remained of their otherwise most characteristic form. Neither was their interior structure (that of the cytoplasm) brought out, nor could their nucleus be differentiated by staining. In such tissue, however, all other cells, when otherwise properly treated, were in perfect preservation; and I concluded that the partial destruction of the amœbæ did not result merely from ordinary decomposition caused by the coagulation of the blood and by other chemical changes. It then suggested itself to me that the contraction of the amœbæ was due to cold. As long as the amœbæ were retained in the warm tissue their characteristic amœboid forms remained distinct, while when exposed to a lower temperature outside the body of the host a contraction would take place which would so distort the form and structure of the amœbæ that they could no more be recognized as such. Acting upon this suggestion I determined to fix the amœbæ, if such they were, before the tissue had time to cool off. Experience further showed that another improvement consisted in warming the fixative to as near blood temperature as possible. This can best be done in a thermostat, but when none is handy it may be accomplished by simply warming the fixative in an inner pocket until the very moment when the tissue is dropped in.

Fixation.—The following fixative has given most excellent results: Bichromate of potassium, 3 parts; glacial acetic acid, 5 parts; water, 100 parts. Use at least twenty times as much fixative as tissue, and change the fixative if there is any sign of cloudiness. The *modus operandi* of fixation is then as follows: Before the carcinoma is operated on, small pieces are cut out, none to exceed one-half cubic inch, smaller slices, say from one-fourth to one-eighth inch in the narrower diameter, being preferable. These pieces while yet warm, and without first having been placed on the table, are dropped in the fixative, which until that moment must have been kept at a temperature as near to that of the blood as possible. It is better to keep up the temperature of the fixative for some little time until the tissue will have become penetrated and fixed. This is, however, not absolutely necessary, as I have had most excellent results by simply keeping the small fixative bottle in my pocket for half an hour or less. After twelve hours' time, or longer, the tissue is taken out and washed in running water until all trace of the color of the fixative is gone. This takes from ten to twelve hours more.

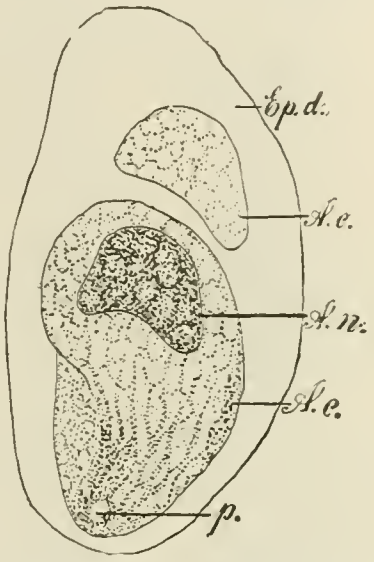

FIG. 1.—A Cancriamœba lying in a Vacuole, the latter being a remnant of a destroyed cell. In the lower apex of the amœba is seen a small vacuole. This part of the body of the cancriamœba is slightly drawn out, forming a tongue-like projection. The darker central part is the nucleus. Above in the same cell is seen a part of another cancriamœba, the main body of which is found in another section.

The after-treatment is the one generally adopted for paraffin work. The tissue is passed through successive alcohols of thirty, fifty, seventy-five, ninety-five, and one hundred per cent. In the latter it must remain over night, a change of alcohol being made once or twice. From the absolute alcohol the tissue is carried through two changes of bergamot oil and two changes of xylol, and again into bergamot oil. This last change is made in order not to cause a too violent evaporation of the xylol when placed in paraffin. The tissue must on no account be placed in the paraffin until it is perfectly cleared. Paraffin melting at 54° C. is preferable, and two changes are sufficient. The preparation of the tissue should not require more than three days, and even this time may be considerably shortened by frequent changes of alcohols and clearing oils. Sections should not be cut thicker than 4 μ, otherwise the amœbæ will not be properly differentiated by the staining-method. The sections are fixed on the slides by the alcohol method.[1] After drying for several hours the paraffin is dissolved by xylol, and the xylol is eliminated by alcohol.

Staining.—From the alcohol baths the slides are immersed in a one-per-cent. solution of Grübler's eosin, soluble in alcohol, and kept there over night or for less time if necessary. The slides are now taken out and placed for some minutes in water until all the alcohol is extracted. The slide must be washed clear of any superfluous stain. The next step is to drop on the slide a one-per-cent. solution of methylene blue "o" in water, to which ten per cent. of alcohol has been added. The action of the latter stain cannot be predetermined, as no two stains are alike. My own solution stains sections 4 μ thick in about five seconds,

[1] See Zeitsch. f. wiss. Mik., Bd. xiv., 1897. p. 195.

but as much as five minutes may be required. After that length of time hold the slide slanting and with a dropper cause a small stream of absolute alcohol to flow over the slide, being careful to place the mouth of the dropper close to the higher edge of the slide. In two or three seconds the tissue is sufficiently washed free of superfluous blue stain, and the slide is then dropped into a jar with bergamot oil, or simply flushed with pure bergamot oil, which must not contain any trace of alcohol. The next step is immersion in xylol and mounting in gum-thus in xylol (or in balsam in xylol if thus cannot be had). If the operation has been successful the tissue will be stained pale red with bluish nuclei, while the amœbæ are intensely red with deep blue nuclei. If the first staining does not differentiate successfully, the tissue may be re-stained one or more times by simply immersing the slides in the eosin bath, thus beginning the process anew. It requires some practice to differentiate the amœbæ properly in the most effective manner, but the above method will not offer any great difficulties even to the beginner. It is, however, entirely useless to endeavor to differentiate the amœbæ in sections thicker than 4 or 5 μ.

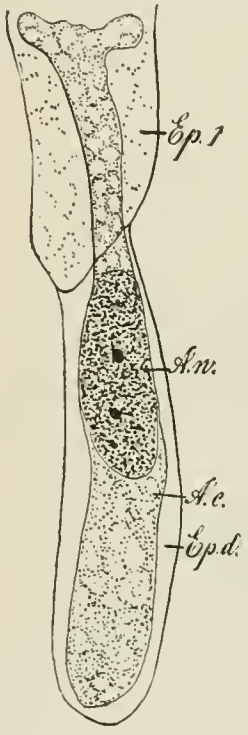

FIG. 2.—A Cancriamœba Fully Extended, entering an epithelial cell, the nucleus of which is not visible in the section. The apex of the cancriamœba is slightly flared and crenulated. The larger part of the body as well as the nucleus of the cancriamœba lies in the vacuole, the latter being the remnant nf an eaten-out epithelial cell. The nucleus contains three small nucleoli.

The nature and structure of the cancriamœbæ will now be considered.

Definition.—Cancriamœba macroglossa, gen. et sp. nov.: Parasitic amœba; diameter of adult specimens from 7–30 μ; body sac-like, pear-shaped, capable of projecting pseudopodia. The cytoplasm is frequently differentiated into a cortical layer and an inner layer. The cytoplasm is of a foamy structure, frequently interspersed with granules of different sizes. The nucleus is large, apparently homogeneous, at times furnished with one to three nucleoli. Propagation by spores is preceded by a fragmentation of the nucleus. Cytophague. Found in all tissues of epithelial carcinomata examined by the author.

In properly prepared sections of epithelial carcinomata the cancriamœbæ are found in enormous numbers all through the tissue, but especially in cell-nests or cell-plugs. The cancriamœbæ are recognized by their shape, which is that of typical amœbæ, by the deep red color of their cell body, and by the deep blue of their nucleus. Many of the larger as well as the smaller specimens lie free in a vacuole. Sometimes there is only one specimen in the vacuole, again there are several or many. The vacuole is caused by the destruction of one or more epithelial cells, which have been eaten out by the cancriamœbæ.

The most characteristic part of the cancriamœba is the projectile snouts. Generally there is but one snout projected, but as many as three have been observed by the author in large specimens. These pseudopodia, which characterize all amœbæ, are also the most characteristic features of the cancriamœbæ. Not only is the pseudopodium used as a locomotive organ, but also as a suctorial one. When the cancriamœba has eaten out an epithelial cell it projects a certain part of the body, in the shape of a foot or tongue, into an adjacent cell, which is in time fully destroyed. Generally only one epithelial cell is attacked at a time, as is seen in Figs. 2–5, but in many instances I observed an amœba which had projected pseudopodia into two or three different cells at one and the same time (Fig. 6). The structure of the pseudopodium is frequently more open than the rest of the body, and at its apex a small pore is sometimes seen. In some cancriamœbæ a distinct vacuole is seen to exist. It can, however, not be demonstrated in all specimens.

A nucleus is always present. It stains intensely blue. It is generally of a polymorphous outline, and in many specimens in a stage of fragmentation. This fragmentation is probably the first stage in the formation of spores. In spermatobium, a parasitic protozoon in the testes of certain oligochæta, the formation of spores has been studied more in detail. Here the nucleus sends out ramifications which gradually separate from each other and then contract, forming small isolated centres of nuclear substances all through the cytoplasm. Each such nuclear centre becomes the central part of a spore. There is every reason to believe that the same process of sporulation takes place in the cancriamœba, and that the fragmentation of its nucleus is actually the beginning of sporulation.

The size of the cancriamœbæ varies considerably. Some few are a little larger than a red blood corpuscle, while others reach a diameter of 30 μ or even over. The form of the body is sometimes strongly elongated, undoubtedly due to the narrow place in which the cancriamœba is confined. At other times the elongated form is the effect of the voluntary effort of the cancriamœba to project itself from one cell to the other. That the cancriamœbæ actually consume the epithelial cells can be proven not only by the pseudopodia of the parasites penetrating into the cells, but more convincingly, perhaps, by observing the actual consumption of the cellular tissue. In many instances we may observe how the granules of the cell tissue are separating from the cell, and we can follow a stream of these granules from the cell that is being eaten into the body of the cancriamœba. These cell granules, after having been taken into the body of the amœba, stain at first just as the granules of the cells, that is, a violet-red, but as the granules are found deeper and deeper in the amœba they are seen to stain deeper red. There is thus every reason to believe that the deep-staining granules of the amœbæ constitute the cell substance of the epithelial cells which are consumed by the amœbæ and gradually have been digested and differentiated in the body of the cancriamœbæ.

Propagation.—The cancriamœbæ propagate both by spores and by amitotic division. In my preparations the amitotic division is the most frequent. The amœba contracts at the centre, each half possessing a part of the original nucleus. The nuclear parts are often of unequal size, as far as can be judged from sections, though it is possible that part of the nucleus may have been cut away. Each half, even before full separation, is often seen to send out pseudopodia into new cells. The propagation by sporulation has been mentioned in the definition, and I have no further details to add to those already given.

The Structure of the Epithelial Carcinomata.—It may be stated at once that the cause of the structure is, in my opinion, due to an effort of the epithelial cells to surround the cancriamœbæ and, by encysting them, to protect the tissue of the human body from being further invaded by the parasites and destroyed by them. The only cells which can do this effectively are the epithelial cells, which on account of their peculiar toughness and size are especially adapted to

perform this work. As soon as a cancriamœba makes its entrance among the cells of the body, the epithelial cells in the vicinity increase with great rapidity and by growing inwardly try to enclose the cancriamœbæ, or, so to say, to fence them in. Hence the large masses of epithelial cells which like large waves approach inwardly from the original epithelial layers of the body. The formation of the cancer cell nest or cancer plug is a secondary consequence of this effort of the epithelial cells. In my preparations this formation of cancer plugs can be readily studied, as they are present in all stages of development. Roughly stated, the formation of the nest is due to several processes about as follows: The centre of the nest always contains one or more cancriamœbæ. This primary cancriamœba increases in size or multiplies by division and thus presses on the epithelial cells and pushes them aside. In this manner the epithelial cells near the cancriamœbæ become flattened out and lunate. Those epithelial cells nearest the cancriamœbæ become the most flattened, those farther away less so. Those epithelial cells situated nearest the cancriamœbæ, and which are not directly eaten by them and thus destroyed at once, evidently succumb either to the possible toxic properties of the cancriamœbœ, or to the pressure exerted on them. It is also probable that these epithelial cells on their own account undergo a certain cornification in order the more effectively to encyst the cancriamœbæ and separate them from the surrounding tissue. This cornification seems in some instances to extend also to the cancriamœbæ themselves, the result perhaps of some infiltration of a cornifying substance or exudation from the epithelial cells themselves. In some instances it is demonstrable that the epithelial cells are eaten up by the cancriamœbæ, the remnants of the former being scattered about. The true structure of a cancer cell nest is thus as follows: In the centre of the nest there is one or many cancriamœbæ feeding on several epithelial cells of general form. Surrounding this group of cancriamœbæ and epithelial cells are seen one or more layers of lunate and strongly flattened epithelial cells. These latter cells often separate from the rest of the epithelial cells, forming a thin-walled capsule more or

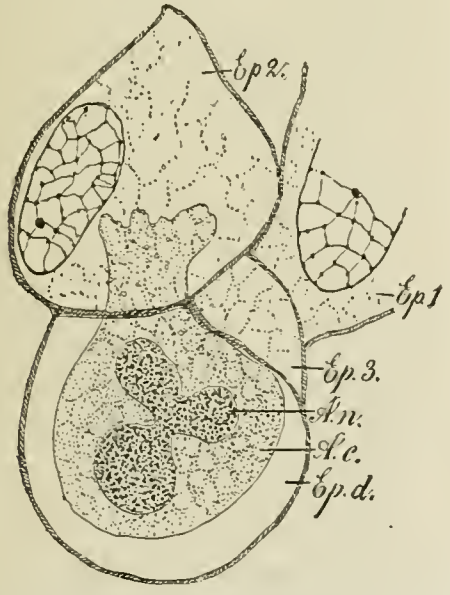

Fig. 3.—A Cancriamœba projecting its tongue like apex from the vacuole in which it is situated, into an epithelial cell (*Ep. 2*). This latter contains a nucleus. The nucleus of the cancriamœba is polymorphous. The vacuole (*Ep. d*) is the remnant of an epithelial cell which has been eaten out by the cancriamœba.

less firmly surrounding the cancriamœbæ. In many instances the cancriamœbæ are seen to be penetrating this epithelial capsule in their effort to get away in order to find new epithelial cells to feed on. There is thus a constant struggle for supremacy going on between the epithelial cells and the cancriamœbæ. Often the amœbæ are seen to have succumbed and are

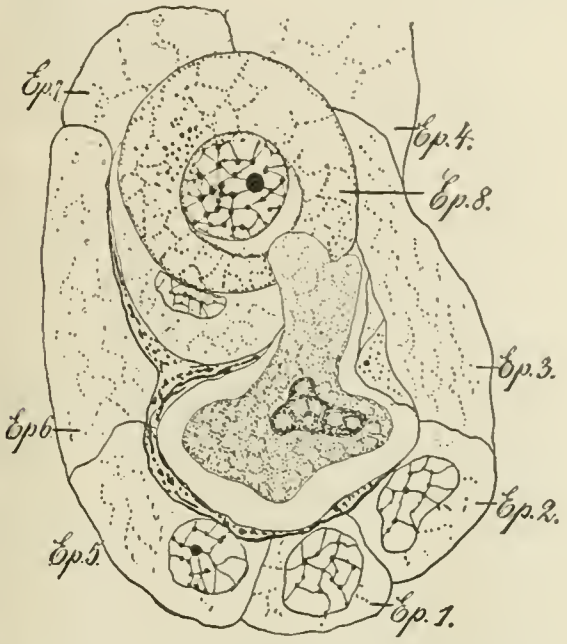

Fig. 4. The Centre of the Cancer Cell Nest. In the central vacuole, which is the remnant of an eaten out epithelial cell, is seen a cancriamœba in the act of penetrating into a healthy epithelial cell furnished with a nucleus (*Ep. 8*). The nucleus of the cancriamœba is slightly polymorphous. In the epithelial cells numbered *1, 2, 5*, parts of nuclei are seen; in the other epithelial cells except *8* the nuclei are seen in succeeding sections. Between the cancriamœba and epithelial cells *6, 5, 1*, and *2* are seen dark and irregular bands, probably remnants of epithelial cells destroyed by the amœba.

found firmly enclosed by the cell nests and apparently in a dying condition, or fully dead and solidified. But in the majority of cell nests the epithelial cells seem to be the losing ones, the cancriamœbæ escaping to other parts. The vacuole surrounding the parasites is the place formerly occupied by epithelial cells eaten by the cancriamœbæ. In innumerable places the cancriamœbæ have been fixed in the very act of penetrating into the epithelial cells, and it is this view of them which is to me the most convincing one as regards the true nature of the parasites. Their identity with amœbæ is unmistakable. Not only is the form of the body and the formation of the spores characteristic of amœbæ, but the presence of pseudopodia excludes the possibility that we here have to deal with blastomycetes or other fungi.

The leucocytes of the blood seem not to be attracted by the cancriamœbæ, at least I have nowhere seen any indication of a struggle between them and the parasites. In some instances cancriamœbæ may be seen which have actually swallowed erythrocytes and parts of erythrocytes, but nowhere have I seen remnants of leucocytes in the cancriamœbæ, or *vice versa*. This is probably due to the manner of feeding of the parasites. They appear to consume only small particles of cytoplasm at one time, absorbing them by the aid of the apex of their snout. The latter is nearly always flared at the point intruded into the cell, the very apex forming an absorption surface, strongly indented or crenated in order to present a large surface to the cytoplasm of the cell. A most interesting fact noticed is that the cancriamœbæ are frequently found with one part of the body in one cell while the other part is situated in another cell. Or different parts of the same individual cancriamœba may be projected out into several different cells while the main part of the body remains in its vacuole. This demonstrates to my mind conclusively that we have before us an extra-cellular organism and not any degenerations or chemical transformations. Such degenerations could not possibly assume the function of actual protozoa, that is,

they could not project parts of their own mass into adjacent cells. It is also of importance to note that in all such individuals occupied in phagocytosis of epithelial cells, the nucleus is generally polymorphous, a form especially effective in promoting and facilitating an exchange of metabolic products between nucleus and cytoplasm. In cancriamœbæ which are not thus engaged in phagocytosis (Fig. 1) the nucleus is generally more compact, barely showing an indented outline.

In tissues treated by the methods suggested in this paper the cancriamœbæ appear without any perceptible distortion and contraction, and any one acquainted with these animalcules cannot fail to recognize at once their true nature. They do not appear as mere contracted lumps of protoplasm, but may be seen as if in the very act of crawling about with extended pseudopodia. It is fully evident that the vacuole which nearly always surrounds the cancriamœba is entirely due to the destruction of one or more epithelial cells. The remnants of the cytoplasm of these cells are often found in the vacuole, but what is yet more convincing of the nature of the vacuole is that the shrunken and partly destroyed nuclei of these cells are now and then seen in the vacuole. Their presence could not be explained except by the supposition that they are the actual remains of cells which have been destroyed by a cancriamœba.

As regards the number of cancriamœbæ in the tissue nothing definite can be stated. They occur there in enormous numbers all through the tissue, either singly or in nests. In the centre of some nests there will be seen only a few cancriamœbæ, but in other and larger nests they may be counted by the hundreds. The centrally situated cancriamœbæ are generally thicker and less elongated, while those situated nearer the margin of the nest are thin and long, often bending in a semicircle around those situated nearer the centre of the nest. This form is due, I think, to the inability of the cancriamœbæ to develop in any other direction, the epithelial cells on the outside of the nest only slowly yielding to the constantly increasing cancriamœbæ. When such nests finally cause the surrounding epithelial tissue to yield, the cancriamœbæ together with the remnants of epithelial cells, more or less fully consumed, are set free, and it may then be seen that in such places the cancriamœbæ are more or less rapidly regaining their natural form.

A distinction can always, with some little practice, be made between cancriamœbæ and leucocytes. The body of the former stains much more deeply with the eosin than that of the leucocytes; besides, the leucocytes are nearly always smaller, the cancriamœbæ being generally many times larger than the leucocytes. The nuclei of the cancriamœbæ are also quite distinct from those of the leucocytes, being more solid and homogeneous than those of the latter. Taking it all in all, by a little practice the cancriamœbæ can readily be distinguished from all other cells, provided the tissue has been successfully fixed and stained.

Solidity of the Cancer-Plugs.—The increased hardness of tissue containing cancer-plugs is well known to every student of these structures. This hardening of the plug is caused by two things. As the epithelial cells are being eaten out the cell walls remain and form more solid masses nearest the amœbæ, and as the cell walls are more solid than the cytoplasm of the cell it explains the increased toughness of the plugs. But besides this concentration of cell walls there appears also to take place a chitinization of the cells nearest to the amœbæ, and this chitinization seems also to extend to some of the amœbæ, which in this way are effectually destroyed.

Are the Cancriamœbæ Accidental Inhabitants of Carcinomata, or Are They the Cause of the Structures Characterizing Carcinomata?—This question has partially been treated in the preceding paragraphs. Without producing carcinomata by the injection of cultures of cancriamœbæ this question cannot be fully answered. At present we must confine the question to whether the cancriamœbæ are the cause of the peculiar structures known as cell nests or cell plugs, or whether they simply inhabit them. This point, I think, can be most readily answered. In all the carcinomata examined by me two facts are evident—first, no cell nests are found which do not possess one or more cancriamœbæ in their core; second, while many cancriamœbæ are found free among the epithelial cells, many are also seen to be surrounded by a few cells of a primitive cell nest. By studying a large number of such cell nests a perfect series may be had from the most primitive one, consisting of only a few epithelial cells enclosing a centrally located cancriamœba, to fully developed cell nests consisting of numerous, concentrically arranged cells enclosing numerous cancriamœbæ. There can be thus no reasonable doubt that the cancriamœbæ actually cause the formation of the cell nests. As these cell nests are the characteristic structure of the epithelial carcinomata we may, I think, expect that it will be proven that the cancriamœbæ are also the cause of the carcinoma itself.

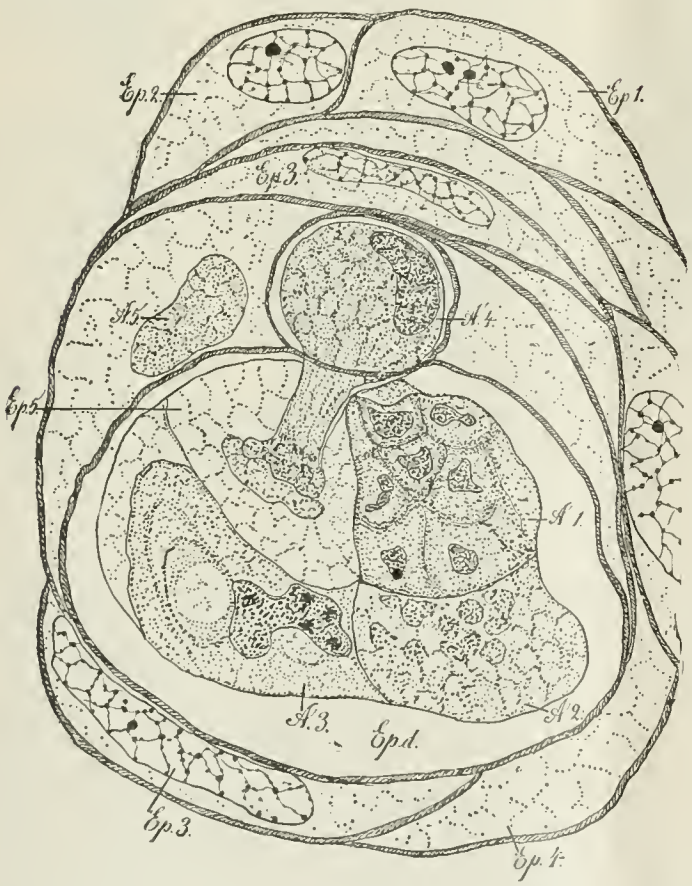

FIG. 5.—The Centre of the Cancer Cell Nest. *A 4* is a cancriamœba in the act of penetrating from the vacuole to another epithelial cell (*Ep. 5*) in which is seen the partly destroyed nucleus. Adjoining this cancriamœba are three others in various stages of sporulation. In *A 2* the nucleus had undergone a fragmentation but the spores are not yet sufficiently formed to be recognized as such. In *A 1*, however, the new spores are quite distinct, having formed around a fragment of the nucleus. *A 3* is a cancriamœba with polymorphous nucleus and a vacuole. *A 5* is part of a cancriamœba, the other part of which is seen in the following section. This group of amœba-infested epithelial cells is surrounded by many other epithelial cells of concave form, and which have not yet been eaten out by the cancriamœba. The large central vacuole (*Ep. d*) is the result of the destruction of several epithelial cells, which have been eaten by the amœbæ.

I may here add that so little time has passed since I found the method of differentiating the cancriamœbæ that I have had no time to examine many carcinomata pertaining to the type in which cell nests are not found, and I am consequently not able to state to what extent cancriamœbæ are found in such cancers. But I have during the last few days examined two cancers of this type prepared by the new method, and both these cancers were found swarming with the same cancriamœbæ as in the other class. The want of cell nests is probably due to some peculiar condition of the epithelial cells, but investigations have not yet proceeded far enough to solve the question fully.

Summary.—1. A parasitic amœba (Cancriamœba macroglossa) is found in all epithelial carcinomata. This amœba may be readily fixed while in action if the tissue is fixed while yet warm, the lowering of the temperature below that of the blood causing the amœbæ to contract.

2. The cancriamœbæ are the cause of the characteristic structure of epithelial carcinomata in which are found cell nests or cell plugs. In each such nest we can always distinguish two distinct parts—an inner core or amœba nest consisting mainly of one or many cancriamœbæ mixed with some leucocytes and loose epithelial cells, and an outer zone consisting of epithelial cells, the inner one of which are flattened, concave, and in section lunate, while the outer ones are normal.

3. The peculiar structure of these cancer plugs is caused by the effort of the epithelial cells of the infected locality of the human body to fence in the amœbæ and prevent them from spreading through the tissue. This effort is also more or less successfully accomplished by an enormous increase in epithelial cells and by a chitinization of the cells nearest the cancriamœbæ. The concentric structure of the cancer plug is the result of the pressure on the epithelial cells caused by the cancriamœbæ situated in the centre of the cancer plug through continuous increase in number and size.

4. A constant struggle is going on between the cancriamœbæ and the epithelial cells. The latter are trying to fence in the amœbæ and to kill them by encysting or by chitinization, while the amœbæ on their side feed on the epithelial cells by projecting pseudopodia into the cells and sucking out their cytoplasm. The cancriamœbæ are not caryophagues.

5. The propagation of the cancriamœbæ is by spores and by amitotic division. Mitotic division has not been observed. There are numerous cells in mitotic division all through the tissue, but these cells seem to be exclusively epithelial cells.

6. The cancriamœbæ are nearly always found surrounded by a small vacuole. This vacuole is the result of the destruction of one or more epithelial cells by the parasites. The vacuole becomes gradually larger as more and more cells are destroyed, until finally when the epithelial cell fence gives way and breaks up a large pus cavity is formed, containing cancriamœbæ, fragments of epithelial cells, and leucocytes.

7. The cancriamœbæ are distinguished from all leucocytes by their larger size. While the leucocytes seldom reach 10 to 12 μ in diameter, the cancriamœbæ frequently exceed 25 to 30 μ in length. Many of the cancriamœbæ possess a vacuole, an organ never found in the leucocyte.

8. The acute sensitiveness to cold suggests the treatment of carcinomata by freezing.

Explanation of the Figures.—All the figures have been studied with a Zeiss apochromatic 2 mm., ap. 1.40; oc. 12. The outlines were drawn with a camera and then redrawn on a larger scale. The details were filled in diagrammatically, imitating as near as possible the natural structure. The cancriamœbæ appear in the preparations deep red with blue, generally homogeneous nuclei, sometimes containing one to three nucleoli. The cell walls have in some of the diagrams been shaded, in others only indicated by black lines.

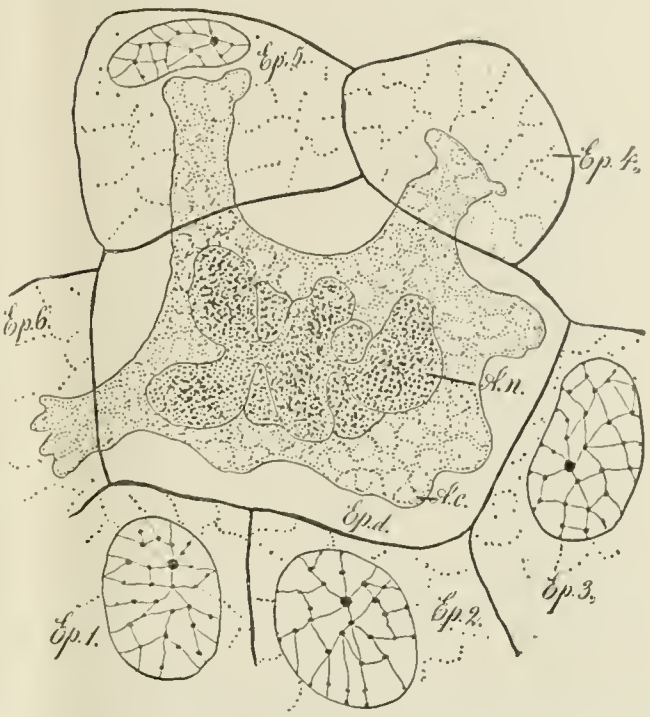

FIG. 6.—A Large Polymorphous Cancriamœba, lying in a vacuole and extending prolongations into three different epithelial cells at the same time. In one of these (*Ep. 5*) a nucleus is seen. In the others the nuclei have been cut away. The nucleus of the cancriamœba is strongly polymorphous.

The following letters refer to all the figures: *Ep.* (numbered), epithelial cells, not yet destroyed by the cancriamœba; *Ep.d.*, epithelial cells already destroyed, and now forming a mere vacuole in which are situated one or more cancriamœbæ; *A.c.*, one or more cancriamœbæ macroglossa; *A.n.*, nucleus of the cancriamœba; *p*, vacuole of the cancriamœba.

819 MARKET STREET.

THREE CASES OF VASCULAR TUMOR OF THE ORBIT: TWO CURED BY OPERATION, ONE APPARENTLY CURED SPONTANEOUSLY.[1]

BY CHARLES STEDMAN BULL, A.M., M.D.,

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CASE I.—Large venous nævus of orbit and lid. Miss E. W——, aged forty-one years, first seen January 14, 1898. The patient has been a teacher for many years, and her eyes have been under a more or less constant strain. Refraction is hypermetropic and astigmatic. Vision is normal with correcting glasses. The media are clear and fundus is normal, though slightly hyperæmic. The field of vision is normal; tension normal. About two years before I saw her, she first noticed a slight protrusion of the right upper lid, coming on in the morning after she had risen, and increasing somewhat toward evening. It remained about the same size for eighteen months, but since then it has steadily increased in size, and during the last two months has grown somewhat rapidly. At first it always disappeared during the night or after she lay down, but of

[1] Read before the American Ophthalmological Society in Washington, D. C., May 1, 1900.

late it has been constantly present. When I first saw her, there was partial ptosis, the lid covering about three-fifths of the cornea, but it could be completely raised by the united action of the levator palpebræ and occipito-frontalis muscles. The tumor presented just above the middle of the right upper lid, as a distinct congeries of vessels showing blue through the skin. This mass of blood-vessels involved the upper portion of the lid and could be followed inward and backward along the nasal wall of the orbit. There was neither pulsation nor bruit, and there had been no pain at any time. Any forced muscular exertion, lifting, coughing, or forced expiration caused a distinct increase in the size of the tumor, and stooping or bending toward the ground produced a rapid increase in size so far as entirely to close the eye, and this condition did not subside for about five minutes after resumption of the erect position. When she lay on the back for fifteen minutes there was a perceptible diminution in the size of the tumor. A careful examination of the nasal meatus and naso-pharynx revealed an hypertrophy of the turbinated bones and cystic disease of the right middle turbinated bone, with a subacute laryngitis. On the inner aspect of the left thigh just above the internal condyle of the femur, there was a large purple nævus, about two and a half inches in diameter and of an irregular circular form, with some elevation above the surrounding skin, and a similar nævus somewhat smaller on the inner aspect of the left tibia just below the condyle. These nævi had existed for many years. Pressure upon the tumor with the finger caused its complete disappearance within the orbit, but it reappeared as soon as the pressure was discontinued. There was no sign of a similar growth in the other orbit. There was no cardiac complication of any kind.

After a careful study of the case on several visits, it was decided to try what could be effected by electrolysis, though I had never employed this method of treatment in so old a patient. The first application, lasting five minutes, produced no apparent effect. Between February 17 and November 19, 1898, electrolysis was applied sixteen times, at intervals of varying length. Then the patient was obliged to absent herself from observation for a period of three months, when the electrolytic treatment was resumed and continued at intervals of four days for a month. This method of treatment produced some consolidation in the tumor, but no diminution in its size. It was then decided to attempt its excision.

On March 14th the patient was prepared for the operation under the strictest antiseptic precautions. She took the anæsthetic, ether, extremely well, and was profoundly anæsthetized in about six minutes. I was about to make the preliminary incision, when the tumor suddenly increased rapidly in size and extended in all directions, upward upon the forehead, inward over the bridge of the nose, outward upon the temple, and downward upon the side of the nose, and soon reached the size of an orange. The skin covering this area was of a dark purple color and was very tense. The anæsthetic was at once discontinued, and all operative procedures were temporarily postponed. The enormous swelling began slowly to subside as soon as the patient recovered consciousness, but did not entirely disappear for two days. She remained in the hospital till the end of March, and as I went off duty on April 1st I did not resume charge of the case until the following October.

When I saw the patient again on October 1st, the condition was about the same as it had been in the preceding March, and it was decided to attempt the removal of the tumor by excision.

On October 11, 1899, the operation was performed under cocaine anæsthesia hypodermically. Two injections were made, each of ♏ xx. of a five-per-cent. solution of cocaine into the mass, one on the temporal side and one on the nasal side. An incision was made, an inch and a half long, just beneath the superior orbital margin, through the skin and tarso-orbital fascia, care being taken to avoid incising the tendon of the levator muscle. The index finger was then introduced through the wound for exploratory purposes. No distinct tumor was found, but a mass of enlarged vessels was discovered filling the whole nasal side of the orbital cellular tissue, extending back nearly to the apex of the orbit and upward along the roof of the orbit. The bleeding was somewhat profuse. No opening into the ethmoid cells or frontal sinus was found. The mass of connective tissue and enlarged vessels was separated as rapidly as possible from the eyeball and periosteum, and then grasped by a pair of stout forceps with very broad blades. The mass then was put on the stretch, being drawn forward and upward, and a stout catgut ligature was then passed around it, pushed back as far toward the apex of the orbit as possible, tied tightly, and the ends were then cut off. Much of the bleeding then ceased, and an examination showed that the pulley of the superior oblique and the belly of the muscle were uninjured. After all active bleeding had ceased, the cavity in the orbit was carefully irrigated and packed with iodoform gauze. The patient did very well. There were no secondary hemorrhage and very little oozing. The dressing was left undisturbed for three days, and was then removed, the cavity was again washed out, and the gauze packing re-applied. Fresh dressings were applied every two days for two weeks, at the end of which period the cavity had filled up from the bottom. The wound in the skin was then closed by six sutures. One month after the operation, the improvement was very marked, but there were still some bulging and protrusion at the inner end of the upper lid, and the enlarged vessels could be distinctly seen through the lid.

On December 7, 1899, a second operation was done, under the hypodermic injection of cocaine, for the removal of the palpebral portion of the growth. An incision was made through the skin of the lid, about an inch long and extending toward the top of the bridge of the nose. The skin was dissected up in all directions, and the mass of enlarged vessels was then grasped with the same broad forceps and rapidly separated from the tarsus as far as the inner angle of the orbit and lacrymal bone, where there seemed to be quite a firm connection with the periosteum. The mass was then tied off in a similar way with a catgut ligature. There was but little hemorrhage, but the wound was packed with gauze as at the first operation. This was removed on the fourth day; the wound was carefully cleansed, and closed by three sutures. The result was very successful, and on April 18th the scars were scarcely visible; there was no protrusion or discoloration, and only a very slight condition of ptosis. The two masses of tissue and enlarged vessels were examined by Dr. Dixon, the pathologist of the eye infirmary, who reports as follows: "The specimens submitted by you are composed of fat, loose connective tissue, a large number of blood-vessels, and a few cavernous spaces, with considerable extravasation of free blood into the tissue. Diagnosis, caverno-angioma."

Case II.—Pulsating tumor of the orbit. J. B——, aged twenty-three years, was first seen September 2, 1889. Two years before I saw him, he had received a violent blow on the right side of the head by a large timber falling from a height. He was unconscious for two days, and then slowly regained his senses. There was a large, irregular scalp-wound running from the middle of the sagittal suture downward and forward

across the parietal and squamous bones as far as the middle of the zygoma. He said that he understood that no fracture of the skull had been found. He was confined to his bed for two months, with more or less constant headache and mental torpor. When he first attempted to walk, he staggered and complained of dizziness, but does not remember that he ever had diplopia. The tendency to vertigo gradually diminished, though the attacks still come on at irregular intervals. He never fully regained his physical strength or mental vigor. For some weeks after the accident the eyelids were swollen and bruised as if from subcutaneous extravasation of blood, and there was an extensive hemorrhage beneath the conjunctiva, downward and on the nasal side. Somewhat more than a year after the accident, the upper lid began to swell and the eye to protrude, and these symptoms have steadily increased up to date. The headaches have also become more continuous, and are always worse when he bends forward or stoops.

When I saw the patient, the right eye protruded forward and downward, but was freely movable in all directions except upward, in which direction its motility was limited. The upper lid was much enlarged and drooped over the eye, was of a dark red, almost dusky hue, and pulsated strongly. The whole eyeball also pulsated visibly, and a very distinct thrill was communicated to the fingers when placed upon the lid. On auscultation, a harsh blowing sound was heard over the closed lids, on the right side of the forehead, and on the right temporal region, like the exhaust of steam pipes heard at a distance. The media of the eye were clear; the retinal veins were engorged, tortuous, and pulsating. Vision was $\frac{20}{30}$ in the right eye and $\frac{20}{20}$ in the left eye. A rough broken ridge of bone was discovered on the floor of the orbit, running backward from the inferior orbital margin near the inner canthus, and another sharp edge of bone at the infero-temporal angle of the orbit was found which ran backward and inward toward the median line. Pressure on the common carotid artery on the right side, just below the region of its bifurcation, caused an immediate and marked diminution in the pulsation and bruit, and in the prominence of the eyeball, but it could not be continued for more than four minutes, because of an apparent marked interference with the breathing produced by the pressure.

There seemed to be no doubt that the accident two years before had caused a fracture at the base of the skull, involving the floor of the orbit and probably the optic foramen. The main point to determine, if possible, was whether the pulsating tumor evidently existing in the orbit behind the eyeball was a pure arterial aneurism of the ophthalmic artery and possibly of the ciliary arteries, or whether the fracture extended farther back and involved the internal carotid artery and the cavernous sinus. The history of severe traumatism and the gradual development of all the orbital symptoms would seem to favor the idea of aneurism of the ophthalmic artery. But this lesion is rare and has been found in very few cases. The more frequent lesion of laceration of the carotid artery within the cavernous sinus is always due to fracture at the base of the skull, and the orbital symptoms generally develop somewhat rapidly within a few weeks after the injury. In my patient the orbital symptoms did not develop until a year after the receipt of the injury. It may be here remarked that the literature of this subject is quite extensive, but our exact knowledge of such cases is relatively very small.

It was thought best to try what could be effected by compression of the common carotid in the neck, first by the fingers, and afterward by a pad devised for the purpose; but all these efforts were abandoned at the end of the first week on account of their interference with respiration. It was then decided to ligate the right common carotid, which was done under the strictest aseptic precautions. The incision was made in the usual place and followed the inner border of the sterno-mastoid muscle, extending from just below the cricoid cartilage nearly to the sterno-clavicular articulation. Careful dissection exposed the artery without any difficulty; the sheath was opened and the aneurism needle was gently passed between the sheath and the vessel and around the artery till the end appeared in the incision. The ligature was then passed through the eye, and the needle was withdrawn, the ligature coming with it. The latter was then slowly and firmly tied. No vessels of any size were wounded in the operation. All pulsation and bruit ceased immediately in the tumor. The wound was then closed, covered with iodoform, and a small pad and bandage were applied. The wound healed rapidly, but the patient was kept in bed for two weeks. On the fourth day there was a return of the bruit and thrill to a slight extent, but no positive pulsation, and these symptoms continued with varying intensity for nearly six weeks. Even after the patient was discharged, he was kept under observation for more than a year, and there was a slight thrill perceptible to the fingers, though auscultation revealed no bruit. Somewhat more than a year after the operation, the patient contracted pneumonia, which rapidly involved the entire right lung, and he died on the eighth day. I endeavored to procure an autopsy but was unsuccessful, and I am still ignorant of the exact pathological condition of things in the orbit. The protrusion of the eyeball gradually subsided, and its motility was restored to the normal condition. The vision was immediately impaired by the operation and sank to $\frac{1}{200}$, but in about three weeks it began to improve and finally rose to $\frac{20}{100}$. The fundus immediately after the operation was very pale but gradually regained an approximately normal appearance, though the retinal arteries never attained their normal calibre.

Case III.—Pulsating tumor of the orbit. Mrs. T. W——, aged thirty-nine years, was first seen January 9, 1899. This patient had had more or less occipital headache for nearly six months, and had pain in the right orbit for nearly four months. Three months ago the right eye began to protrude. Four weeks ago the right upper lid began to droop, and this ptosis increased. On examination I found complete ptosis, and complete paralysis of all the branches of the right third nerve, including the branches to the sphincter iridis and to the ciliary muscle. The exophthalmos was forward and outward and could not be reduced by pressure. The eye could be moved toward the external canthus. The media were clear and the ophthalmoscopic examination was negative: R.E., V = $\frac{20}{100}$, and with + D 3 = $\frac{20}{30}$; L.E., V = $\frac{20}{20}$. Nothing could be discovered in the orbit by palpation, and there was no bruit or pulsation, nor any thrill.

A careful examination of the nose, naso-pharynx, and ears revealed nothing but a chronic catarrhal condition of the mucous membrane and a moderate amount of hypertrophy of the turbinated bones on the right side. There was no evidence of trouble in the maxillary antrum. The patient was seven and a half months pregnant with her eighth child. The urine was examined and was of normal specific gravity, acid, clear, light straw color, and contained about one per cent. of albumin, but no sugar and no casts. The heart sounds were normal, and there was no hypertrophy. There was no history of any injury to the head nor of any traumatism. The patient was put on small doses of potassium iodide and carefully watched. There was a slight improvement in the ptosis, but none in the motility of the eyeball or in the exophthalmos.

On Jaunary 29th the patient complained of a sharp pain in and around the orbit, and of a constant rushing noise in the head on the right side, which had come on suddenly two days before, and sounded like the falling of water from a height. There was a well-marked thrill on palpation over the closed lids, a slight visible pulsation to the eyeball, and a well-marked bruit on auscultation over the eyeball, forehead, and temple. Deep pressure over the carotid artery in the neck produced no appreciable effect upon either the pulsation or the bruit.

On February 6th the patient complained of an obstruction in the right nostril, but an examination showed nothing more than a swollen mucous membrane.

Owing to her advanced pregnancy it was thought wiser to wait until she had recovered from her confinement before attempting any operative treatment. On March 21st she was delivered of a rather small but healthy male infant, the labor being brief and without instrumental assistance. There was almost immediate relief from the pain in the head and orbit, which had become continuous until her confinement was over. Ten days after delivery a purulent discharge appeared from the left ear, not accompanied or preceded by any pain.

On April 12th the thrill under the finger was particularly marked at the inner canthus and over the internal angular artery. There was a slight visible pulsation of the eyeball, and a strong blowing sound was heard over the eyeball, forehead, and temple, and indistinctly at the vertex and over the malar bone. She complained of a constant dull ache in the eye, but the severe pain in the head and orbit had disappeared after the birth of the child and had not returned. The discharge from the left ear had ceased, and the perforation in the drumhead was closing, but she complained of constant tinnitus. No effect on either pulsation or bruit was produced by compression of the carotid in the neck. The pulse was 132 and regular. There was no enlargement of the thyroid.

On April 23d there was a marked improvement in the ptosis and in the motility of the eye and in the exophthalmos. The bruit was less audible and the pulsation less noticeable. The patient did not complain of the noise in her head, and said that it sounded very much farther away.

On June 1st all bruit and pulsation had ceased, the ptosis was nearly gone, the eye was freely movable in all directions, and the protrusion much diminished. The tinnitus in the left ear was perceived only when she was tired or excited, and the hearing had improved. This patient has not been seen since, but the case looks like a spontaneous recovery.

FISTULA IN ANO: ITS RELATION TO PHTHISIS.[1]

By SAMUEL G. GANT, M.D.,

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Fistula in ano is a very common affection; in fact it occurs with greater frequency than any other disease found about the anal region. It is not uncommon in the well-to-do, but is met with more frequently in people living in crowded communities. Out of the 16,060 cases of rectal diseases treated in St. Mark's Hospital, London, from 1872 to 1891, as compiled by Cooper and Edwards, 8,497, or a little more than fifty per cent., were treated for fistula in ano in some form. Of these 5,829 were men, and 2,668 women. This is about the usual percentage as regards the sex. I have not found in my work, however, that fistula occurs as frequently as all other rectal diseases combined. In dispensary work I find that about one person in three has fistula. The proportion of fistulæ to other diseases is not so great in the upper circles of society because their occupations are not so arduous, they are not exposed to inclement weather, and do not live in densely populated districts where tuberculosis is common. The rectal surgeon is frequently called upon to treat patients suffering from fistula in ano, whose condition is aggravated by coughing, the result of lung involvement, and I dare say the general practitioner in turn sees many phthisical patients who under the very best treatment fail to improve because of the exhausting discharge from an anal fistula.

Fistula and phthisis occur in the same individual with a regularity that cannot be explained by mere coincidence. At the present time I have under treatment three men and one woman suffering from fistula who have tuberculosis of the lungs. In order to show the proportion of fistula to phthisis Allingham reports 1,632 cases of fistula operated upon, and of this number no less than 234 had phthisis. From the analysis of the statistics of others, together with my own, I have arrived at the conclusion that from four to six per cent. of all phthisical patients suffer from fistula, while a much larger percentage of those afflicted with fistula have phthisis. It is extremely difficult to arrive at the correct ratio of the one disease to the other; for instance, a patient going to his family physician for a lung complaint does not deem it necessary to tell him that he has a fistula. On the other hand, when a patient goes to the surgeon to have a fistula cured, the latter will at once suspect lung involvement because of the patient's cough and general debilitated condition. Medical and surgical writers not long since believed there was some anatomical or pathological connection between anal fistula and the lungs, and as a result advised against operation for the cure of fistula. They maintained that in case the operation was successful and the sinus healed, there would be no outlet for the discharge. As a result the existing lung trouble would be made worse, and the patient would die. In case phthisis did not exist before the cure, it would develop as a result of retained poison finding its way to the lungs.

The trouble with these gentlemen was, they had the cart before the horse. I do not doubt that phthisis is frequently a cause of fistula, but I am extremely sceptical if fistula is ever an etiological factor in phthisis. I do not wish it understood that I believe all fistulæ are the result of tuberculous lung disease, for in fact not more than one in six or eight are caused by it, the remainder being the result of abscess induced by exposure, trauma, foreign bodies, and pyogenic bacteria. I will not attempt to discuss simple fistula as seen in robust persons, but will confine my remarks to a study of fistulæ in tuberculous subjects. Of these we have two kinds (1) true tuberculous fistulæ, the result of localized deposits; (2) fistulæ induced or made difficult to cure because of the cough and lowered vitality, the result of phthisis.

1. True tuberculous fistulæ are nearly always secondary to intestinal ulceration, which in turn is secondary to tuberculous disease in some other organ, especially the lung. Tubercle bacilli may gain admittance to the intestine in our food, but most observers hold to the opinion that intestinal tuberculosis is the result of the swallowing of sputum containing tubercle bacilli. It appears that their vitality is not materially interfered with by the gastric or intestinal contents. This, however, may be partly explained by the impaired digestion coincident with general tuberculosis.

2. Non-tuberculous fistulæ are frequent in phthisical

[1] Read before the Medical Association of the Greater City of New York, June 11, 1900.

patients. They are troublesome to treat, for several reasons: (*a*) persons having general tuberculosis are particularly prone to suppuration from slight causes; (*b*) because of the absence of fat in the ischio-rectal fossa, large blood-vessels are left unsupported and readily become dilated and congested; (*c*) lastly the constant coughing of phthisical patients is most noticeable at the anus, and frequently results in bruising of the parts, causing abscess and fistula.

Differential Diagnosis.—The symptoms and general characteristics of tuberculous fistulæ are so different from those of the ordinary kind, that it is not a difficult matter, if one is careful, to differentiate between them, as will be noticed from the following comparison:

FISTULA.

Non-tuberculous.	*Tuberculous.*
1. Internal and external openings small and round, the edges red, and situated in the centre of an elevation.	External and internal openings large and triangular, edges of a bluish tint and drooping into the opening.
2. Buttocks rounded and supported by fat.	Skin undermined.
3 Hair about the buttocks normal.	Abundant, long, and silky.
4. Nails normal.	Nails clubbed.
5. Face and ears and nose normal.	Face pinched, nostrils wide open, ears large and sticking out prominently from the head.
6. Voice natural.	Voice husky.
7. Complexion ruddy.	Complexion sallow.
8. Rarely loss of flesh.	Loss of flesh considerable and rapid.
9. Discharge slight and yellow.	Profuse, whitish in color, and watery.
10. Introduction of probe causes considerable pain.	Introduction of probe causes slight pain.
11. Appetite normal.	Appetite poor.
12. Digestion good.	Digestion bad.
13. Sleep natural.	Interrupted and occasionally disturbed by night sweats.
14. Discharge contains principally colon bacilli.	Discharge contains tubercle bacilli.
15. Not accompanied by hæmoptysis or cough.	Frequently complicated by hemorrhage of the lungs and annoying cough.
16. Tight sphincter.	Patulous anus.

During examination of a fistula the first and most important thing is to determine if it is simple or tuberculous in character. This point can be settled by the finding of the tubercle bacilli by the aid of the microscope; their presence in the discharge makes it almost certain that there is localized tuberculosis, yet they are occasionally found when sputum from a tuberculous lung has been swallowed. On the other hand, there may be tuberculous disease and the bacilli not be present. When the tuberculous process is progressive and the stools are watery, the bacilli become mixed with the fæces and difficult to locate. To overcome this difficulty, Rosenblatt administers sufficient laudanum to produce hardened stools, and then examines the muco-purulent discharge coming away upon the surface of the fecal mass. In this way he has little difficulty in demonstrating their presence. I have frequently examined the pus from tuberculous fistulæ without finding the bacilli of Koch. In such cases I then curette the abscess and fistula wall and examine the débris. By this procedure I have never failed to find them or little caseous bodies, which positively prove the tuberculous nature of the disease. When neither is found, we can safely conclude that the fistula belongs to the non-tuberculous type.

Treatment.—Modern surgeons pretty generally agree that the ordinary fistula, as found in vigorous persons, should be operated upon and the wound allowed to heal by granulation. There is, however, some difference of opinion among both physicians and surgeons, even in this enlightened age, regarding the operative procedure for the relief of tuberculous as well as the simple form of fistula complicated by phthisis. It has been my custom to operate on all fistulæ, irrespective of the kind, and the results obtained have been equally satisfactory to the patients and myself. It is the condition of the patient that should determine if an operation is necessary, and not the fact that he is suffering from this or that form of fistula. I believe we are justified then in operating upon all patients suffering from tuberculous fistulæ in its strictest sense, and those who have simple fistula with or without lung complications, provided their general condition will permit it. I would not operate upon a fistula in a person who would die of phthisis in the course of two or three months, neither would I operate for fistula in a person similarly afflicted with Bright's disease. Each case should be a law unto itself, and the treatment given should be the best for the case in hand, be it palliative or operative.

Palliative Treatment.—In non-operable cases we should use our best efforts to make our patients comfortable and improve their general condition.

1. This is accomplished by keeping the fistulous openings free, thus encouraging drainage.

2. Assist healing and relieve pain by copious injections, or the application of caustics, stimulating, antiseptic, and soothing remedies.

3. Entice the appetite and supply palatable foods, known to have nourishing qualities.

4. Stop all medication which disturbs the stomach and irritates the intestine.

5. Administer oils, creosote, and other medicines which tend to improve the patient's general condition.

6. Do not keep these patients in bed in a dark room; on the contrary allow them the fresh air, sunshine, and the sea breeze or proper altitude when near the ocean or mountains.

7. Make things pleasant and cheerful for them, for their lot in life is not a happy one, and their mental state is occasionally pitiable in the extreme. To relieve pain and induce sleep medication should be given by mouth or hypodermic injection. By following these suggestions, we can at least make all of our patients comfortable and cure not a few through palliative measures.

Anæsthetics.—Having decided that an operation is necessary, a suitable anæsthetic must be selected. Local anæsthesia should be practised when feasible. Of these local anæsthetics I have derived the most benefit from cocaine and orthoform. The former is injected freely along the line of tissues to be severed, the latter is dusted over abscess cavities and fistulous sinuses to be curetted. These agents lessen but do not entirely obliterate pain during operation. In the selection of a general anæsthetic for this class of cases chloroform should have preference over ether or the A. C. E. mixture: (1) It renders the patient unconscious in a shorter time; (2) patients recover from it more quickly; (3) they vomit less after it, thus obviating strain at the anus and a possible hemorrhage; (4) it does not provoke inflammation of the lungs or kidneys. From personal experience I have been forced to the conclusion that many of the deaths from lung complications following shortly after fistula operation are the result of an inflammation induced by the administration of ether, and are not due to the cutting and cure of the fistula.

Operative Treatment.—We should endeavor to build our patients up to a high standard before operating. The morning preceding operation a mild laxative may be administered; strong purgatives never, because they frequently start up a diarrhœa difficult to control. In other respects these patients are prepared as for any other operation. I will not mention the various operations devised for the cure of fistula in ano, and will describe those only which are best suited for the class

of cases under discussion. They are three in number: (1) ligation; (2) division; (3) excision.

Ligation: The ligature operation was first described by Celsus. It consists in passing a silk, wire, or elastic ligature through the sinus and out at the anus, where the ends are securely tied. It gradually cuts its way out, usually requiring from a week to ten days. The following are some of the advantages claimed for it: (1) It does away with the knife; (2) it can be performed without an anæsthetic; (3) it is comparatively painless; (4) there is no bleeding; (5) the patient can walk about, having the benefit of the fresh air and sunshine. The ligature method is not suited to the treatment of fistulæ in general, as (1) it takes a longer time to effect a cure; (2) it does not sever branch sinuses. This operation, however, is especially adapted to the treatment of tuberculous fistula as well as the simple variety complicated by phthisis, since it does not deprive such patients of the air, sunshine, and exercise, and causes little pain.

Division: This is the usual operation for fistula, and is performed in the following manner: A director of suitable size is introduced through the sinus until its distal end can be reached by the finger in the rectum, when it is withdrawn and rests across the anus. The bridge of tissue resting thereon is then divided. Next the back part of the sinus is incised, and the whole tract curetted, irrigated, and packed with gauze. If it is a true tuberculous fistula, every vestige of the involved area should be destroyed with the Paquelin cautery before the dressings are applied. The sphincter muscles should be handled very carefully, for it is after these operations that incontinence is likely to follow.

Excision: The excision of fistulous tracts is not a popular operation, because the results from it are not so good as from the operation just described. It consists in dissecting out the sinus and the immediate closure of the wound, with the object of obtaining primary union. Occasionally it is successful; more often it is a failure because of infection through the rectal end of the wound. Some surgeons maintain that this operation is especially suitable in the treatment of tuberculous fistula because a large suppurating wound is avoided. I agree with these gentlemen that it is better suited for this than other forms of fistula, yet I would not give it preference over the ligature or division operations.

I will conclude my paper with the following observations:

1. Tuberculous fistula of the anus is usually secondary to tuberculous disease of the lungs.

2. Pulmonary phthisis is rarely, if ever, secondary to fistula in ano, either before or after operation.

3. Tuberculosis of the anal region should be dealt with radically, as is recommended when it attacks other parts.

4. When the patient's general condition will permit we should operate on all fistulæ irrespective of the kind.

5. We should not refuse to operate on persons suffering from a mild form of phthisis, nor on those who give a family history of tuberculosis. Certainly, if we arrest one destructive process, nature is all the more capable of dealing with the other.

6. I believe that those patients operated upon for tuberculous fistula and those that are non-tuberculous complicated by phthisis, who rapidly decline and die, do so as the result of an inflammation of the lungs induced by the anæsthetic, especially ether. Such accidents have not followed any of the operations which I have made under local anæsthesia.

7. Lastly, I believe we are justified in discarding the erroneous teachings of writers who believe that the cure of a fistula will result in a development of phthisis.

58 West Fifty-sixth Street.

A Case of Pseudokeloid after Syphilis.—Yordan distinguishes true keloids from pseudokeloids. The latter appear only after traumatisms and in some cases after syphilitic ulcers. He reports a case of his own observation, in which, after rupia syphilitica, many pseudokeloids appeared all over the body; the pseudokeloid character of the scars was proven by microscopical examination. Anti-syphilitic treatment in those cases is of no value.—*Meditsinskoe Obozrenie*, April, 1900.

Median Osteotomy of the Hyoid Bone.—Maurice Vallas holds that this operation is simple, easy, and in itself benign, and that it enables the surgeon to reach the pharynx and to examine its inferior portion and the vestibule of the larynx better than does suprahyoid pharyngotomy. The indications for the operation are foreign bodies, benign removable tumors, cancers limited to the epiglottis, and above all severe syphilitic constrictions. The procedure greatly facilitates the removal of intra-muscular tumors at the base of the tongue, and permits total amputation of the tongue in cases of cancer of the posterior portion of that organ. Neither deformity nor functional disorder follows osteotomy of the hyoid bone.—*Revue de Chirurgie*, May 10, 1900.

Pseudo-Appendicitis.—R. Condamin and J. Voron report several cases which seem to indicate that hysteria or neuropathies are capable of creating morbid conditions which closely simulate the local symptoms of appendicitis, without causing a rise of temperature or modifying the general condition. In addition syphilis causes pseudo-appendicitis. Syphilitics are apt to suffer from enteralgia, and should this pain be situated in the vicinity of the cæcum and the appendix, and should there be at the same time any fever such as is so liable to be present in cases of untreated secondary syphilis, the symptoms will certainly resemble a somewhat severe case of appendicitis.—*Archives Provinciales de Chirurgie*, May 1, 1900.

Cerebral Tuberculosis in Children.—Leone Maestro reports two fatal cases. The first was that of a child aged four years, with tuberculosis of the corpora quadrigemina. There were gradual emaciation and enfeeblement; pulse somewhat intermittent. Convulsions occurred; there were convergent strabismus of both eyes, paralysis of the motor muscles of the iris, dulness of hearing, uncertainty of gait, and finally ataxia. Death occurred six months after the appearance of the first symptom. In the second case, that of a child three years old, the chief symptom was pain in the frontal region. At the autopsy, in addition to basilar meningitis, there was found one tubercle situated in the right side of the cerebellum. The frontal lobes were normal, and the pain was probably a symptom of compression. —*La Riforma Medica*, May 15 and 16, 1900.

Voluntary Luxations.—Francesco Parona reports a case of voluntary or habitual luxation of the left shoulder. The patient was a girl aged seventeen years, and the dislocation had first appeared when she was eight years old, a few months after she had had a fall. She could put her shoulder out of joint at any time; there was no asymmetry, swelling, or other deformity, and when the bone was in place the left arm could be used as freely in every direction as the right. The author decided to operate, and, having opened the capsule, found that the head of the humerus was perfectly formed, and the serous and cartilaginous tissues were normal. Having made folds in the capsule, he stitched them down, and the possibility of dislocating the joint was prevented. The patient made a good recovery, and the cure had been perfectly maintained two years later.—*Il Policlinico*, May 15, 1900.

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THE DIFFERENTIATION OF DEFORMING ARTHRITIS, GOUT, AND RHEUMATISM.

THE time is ripe for a more refined differentiation of the various diseases in which joints may be involved. It is well known that arthritis may result from several causes—traumatic, toxic, infective, primarily or secondarily, and in association with disease of the nervous system—but among the different forms there stands out prominently one that can be distinctly recognized as a definite clinical entity, in which successive joints become the seat of pain, redness, and impaired mobility, with acid sweats and elevation of temperature, often complicated by inflammation of the endocardium and the serous membranes, and yielding therapeutically, with almost specific promptness, to salicylic acid and its salts. This disease we know as acute rheumatism or rheumatic fever. It may pursue a subacute course, or leave behind chronic changes in the joints. This disorder is almost certainly dependent upon bacterial activity, although opinions are not agreed as to the identity of the causative micro-organism.

In addition, as has been suggested, inflammation of one or more joints may occur as a complication of various infectious diseases, as for instance scarlet fever, influenza, smallpox, syphilis, gonorrhœa, pyæmia; but this condition cannot properly be considered rheumatism.

The pains in muscles and fibrous tissues, and even in joints, that often appear after exposure to cold and like influences, may not be rheumatic at all, but may be, rather, manifestations of metabolic disturbance, and due to alterations in the fluids of the body, in consequence of which certain substances are thrown out of solution, and act as irritants, generally or locally.

Finally, so-called chronic rheumatism may be considered as representing a number of forms of chronic arthritis of varied origin.

Except in their common involvement of joints, there is no relation between rheumatism, gout, and deforming arthritis, and error in diagnosis should not occur, if careful investigation is made in the individual case. Some of the points of differentiation are discussed by Luff[1] in a recent communication. This observer contends that rheumatism may occur as an abarticular as well as an articular disorder, manifesting itself in the form of chorea or erythema, or endocarditis or pericarditis. Rheumatism, unlike deforming arthritis, is not attended with hyperplasia of articular cartilage, osteophytic outgrowths, and grating of the ends of the bones. The rheumatic joints often undergo fusiform enlargement from thickening of the articular capsule.

In the differentiation of deforming arthritis and gout, it should be borne in mind that the former occurs most commonly in females, the latter in males; the former among the poor and ill-nourished, and especially under conditions of depressed health, prolonged anxiety and exposure to damp, and sudden alterations of temperature, the latter among the well-to-do and the well nourished. The one disorder is improved by good dieting, and the other by a spare and plain diet. Deforming arthritis sets in insidiously; gout suddenly. The latter most commonly appears first in one of the feet, especially a joint of the great toe; the former, although ultimately affecting frequently many joints of both hands, almost always begins in one joint, most commonly one of the joints of the thumb, and spreads rapidly to other joints. The joint affection of deforming arthritis is at first unattended with obvious swelling and marked redness, while that of gout is attended with swelling and redness, and a glossy appearance of the overlying skin. Deforming arthritis is attended with little pain at first. There is some aching, but the onset is insidious. Gout begins with severe pain, the patient as a rule being awakened in the early morning with excruciating pain in the great toe. The temporo-maxillary articulation is commonly affected in cases of deforming arthritis, but not in cases of gout. The lesions of deforming arthritis are remarkably symmetrical in the hands, while this feature is wanting in cases of gout. Finally, sodium biurate can be found in the joints in cases of gout, but not in cases of deforming arthritis.

A disorder has been described as chronic villous arthritis,[1] which is characterized by chronic inflammatory enlargement and hyperplasia of the villi of the synovial membrane, while the cartilage and the bone of the articular extremities remain uninvolved. The affection may be seated in one or several joints, and is attended with pain, enlargement, and deformity and with impaired mobility and functional inefficiency. It differs from deforming arthritis essentially in the involvement of the synovial membrane rather than the articular cartilage and the adjacent bone.

[1] Practitioner, May, 1900, p. 491.

ANOTHER INDICTMENT AGAINST THE MOSQUITO.

THE more we learn of the mosquito in her rôle of transmitter of disease the more clearly does she show forth as one of man's most deadly enemies. She of the Anopheles tribe is proven to be the active agent in the transmission of malaria from man to man; it is claimed by Findlay and others, with apparent reason, that the mosquito is instrumental in the spread

[1] Schüller: Berliner klinische Wochenschrift, 1900, Nos. 5, 6, 7.

of yellow fever, though whether this is the only means (if a means at all) of transporting the disease, and what kind of mosquito carries the germ, we do not yet know; and it has long been an accepted belief that the other species of mosquito (Culex) is the intermediate host of filaria nocturna. In the latter case, however, it has been supposed that the parasite was liberated in water on the death of the mosquito and that man became infected by drinking such water. The mosquito was therefore simply a passive agent, culpable in having bitten a filaria-infected man but guiltless of the infection of healthy individuals. It seems now, however, that this is not the case, or at least not always the case, and that the insect may be the active agent in inoculating man with this dangerous parasite.

In some recent work on a series of filarial mosquitos at the London School of Tropical Medicine, George C. Low has found the mature worm in the proboscis of the mosquito evidently ready to enter the blood of the next victim of the insect's bite (*British Medical Journal*, June 16, 1900). It is now known that the mosquito does not necessarily die immediately upon depositing her eggs in the water, but can, if fed, go on living and laying eggs for many weeks; and Low has found that the filariæ do not remain passive in the thoracic muscles of the mosquito after issuing from the stomach, but leave that tissue and travel toward the head of the insect and pass into the loose cellular tissue in the neighborhood of the salivary glands. They are, of course, too large to pass through the salivary duct, as is the case with the malarial parasite, but they bore their way through the base of the labium and push forward along the proboscis. "It is difficult," Low says, "to avoid the deduction that the parasites so situated are there normally, awaiting an opportunity to enter the human tissues when the mosquito next feeds on man."

If this observation is shown to be correct, it will only add emphasis to the warning against exposure to mosquito bites in the tropics and sub-tropics, and will stimulate to greater activity those who are searching for a certain means of protecting man against these literally pestiferous insects and for some efficient culicicide.

TYPHOID FEVER IN PARIS.

Our Paris correspondent, in the Medical Record of June 23d, calls timely attention to the importance of the sanitary condition of Paris during the Exhibition, when the city is overcrowded with people from all parts of the world, and further points out that considering the lack of knowledge of hygiene obtaining among a large proportion of these visitors, the wonder is that a serious outbreak has not already occurred. The writer referred to appears to dread the importation of diseases more than those which already prevail in Paris, and is of the opinion that an epidemic of bubonic plague is especially to be feared. While allowing that this note of warning is warranted by the situation, and that the danger from the outside is a real one which should be strictly guarded against, it may be doubted, after all, whether the chief menace to the health of "those on pleasure bent" will not be found in the sanitary conditions of Paris itself. For some considerable time typhoid fever has been unpleasantly active in the city on the Seine. In 1899 four thousand three hundred and twenty-nine cases of this malady were notified, of which number eight hundred and two proved fatal. A comparison of the reports of the first ten weeks of the years 1899 and 1900 can hardly be called reassuring. During that period last year three hundred and ninety-eight cases were notified, and in the corresponding period of the current year these figures have been more than doubled. As usual, when the matter was investigated the cause for this prevalence of enteric fever was discovered to be due to a contaminated water-supply. The affected districts were found to be those whose drinking-water is drawn from a stream named the Vanne. Observations made by Drs. Thoinot, A. J. Martin, and Miguel verified the suspicions that to the polluted water of the Vanne is due the increase of enteric fever in and about Paris.

For obvious reasons the Paris authorities and press have almost wholly ignored or discredited these reports. *Public Health*, touching on this point, says. "The specific bacillus is said to have been recognized and isolated from samples of the water taken from the river itself from a reservoir at Montsouris and from the supply of two army barracks, by several bacteriologists. Yet the prefect of the Seine tried recently to persuade the council that a mistake had been made by those who had examined the water, and that they had been misled. Other evidence, however, is too strong in incriminating the water of the Vanne, which seems liable to pollution from its source. Thus in that part of the town of Sens which is supplied with water by a branch taken from the main aqueduct of the Vanne enteric fever has appeared, while other parts of the town with a different supply have escaped." Under these circumstances it would be folly for visitors to Paris not to take certain precautionary measures, such as not to drink water unless they are satisfied that it has been boiled or efficiently filtered, and to use discretion in the consumption of raw vegetables and oysters which may have been washed or allowed to stand in unboiled water.

The American Association for the Advancement of Science.—At the closing session of the meeting of this association, which was held in this city the last week in June, the following officers were elected for the ensuing year: *President*, Prof. Charles Sedgwick Minot, of the Harvard University Medical School; *Permanent Secretary*, L. O. Howard, United States Department of Agriculture, Washington, D. C.; *General Secretary*, Prof. William Hallock, Columbia University; *Secretary of the Council*, D. T. McDougall, New York Botanical Garden; *Treasurer*, Prof. R. S. Woodward, of Columbia. The next annual meeting of the association will be held in Denver.

News of the Week.

Dr. William Moser has been appointed assistant visiting physician to the German Hospital, Brooklyn. Dr. Moser was formerly pathologist to the same institution.

Dr. Augustin H. Goelet writes that in his remarks reported in the MEDICAL RECORD of June 23d, p. 1,098, he advocated the use of morphine for the relief of severe pain, not of shock, following laparotomy.

The American Institute of Homœopathy.—The election of the officers of this society for the ensuing year resulted in the choice of Dr. A. B. Norton, of New York, for president, instead of Dr. W. W. Van Baun as announced last week. Dr. Norton and Dr. Van Baun were opposing candidates for the office of president, and the vote was 198 for Dr. Norton to 70 for Dr. Van Baun.

American Medical Editors' Association.—At the annual meeting of this association, held in Atlantic City, June 4th, the following officers were elected for the ensuing year: *President*, Dr. Alexander Stone, of St. Paul; *Vice-President*, Dr. Charles F. Taylor, of Philadelphia; *Treasurer*, Dr. S. W. Kelley, of Cleveland; *Secretary*, Dr. O. F. Ball, of St. Louis. The next meeting of the association will be held at St. Paul in June, 1901.

The Study of Mosquitos.—Dr. W. N. Berkeley, 121 East Twenty-sixth Street, writes that he is anxious during the coming three months to determine as fully as possible the various species of mosquito to which the malaria endemic in our locality may be due. Without the help of physicians practising in the near-by towns the difficulties of the work will be almost insuperable, and he therefore requests that physicians having patients with malaria notify him in order that he may, with the patients' consent, send a properly qualified man to collect mosquitos in houses and premises where fresh cases have developed.

The Thirteenth International Medical Congress.—The following is the programme of entertainments to be given during the session of the International Congress in Paris: On August 2d, the day of the opening of the congress, the president of the municipal council will give a reception to the members in the name of the French government. The following day a reception will be given by the president of the congress. On August 5th the president of the French republic will receive the members of the congress at the Elysée Palace. On August 7th a reception will be given by the municipal council of Paris in the grand hall of the Hôtel de Ville. On the evening of August 8th there will be a fête in the palace and garden of the Luxembourg, given by the committee on organization in honor of the members of the congress. Special entertainments will also be provided for the members of the different sections. Invitations for all these fêtes will be extended to the ladies accompanying the members of the congress, and there will also be a special committee of ladies who will look after the comfort and pleasure of the families of the members. There will be special rooms for the convenience of the ladies in one of the buildings of the Faculté de Médecine.

The New York School of Clinical Medicine has been closed. This action was decided upon by the medical board at a recent meeting, in consequence, it is said, of a disagreement with the board of trustees of the institution. It is possible, however, that the school will reopen in the autumn under different management.

St. John's Guild.—The Seaside Hospital at New Dorp, Staten Island, is open for the reception and care of sick children and their mothers. Until the floating hospitals are put in commission the patients will be conveyed to the hospital free of cost by the Staten Island ferry at 10 A.M. and 2:30 P.M., on which boats will be a nurse and orderly. Physicians may obtain tickets for distribution to their poor patients upon application at the office of the Guild, 501 Fifth Avenue.

The Plague in Rio de Janeiro, accounts of the outbreak of which are given in another column, has attained rather alarming proportions. On June 26th 25 new cases were officially reported, and the deaths numbered 12.—In Manila the total number of plague cases reported during April was 53. Of these 38 were certified by the medical officers to be genuine cases of the disease (29 Chinese and 9 Filipinos), while 15 were declared not to be plague. For the preceding three months the number of cases certified as plague was 195 (134 Chinese and 61 Filipinos) out of 212 reported, leaving 17 which were declared not to be cases of plague. Of the 195 plague patients, 150 died.

Quarantine Service in Cuba.—The President has recently signed an order systematizing the quarantine service in the island, and providing that, beginning July 15th, a commissioned officer of the Marine-Hospital service shall be detailed on the staff of the military governor of Cuba, as chief of the quarantine service of the island. Estimates of expenditures for the service and auditing of accounts will be under the supervision of the military governor, while the enforcement of the treasury quarantine regulations and details of officers remain as provided in the executive order of January 17, 1899. The chief quarantine officer of the Marine-Hospital service in Cuba, being on the staff of the military governor, will be able to establish a thorough co-operation in all the ports, and with the Marine-Hospital bureau in Washington, in enforcement of its regulations.

The British Medical Service in South Africa has recently been severely attacked in Parliament and in the newspapers, the allegation being that the sick and wounded had been neglected cruelly, and that their sufferings had been needlessly increased through mismanagement and insufficiency in the supplies. The medical staff was said to be inadequate, and houses which might have been utilized as hospi-

tals were occupied by officers. In reply to these criticisms, the parliamentary secretary of the War Office admitted that the allegations as to neglect of the sick and wounded were true to a lamentable extent. They were exposed, he said, to terrible hardships, but it was not due to any stinting of supplies, but to the insuperable difficulties of distributing those that had accumulated in South Africa. Every demand on the government in behalf of the troops, he said, had been complied with. The officials in South Africa said the hospitals had beds in excess of the demand. There were 5,000 beds in Natal and 13,600 in Cape Colony. There were in South Africa 466 army and 440 civilian medical officers and 556 female and 5,668 male nurses, besides the doctors and nurses engaged locally. The War Office, he said, had cabled Lord Roberts that disquieting reports regarding the hospitals were accumulating, and asked him if anything could be done, and particularly whether more nurses were needed. Lord Roberts replied that he did not wish to shirk responsibility or to screen the shortcomings of the medical corps, and he suggested a committee of inquiry. He said there had been an abnormal number of sick at Bloemfontein, due to the exhausting nature of the march and the terribly unsanitary condition of the camp at Paardeberg, where the only water available for drinking flowed from the Boer camp, higher up, where the river was crowded with decomposing animals, and to this number had been added many wounded after the fight on March 10th. To improvise accommodations at Bloemfontein for such a number, which had become two thousand before he left there, was no easy task. No tents were carried, and the public buildings had to be turned into hospitals. In three months there had been 6,369 admissions to the hospital of patients suffering from enteric fever, while the deaths numbered 1,370, about twenty-one per cent. Lord Roberts observed that he did not know whether this would be an abnormal rate in civil hospitals in peace times, but if it were, it was due to the exhausted state of the men and not to the neglect of the medical corps. The strictures on the efficiency of the army medical service were evidently made by amateur critics who seem to think it is as easy to provide for the comfort of a body of troops in an enemy's country as for a party of Cook's tourists, and who never think that a vast amount of suffering is inseparable from the rapid march of a constantly fighting army.

Cuban Sanitary Ideas.—Several Cuban newspapers of the baser sort, when other occasions for fault-finding fail, accuse the American government of extravagance in carrying out the various sanitary reforms which have been instituted. The writers share Svengali's amused horror at the waste of so much good water in bathing, and deprecate the expenditure of so much time and labor in preventing the reaccumulation of the mountains of filth which formerly blocked the streets of their towns. *El Cubano* recently revealed one of the reasons for this opposition. The Cubans, it said, justly and properly object to the expenditure of such a large proportion of the revenues of the island in measures intended to repress yellow fever, for the only result of such measures is to protect the lives of the Americans, since the Cubans themselves are immune from yellow fever. The editor of *El Cubano* is evidently a man of broad views and unselfish ideals who ought to be made president of the first Cuban antivaccination society.

A Medical Book Thief.—A Boston physician, a graduate in medicine of McGill University in 1833, has been convicted on his own confession of stealing book plates from the library of Harvard University. His case has been continued to the next term of the court for sentence.

Award of Prizes at the College of Physicians and Surgeons.—At the recent commencement of Columbia University, Dr. August Jerome Lartigau was awarded the Alonzo Clark scholarship, Dr. James D. Voorhees the Stevens triennial prize, and Dr. David Bovaird, Jr., the Alumni Association prize of the College of Physicians and Surgeons.

Cholera in India.—A despatch from Bombay, dated July 3d, says cholera prevails to an unusual degree in the entire Bombay Presidency with the exception of three districts. The cases reported for the week ending June 26th numbered 20,689, and the deaths during the same period 12,333.

Physicians Saved from Burning.—The surgeons of the three North German Lloyd steamers, burned on Saturday last at the Hoboken dock fire, were all saved. They were Drs. Leuthe of the *Bremen*, Staby of the *Saale*, and Brauns of the *Main*. They sailed on the *Kaiser Wilhelm der Grosse* on Tuesday.

The Celtic Medical Society.—At a regular meeting of the Celtic Medical Society of New York, held recently, the following officers were elected for the ensuing year: *President*, Dr. John J. Morrissey; *Vice-President*, Dr. William J. Farrell; *Secretary*, Dr. J. J. Cronin; *Treasurer*, Dr. M. C. O'Brien.

A Hospital Romance.—That truth is not less strange than fiction is illustrated by a recent occurrence at the Philadelphia Hospital. Some two years ago a woman was found on the street in a demented and destitute condition, and was sent to the hospital. She could not give her name or any information as to where she had come from. For a long time there was no improvement, but after eighteen months the woman was able to relate something about herself and her family. Her husband was communicated with, and as a result her son came from a distant city to take her home. It turned out that she had disappeared five years before, and large sums of money had been spent in the search for her.

The County Association Officially Recognized.—The New York County Medical Association has won a suit brought to compel the city to pay it a penalty of $50 secured by the prosecution of a person practising as a physician without a license. The association furnished the proof on which the man was convicted, but the fine of $50 was paid into the city treasury.

The association contended that the law of 1895 provides that when the complainant in such cases is a State medical society or a county medical society entitled to representation in a State society, such fines shall be paid to the complainant. The city took the position that the act referred to the Medical Society of the County of New York. The court decided, however, that the association is entitled to representation in the New York State Medical Association, which is a legally organized society in affiliation with the American Medical Association, and that therefore it must have the money as provided in the law of 1895.

Dr. Jameson, who has passed successfully two or three medical examinations, led a body of raiders into the Transvaal, been imprisoned therefor in South Africa and in England, suffered from a severe attack of typhoid fever while besieged in Kimberly, and has had other adventures of various sorts, has now been elected unanimously a member of the Cape parliament from Kimberly.

The International Congress of Medical Electrology and Radiology.—The principal railways of France announce a reduction of fifty per cent. in rates for the members of this congress, and the Italian roads will allow a reduction of from thirty to fifty per cent., according to the distance. The membership cards will give the right of free entrance to the Exposition during the session of the congress.

Tuberculosis in the Schools.—The board of education of Honolulu has adopted a resolution prohibiting any one from teaching in the public schools who is suffering from tuberculosis or other contagious or infectious diseases, and also prohibiting children afflicted with such diseases from attending the schools. It is said that there has been a great influx of consumptives to the islands during the past year, the attraction being the mild climate, and the health authorities have become alarmed for the safety of the susceptible native population.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending June 30, 1900. June 22d.—Assistant Surgeon C. N. Fiske ordered to the Boston navy yard. June 23d.—Surgeon W. H. Rush, when discharged from treatment at the naval hospital, Mare Island, Cal., ordered to Washington, D. C., July 10th, for examination for retirement, and then home and to await orders. Assistant Surgeon O. M. Eakins detached from the *Buffalo* and ordered to the *Scindia*. June 26th.—Surgeon C. F. Stokes promoted to surgeon from May 31, 1900.

The Late Dr. Landon Carter Gray.—The following resolutions upon the death of Dr. Landon Carter Gray were passed at a meeting of the medical board of the St. Mark's Hospital, held June 23, 1900:

"*Whereas*, The medical board of the St. Mark's Hospital has heard with profound sorrow of the death of their colleague and consulting-physician, Dr. Landon Carter Gray, which occurred on May 8, 1900;

"*Whereas*, Dr. Landon Carter Gray was an esteemed member by reason of his broad knowledge of medicine and his rare talents in neurology; he was a kind friend to many and especially cordial in his relations with the younger members of the profession: therefore be it

"*Resolved*, That the members of the board hereby express their great grief at the removal of their esteemed colleague by death, and extend their sympathy to the widow, relatives, and friends of the deceased.

"*Resolved*, That a copy of this tribute to the memory of Dr. Landon Carter Gray shall be spread on the minutes of this board and a copy thereof be sent to the family."

CARL BECK, M.D., president; IGNATZ MORVAY ROTTENBERG, M.D., secretary.

The Late Dr. William Pierson.—The following resolutions were adopted by the staff of the Orange Memorial Hospital on June 13, 1900:

"*Whereas*, It has pleased the Master to take from us our friend and chief of staff, William Pierson, M.D.; and

"*Whereas*, We, the medical staff of the Orange Memorial Hospital, in special meeting assembled, wishing to make known to all our feeling of deep grief caused by his death, do hereby

"*Resolve*, That a suitable memorial be prepared and presented to his bereaved family expressive of our sympathy and of our own loss; and

"*Resolve*, That the staff will attend the funeral in a body; and that these resolutions shall be printed in the medical and secular press, and transcribed upon the records of the staff of the Orange Memorial Hospital."

Obituary Notes.—DR. GEORGE S. WARD, of Newark, N. J., died on June 26th of pulmonary trouble. He was born in Bloomfield, N. J., in 1827, and was graduated from the College of Physicians and Surgeons, New York, in 1849. He retired from active practice many years ago.

DR. KING WYLLY, of Savannah, Ga., died of apoplexy on June 24th, in Saratoga, N. Y. He was fifty-nine years old, and was a graduate of the medical department of the University of Virginia in 1869.

DR. BENNETT BUSSEY, the oldest physician in California, died at his home in Biggs, on June 24th, at the age of ninety-three years. He was graduated from the medical school of the University of Maryland April 7, 1828. He went to California in 1876.

DR. HOWARD P. BALLIET, of Philadelphia, twenty-three years old, a recent graduate of the medical department of the University of Pennsylvania, was drowned at Atlantic City on June 25th.

DR. FREDERICK MAY FOSTER died in Kingston, Ohio, on May 19th, at the age of twenty-five years. He was a graduate of the Ohio Medical College in 1899, and had just completed his term of service as interne at the Protestant Hospital of Columbus.

DR. LOUIS ARCULARIUS died at his home in this city on July 1st of apoplexy. He was born in Hessen, Germany, in 1838, and came to this country almost immediately after graduation from the University of Giessen, in 1867.

Progress of Medical Science.

New York Medical Journal, June 30, 1900.

The Laryngeal Manifestations of Typhoid Fever. — L. B. Lockard reviews the literature of the subject, and describes the case of a man of thirty-five years who in the sixth week of the disease presented an abscess of the left arytenoid. Owing to threatened suffocation, tracheotomy was performed, followed by endolaryngeal incision of the tumor, and the evacuation of a considerable amount of pus. After recovery the left vocal cord was found fixed in adduction, due to ankylosis of the crico-arytenoidal articulation. The right cord was abducted and perfectly rigid, due, no doubt, to a perichondritis that had extended across the median line. After all signs of inflammation had disappeared dilatation was daily performed and continued for a long time. The cords readily separated, but upon withdrawal of the instrument would immediately fall back into their old positions. The tracheal cannula was constantly worn except when the patient was at rest. In order to make its removal possible the cords were taken away piecemeal by the double curette of Heryng, and an opening was made sufficiently large to permit free breathing.

The Closure of a Cleft Palate by Lingual Implantation.— In a case of cleft palate in which the Langenbeck as well as the Davies-Colley operation failed to cover the immense congenital defect, Carl Beck recently implanted a portion of the tongue. The ease with which even extensive resection of the tongue is tolerated by carcinomatous patients induced him to form a lateral flap from the tongue, which, after being turned and reflected near the base, was united with the freshened edge of the cleft of the same side. The gaping wound margins of the side of the tongue were then accurately united, and the floor of the mouth and the lingual angle were packed with iodoform gauze. During the after-treatment a mild solution of boric acid was sprayed through the nostrils every fifteen minutes. Liquid diet was given exclusively. After nine days the basis of the flap was severed, and one week later the flap was united with the opposite margin of the cleft according to the usual uranoplastic procedures.

A Contribution to the Study of Influenza in Children, with Special Reference to its Treatment with Sodium Benzoate.— H. B. Sheffield gives a general review of the subject and appends a lengthy bibliography. Concerning treatment he says that he has found sodium benzoate to relieve all symptoms within forty-eight hours. For high temperature he occasionally gives a little acetanilid, which also relieves pain, adding, when the latter is severe a little codeine. When rheumatoid pains predominate, he combines salol with the foregoing. In connection with internal remedies he uses the compound tincture of benzoin for inhalation, regarding it as an admirable respiratory antiseptic, expectorant, and anti-spasmodic.

The Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis.—R. McKinney gives the clinical histories which bear out the truth of Bosworth's dictum as to the causative relation of the early purulent rhinitis of children to the later atrophic condition so frequently found. McKinney is not disposed, however, to believe that this relation of cause and effect invariably holds.

Formalin as an Antiseptic in General Surgery, Gynæcology, and Obstetrics.—By G. E. Crawford.

Are there Veritable Valves in the Rectum?—By W. Bodenhamer.

The Treatment of Puerperal Infection.—By J. B. Killebrew.

The Medical News, June 30, 1900.

When is it Proper to Interfere in Apparently Difficult or Delayed Cases of Labor, Especially in Primiparæ?—Malcolm McLean directs attention to the fact that a woman bearing her first child is, for reasons peculiar to her class, particularly liable to certain difficulties and dangers, which seldom menace the woman who has before gone through the normal stages of labor. Since malpresentations and malpositions of the child, and deformities of the bony pelvis of the mother, may obtain in the case of the multipara as in that of the primipara, the conclusion is obvious that the peculiar danger menacing the latter resides in the condition of the soft structures of the parturient canal. The difference between the primipara and the multipara in this respect is to be found in the fact that in the primipara that peculiar, physiological softening down and relaxation of the soft parts, which should precede the passage of the child, goes on generally very slowly, occupying many more hours in its accomplishment than in the case of the multipara. The deduction which the author draws from this fact is that it is meddlesome midwifery to interfere too early in the course of a first labor. He holds that, if the presenting part is high up and movable, if the pelvic measurements are within normal limits, the soft parts unrelaxed and not œdematous or swollen, the case may be and should be allowed to proceed without interference. When the forces are apparently normal and the presenting part is arrested at any given point for over half an hour, or if the soft parts of the mother, having once been relaxed and thoroughly moistened with mucus, are becoming hot, œdematous, and discolored, the indications are for early assistance.

The Indications for Premature Delivery, with Special Reference to Eclampsia and the Pre-Eclamptic State.—By S. Marx.

The Prevention of Dystocia due to Fœtal and Pelvic Disproportion.—By Edward A. Ayers.

The Treatment of Tumors Complicating Pregnancy.—By Brooks H. Wells.

Boston Medical and Surgical Journal, June 28, 1900.

A Study of Twenty-Four Cases of Typhoid Fever with Symptoms of Peritoneal Infection. Laparotomy.—George B. Shattuck, J. Collins Warren, and Farrar Cobb, a committee of the Boston Society for Medical Improvement, report upon these cases, seventeen of which were cases of perforation of the bowel, two of preperforative necrotic areas, one of ruptured mesenteric gland, one of general septic peritonitis, the cause of which was not clear, and three were cases in which symptoms of intra-abdominal infection existed, but in which no cause for the symptoms could be discovered at operation. Of the three cases last mentioned, recovery occurred in two, and of the remaining twenty-one, in which peritoneal infection was found at operation, recovery occurred in three. From a study of these cases the committee concludes that (1) in many very sick patients perforation or peritoneal infection cannot be diagnosed until the results are already widespread and of fatal extent. The chances of a fatal issue from an abdominal operation in such cases are overwhelming. (2) In mild cases of fair general condition an abdominal operation is readily borne, provided no peritoneal infection is present. (3) A small number of mild cases may have sudden perforation with free extravasation. In these the symptoms are fulminant, but localized to a great extent, and in these (4) operation must be done at once, for general infection may become past relief in from one to five hours, and walling off of the perforation by protecting adhesions is so rare as not to be counted upon. (5) In the majority of mild cases, beginning infection (whether from perforation or not) is marked by comparatively slight symptoms—local pain, tenderness, spasm, and leucocytosis. The severe following symptoms mean general peritonitis. (6) These warning symptoms demand serious consideration and study, but in many cases are either not rightly understood or not acted upon. (7) Complaint of abdominal pain in a case of typhoid fever should always lead to a suspicion of beginning peritoneal infection. (8) Frequent leucocyte counts are needed in every case. In the presence of abdominal pain an hourly count is necessary. (9) Pain associated with local tenderness and a muscular spasm and a rising white blood count indicates in most cases an operation.

Separation of the Epiphysis of the Olecranon.—By F. J. Cotton.

A Modification of the Sphygmograph.—By Robert T. Edes.

Journal of the American Medical Ass'n, June 30, 1900.

Intracranial Pressure.—W. N. Bullard calls attention to certain non-traumatic conditions, without localizing symptoms, in which operation is useful. After giving cases, he concludes: (1) There exist certain non-traumatic cases of increased intracranial pressure of unknown or doubtful origin. (2) Whenever such an excess of intracranial pressure exists as to cause serious symptoms, the question of its relief by opening the cranium and cutting the dura should always be considered. (3) In certain non-traumatic cases of excess of intracranial pressure, more or less permanent relief—or even cure—may be obtained by proper surgical interference. (4) In case of acute severe optic neuritis of unknown origin, the question of opening the cranium and relieving the excessive intracranial pressure should be considered.

Abdominal vs. Vaginal Hysterectomy for Uterine Carcinoma.—J. B. Deaver favors abdominal hysterectomy for the great majority of cases of uterine carcinoma, though in some instances the vaginal route may be better. The advantages are completeness of operation, removal of pelvic glands, better area for complete extirpation of carcinomatous tissue, lessened danger to the uterus and of infecting the peritoneum, and less risk of hemorrhage.

Typhoid Fever.—J. H. Sackrider says the indications for treatment are not always alike. Since 1897 he has used cold water internally as an enema to reduce temperature,

at the same time spraying the skin. Cases are cited. Cold enemata relieve sleeplessness and restlessness. Early antisepsis of the gastro-intestinal tract is greatly to be desired.

Should the Dental Student be Educated Independently of General Medicine?—By G. V. I. Brown.

Practical Value of a Medical Education to the Student of Dentistry.—By Warren Brown Hill.

Is Medical Education a Necessary Qualification for Dental Practice?—By R. R. Andrews.

Hemorrhage after Confinement and its Treatment.—By Herman E. Hayd.

The Philadelphia Medical Journal, June 30, 1900.

A New Pathogenic Mould.—W. Ophüls and Herbert C. Moffitt report the case of a farm laborer, nineteen years old, who died after suffering from pleural effusion, inflammatory joint swellings, cough, constantly elevated temperature, slight chills, and profuse sweating. The diagnosis was septico-pyæmia. At the autopsy numerous abscesses were found in various parts of the body, in the pus of which were present peculiar parasitic organisms which in similar recorded cases have been described as protozoa—coccidioides inmitis pyogenes. In cultures of these organisms a mould developed on the second day. A pure culture of this mould in the third generation was injected into the ear-vein of a rabbit. The animal showed no symptoms and was killed three weeks after the inoculation. Tubercle-like nodules were found in the lungs, spleen, and kidneys, and in them the protozoon-like bodies were seen, but no mycelium. The authors therefore conclude that the protozoon-like bodies and the mycelium are different stages in the development of the same fungus. The relation between the mould and protozoon-like bodies, they think, is that the latter are a form of fructification of the mould. The way in which they develop from the mould after injection into the animal body remains to be studied.

Especial Hospitals for Consumption among the Poor in Our Cities.—By Edward O. Otis.

Questions of the Day in Medicine.—By J. M. Da Costa.

Angina Pectoris.—By Clifford Allbutt.

The Lancet, June 23, 1900.

A Plea for Early Operation in Cases of Undoubted Tubercle of the Lung.—In discussing the dangers of operation in cases of this nature, J. F. Palmer finds three to be especially noteworthy: first, pneumothorax; second, surgical emphysema; third, hemorrhage. Emphysema may result from rupture of the trachea or larger bronchial tubes, external wounds into the cellular tissues surrounding the costal pleura without lesion of the latter, lesion of the costal pleura only with external wound, and lesions of both pleuræ with or without external wound. In regard to hemorrhage, the writer says that when a cutting operation is required at the apex of the lung, and no adhesions are present, the diseased part, if not too extensive, might be included in a single ligature and the whole excised. In all operations on the lung the introduction of bacteria from without, through the wound in the chest-wall, can be effectually prevented by modern antiseptic methods. But there is in these cases another channel of entrance for bacteria, viz., the trachea and bronchial tubes. The general experience of internal wounds of the lung when the skin is intact points to the pneumococcus as most to be feared in this direction. Pneumonia is the most frequent complication of rupture of the lung and the wounds caused by fractured ribs, injuries in which the trachea is the only passage for microbes, and which resemble in this respect operations on the lung with the external opening in the chest wall hermetically sealed.

Acroparæsthesia.—Three cases of this affection are described by F. H. Edgeworth. The common feature was a dead, tingling feeling in the hands and arms, either at night or on using the hands, or persistent, though much worse on manual labor. No objective sign could be found in any of the cases. The pathology of acroparæsthesia is unknown. According to Lereboullet the fault lies in the peripheral venous circulation, which, by producing ischæmia, or it may be passive hyperæmia, results in serous infiltration of the terminal branches of the nerves. And certainly in some instances objective signs of vasomotor disturbance have been noted. But this theory would cover at most a few only of the recorded cases, and does not, for instance, explain those described above in which no vasomotor changes were apparent. The origin of the disease is probably to be found in the age and sex of the patients, and the affection may be related to those other abnormal actions of the central nervous system which are so apt to occur in women during the years preceding and following the menopause. The diagnosis should be based on the conjunction of these abnormal sensations with an absence or insignificance of signs of vasomotor disturbance. The affections with which acroparæsthesia is most likely to be confounded are hysteria, peripheral neuritis, erythromelalgia, acrocyanosis, acromegaly, and arterial degeneration.

Some Notes on the Introduction and Spread of Plague.—From a personal experience in Bombay and Calcutta G. J. Blackmore discusses the possibility of the invasion of England by the dreaded disease. He believes that if the plague is to be prevented from entering the mother country there must be (1) a most careful search made for modified cases of plague for some considerable time after the disease has apparently died out in places that have been attacked by it; (2) rigid inspection of vessels and passengers coming from infected places, not only while they are known to be infected but for months afterward; (3) disinfection of dirty clothing and rags coming from such places; (4) a sharp lookout kept for any increased mortality among rats in seaport towns, with repeated search for the plague bacillus in the bodies of those found dead; (5) an attempt made to exterminate the vermin which may act as carriers of the plague; and (6) early inoculation of the people when plague has appeared among rats.

On Chylous Ascites, with an Illustrative Case.—The patient of J. H. Croom was a woman aged thirty-nine years, with abdominal swelling and gradual weakness and emaciation. On deep palpation several hard masses could be felt in the abdominal and epigastric regions. The diagnosis was cancer of the omentum and mesentery. Later the abdomen was aspirated and the fluid found to be essentially finely emulsified fat with much granular fatty débris. Death resulted in about two months after admission to hospital. The autopsy showed diffuse cancerous masses at different points in the abdomen. Especially marked was the malignant infiltration in the neighborhood of the receptaculum.

The Comparative Germicidal Action of Some Disinfectants.—By A. H. Burgess.

Acute Glossitis Complicating a Case of Typhoid Fever.—By H. C. Thomson.

Imperforate Hymen and Retained Menstrual Accumulation.—By H. H. Borland.

On the Degeneration of the Neuron.—First Croonian lecture, by W. Mott.

Differentiation in Diabetes.—By F. W. Pavy.

British Medical Journal, June 23, 1900.

A Case of Hemorrhagic Pancreatitis.—J. C. Uhthoff and E. F. Maynard relate the case of a man seventy-seven years old, who had recently complained of "indigestion." The morning before admission he was suddenly seized with abdominal pain, followed by sickness and collapse. Coffee-ground matter was vomited until death, three days later. The head of the pancreas was dark and the size of an orange. The entire organ was firmly adherent to adjacent structures. Spots of fat necrosis were scattered in it. There was one large hemorrhage in the head of the gland and smaller ones throughout.

Epidemic Cerebro-Spinal Meningitis in Dublin.—A. R. Parsons and H. E. Littledale report an outbreak in Ireland, which had been free from the epidemic form since 1886. The records of cases seen at the Dublin Hospital are given with pathological reports. The diplococcus as described by Weichselbaum was found, and kept alive by transplanting it on Loeffler's serum every three or four days, keeping it constantly at 37° C.

Acute Pancreatitis Complicating Mumps.—H. W. Jacob gives notes of a case of this rare complication of parotitis. Vomiting of severe nature was seen in a boy of ten years, followed by violent pain in the upper abdomen, and an enlarged pancreas was made out. One week later all tenderness had disappeared. The parotitis subsided as the pancreatic affection developed.

The Croonian Lectures on Degeneration of the Neuron.—By Frederick W. Mott.

General Emphysema Complicating Fractured Ribs.—By J. F. Heise Ellerton.

Two Lectures on Antenatal Diagnosis.—By J. W. Ballantyne.

Berliner klinische Wochenschrift, June 11, 1900.

Epidemiological Contribution to the Question of Malaria Infection.—E. Grawitz alludes to the mosquito-infection theory, and then gives statistics of the amount of malaria occurring during given periods in certain divisions of the German army. His figures show that the greatest amount of malaria did not occur during those months when the mosquitos are most active and liable to sting, but cases of the fever were more numerous in the spring. He expresses

the view that there are other organisms than the mosquito which may be the intermediate host of the malarial parasite, particularly those which live in water, and therefore calls attention to the necessity of a water-supply above reproach in our efforts to eradicate malaria.

The After-Treatment of Operations on the Eyeball.—G. Gutman describes the technical procedures followed by him in operations of this class, with special reference to the application of bandages and the kind to be preferred.

Significance of the Word "Gastric Dilatation" in German Literature since 1875.—By A Hesse.

Inflammations and Displacements of the Uterus.—By J. Veit.

Cataract Extraction in Unilateral Vision.—By F. Mendel.

Typhoid Fever.—By Th. Rumpf.

French Journals.

Phthisiotherapy.—Letulle discusses the cure of phthisis by alimentation in hospital practice. "The kitchen is the best pharmacy of the lungs" is a saying which cannot be too often repeated. It is likewise the cheapest form of treatment. The mode of carrying out the plan with menus for different meals, and results, are given. The following practical conclusions are drawn: (1) The cure by food in hospital practice is easy, cheap, and often most favorable, whatever may be the stage of the disease. (2) Young tuberculous subjects benefit most from the hygienic hospital course. (3) Increase in weight is shown especially during the first four or six weeks after admission to the hospital. (4) When there is a stationary period after an increase, the patient should be sent to the country, the hospital having done all it can in the case. (5) Male patients seem to benefit more than female from the hospital food cure.—*La Presse Médicale*, June 16, 1900.

Some Clinical Contributions to the Disease Called Malta Fever.—Edmond Neusser describes this affection, which infects the borders of the Mediterranean, the Red Sea, and many islands including Porto Rico. It begins with headache, pains in the extremities and lumbar regions, insomnia, lack of appetite, vomiting, and constipation. Sweating is so profuse that the acute attack has been termed febris sudoralis. The chronic course has been called phthisis Mediterranea. The febrile attack has a duration of one to five weeks. The mortality is one to two per cent. Recurrences may give a course of many months and even of several years. Neusser showed at the Wiesbaden congress a subject of Malta fever sick for eight years. This disease has a great importance for armies, since in the attack a soldier loses about three months' time.—*Le Progrès Médical*, June 16, 1900.

The Geographical Distribution of Goitre in France.—L. Mayet, in calculating the mean coefficient of each department for a period of years, obtained the proportion of young men classed in the auxiliary service of the army for goitre. This number of goitre cases in each thousand examinations gave the coefficient of the actual frequency in each department. Six departments gave from ten to forty-five goitrous subjects of twenty years of age in one thousand examined. In eleven departments goitre appears to have no existence. Between these two extremes are four series having from ten in one thousand down to 0.50 to 1.25 in one thousand. For the whole of France goitre appears to have diminished, while on the increase in certain regions.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 14, 1900.

Erythema Scarlatiniforme.—Breton records an instance of scarlatina-like rash due to subcutaneous injections of cacodylate of sodium given to a man thirty-eight years of age, as a cure for phthisis. During the night succeeding an injection there are general malaise, heat, and irritation of the skin preventing sleep, and followed by itching. The erythema is generalized in from twelve to fourteen hours from the time of injection, and is most marked over zones of pressure. There is no fever. Thirty-six hours later the erythema grows pale and disappears on the third day, and is not followed by desquamation.—*Gazette des Hôpitaux*, June 19, 1900.

Botryomycosis.—Xavier Delorè refers to a case recently reported by him as occurring on the ulnar border of the hand. He now adds another from the service of Professor Poncet, in which the tumor was located on the right little finger near the insertion of the nail. The vascular pedunculated tumor of pea-size was excised, and no recurrence took place. The infection had undoubtedly occurred in caring for horses.—*Gazette des Hôpitaux*, June 12, 1900.

University Medical Magazine, June, 1900.

Two Cases of General Anæsthesia.—C. W. Burr finds anæsthesia of the whole surface rare, even in hysteria. The two cases illustrate the fact that, besides hysteria, evidences of organic disease may be found. In the hysterical case a man aged twenty-four years had for eleven months numbness and tingling in the legs, with gradual loss of power. He became suddenly unconscious, and remained so for two or three days. On regaining his senses he was paralyzed in both legs, and had incontinence of urine and fæces. This lasted for six months. Subsequently there was complete anæsthesia to touch, pain, and temperature over the entire body. There were attacks of unconsciousness, followed by hysterical manifestations, and once the temperature reached 112 F. The second case was that of an unmarried woman aged twenty-eight years. At the age of five, after a fright, she began to stagger and became unable to walk. In about a year she rapidly became blind. After two years following convulsions she became deaf in the left ear and insensitive on the left side. Nine years ago, after serious illness and convulsions, she became insensitive on the right side, and partially deaf in the right ear. The movement of the limbs is awkward, and when placed on her feet she stands for a few minutes and then sinks to the floor. There is complete anæsthesia to touch, pain, and temperature over the entire body, with loss of the senses of taste, smell, and touch, and roots of teeth can be extracted without pain. It would appear that early in life there had been some organic brain disease.

Observations of Blood Changes following Cœliotomy.—C. Y. White has pursued studies to determine whether the blood showed a reaction to major gynæcological operations. The average leucocyte count on the hospital chart is useless. The blood examination should be considered only in connection with a thorough examination of the patient. In the early stages of malignant disease slight changes or none may be found; later the picture is variable, and in the cachectic stage we may have profound secondary anæmia with or without leucocytosis. The leucocytes are studied before and after operation and in the complications during convalescence. A series of tables shows the results obtained.

Acute Enlargement of the Thyroid Gland, with Report of Cases.—Alfred Stengel refers to enlargement of the gland from fright, emotional disturbances, menstruation, eroticism, etc. Acute inflammatory enlargement may be due to traumatism, pressure, possibly cold, and infection (diphtheria, scarlatina, hereditary syphilis, tuberculosis). The case reported was that of a boy aged seventeen years, whose swelling was of three weeks' duration. It was soft and elastic. The general symptoms resembled those of Graves' disease. Death finally occurred from asphyxia. Malignancy was suspected from the rapid course. The marked feature was the suddenness with which severe symptoms developed.

Historic and Practical Remarks on the Operative Treatment of Cancer of the Cervix.—By J. G Clark.

Prosthesis of the Jaw at Time of Operation.—By M. H. Cryer.

Report of Two Cases from the Neurological Service of the University Hospital.—By B. A. Anspach.

The Journal of Tropical Medicine, June, 1900.

Blackwater Fever.—David Kerr Cross, discussing this disease as it is seen in British Central Africa, says that it has not yet been definitely determined whether or not hæmoglobinuric fever is malarial fever in an exaggerated form. While there are marked similarities in the two affections, there are also marked differences. The similarities are: rigors, oscillations of temperature, sweating, and recurrences. The differences are: (1) Natives are immune; (2) many Europeans also enjoy complete immunity; (3) Europeans rarely take the disease, if at all, until they have been a year or two in the malarious country; (4) those subject to blackwater fever may have an ordinary malarial attack without bringing on hæmoglobinuria; (5) no European once subject to blackwater fever ever acquires an immunity from it; (6) even after the sufferer from blackwater fever has left the endemic area where he acquired the disease the affection is apt to recur, pointing to the likelihood of blackwater fever being due to some parasite peculiar to itself, lodged in the bone marrow, liver, spleen, or brain; (7) it appears to resist the action of quinine. The author distinguishes four forms—the paroxysmal, the regular, the typhoid, and the suppressionary. The three pathognomic physical signs of blackwater fever are: (1) the black or blood-red urine, (2) the development of yellow coloring-matter which invades every tissue of the body, and (3) melanin in the blood plasma or within the affected red blood corpuscles. We do not know what is the parasite of blackwater fever, for the plasmodium malariæ has not been seen in this affection. The treatment is symptomatic; quinine does no good and may do harm.

Upon the Part Played by Mosquitos in the Propagation of Malaria.—By George H. F. Nuttall.

Notes from South Africa.—By M. T. Yarr.

Reviews and Notices.

The Surgical Diseases of the Genito-Urinary Tract—Venereal and Sexual Diseases. A Text-book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois, etc. Illustrated with 235 engravings. Philadelphia, New York, and Chicago: F. A. Davis & Co. 1899.

The author has written a work of over one thousand pages, and the type is not large. The subjects embraced are often presented separately, and either the "genito-urinary surgery" or the "sexual and venereal diseases" would make a volume by itself. With the exception of what the author is pleased to call "a few heresies of his own" there is not much that differs from the text-books presented from time to time for the use of students and practitioners. This work, as the author states, is not designed for the specialist, nor will the latter find much that he cannot get elsewhere. There are few of the very large number of illustrations which have much to recommend them especially. Some fall far short of elegance from an artistic standpoint, and, what is of greater importance, several fail to give an adequate idea of the conditions which they are intended to represent. In running over the pages the impression is not given of a profusely illustrated work, so many of the figures are small cuts of instruments, pathological specimens, etc., reproduced from other works. Not the least attractive feature of the work is that it is written in the author's characteristic free style and is pervaded by his personality.

Surgical Pathology and Therapeutics. By John Collins Warren, Professor of Surgery in Harvard University, Surgeon to the Massachusetts General Hospital. Illustrated. Second edition, with an appendix. Philadelphia: W. B. Saunders. 1900.

The chief additions in this edition have been placed in an appendix, which contains an enumeration of the scientific aids to surgical diagnosis, together with a series of sections of regional bacteriology. Besides this, a new chapter on antiseptic surgery has been added. An important feature of this work is the aid it furnishes to the specialist in various departments. The sections on "regional bacteriology" are not alone of interest, but are of decided importance, coupled as are the descriptions of the findings with principles of treatment drawn from the latest teachings of those having authority to speak. The illustrations are generally above the average.

International Clinics. Edited by Judson Daland, M.D., Instructor in Clinical Medicine in the University of Pennsylvania, etc. Vol. IV., Ninth series, 1900. Philadelphia: J. B. Lippincott Company. 1900.

There are thirty-seven generally well-known names among the present contributors, and their articles are illustrated with twenty-one drawings. As usual, the reading-matter is of a rather high order. This quarterly of clinical lectures on various branches of medicine and surgery now contains specially prepared articles on treatment and drugs by professors and lecturers in the leading medical colleges.

The American Year Book of Medicine and Surgery. Under the general editorial charge of George M. Gould, M.D. Philadelphia: W. B. Saunders. 1900.

This yearly digest of scientific progress and opinion in all branches of medicine and surgery, drawn from journals, monographs, and text-books foreign and American, has this year been divided so that the subscriber receives two volumes—one on surgery, the other on medicine. This is an excellent plan. The original volume was altogether too ponderous. Changes in the editorial staff include the new names of Drs. David Reisman, R. W. Wilcox, A. A. Stevens, Reid Hunt, and Walter Jones. The number of coworkers has fallen from twenty-eight to fifteen. The subject-matter comprises the usual quantity and quality of abstracts, with critical editorial comment covering the various branches.

Gynæcology: A Manual for Students and Practitioners. By Montgomery A. Crockett, Adjunct Professor of Obstetrics and Clinical Gynæcology, Medical Department University of Buffalo, etc. Series edited by Bern B. Gallaudet, M.D. Illustrated with 107 engravings. Philadelphia and New York: Lea Brothers & Co.

This addition to the red-covered series of pocket text-books put out by this well-known house fills the requirements of essential feature in moderate compass. It is not alone an *exposé* of the author's views and experience which one reads, but a *résumé* of what many recognized writers and teachers have given the world. However, the writer's personality stands out, making the subject-matter much more than a compilation.

Nervous and Mental Diseases: A Manual for Students and Practitioners. By Charles S. Potts, M.D., Instructor in Nervous Diseases, University of Pennsylvania, Assistant Neurologist to the University Hospital, etc. Philadelphia and New York: Lea Brothers & Co.

This is another of the above-mentioned series illustrated with eighty-eight engravings. Such matter as is deemed necessary for the student's requirements is here presented, exception being made in the matter of anatomy of the nervous system. Naturally, larger text-books will have to be consulted for an exhaustive knowledge of any subject. The therapy has been presented in such a way that it will be useful as well to the practitioner. Methods of examination have received considerable attention.

Diseases of the Intestines. By Max Einhorn, M.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital, etc. Pp. 391. New York: William Wood & Company. 1900.

This treatise is offered to the profession as a continuation of the author's work on "Diseases of the Stomach," and as in that book, so here also, practical points in diagnosis and treatment are always placed in the foreground. After a short account of the anatomy and physiology of the intestines, there follows a careful description of the methods of examination and treatment, especial attention being paid to the microscopical examination of the fæces. Acute and chronic intestinal catarrh and dysentery are treated of in separate chapters. The writer gives a good description of the symptoms of intestinal ulcers, and a very readable description of carcinoma of the bowel. The chapter on hemorrhoids is very complete, and in the chapter on appendicitis the author gives a good summary of the indications for surgical interference in this disease. Acute and chronic obstruction, diarrhœa, constipation, nervous affections of the bowel, and intestinal parasites are treated of in some detail. We believe that the book will be of value and practical utility to the practitioner, and will fully accomplish the aim of the author—to give to the physician a short, practical, and useful reference book on intestinal diseases.

The Irrigation Treatment of Gonorrhœa: Its Local Complications and Sequelæ. By Ferd. C. Valentine, M.D., Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West Side German Dispensary. New York: William Wood & Compay. 1900.

This is one of the class of books, unfortunately only too rare in medicine, written by one who combines with a knowledge of his subject the art of expressing his meaning in easily comprehensible language. It is intended more particularly for the general practitioner, who must treat gonorrhœa along with all the other ills of suffering humanity, and who wishes to do so in some more effective way than by filling the stomach with a nauseous mixture of balsams and oils. As is set forth in the title, the treatment here expounded is that by irrigation—a treatment which is as rational in theory as it is efficacious in practice. In addition to the details of simple irrigation, the advantages of dilatation and irrigation in chronic cases are dwelt upon, and the methods of procedure in such cases are minutely and most clearly described. But the book is by no means a treatise on irrigation of the urethra only—it is rather a complete guide to the management of gonorrhœa in all its forms and complications and of the sequelæ of the disease. The means of locating foci of disease in uncured cases are referred to at sufficient length, as are also the various steps in the performance of circumcision and other multitudinous details in the cure of a case of gonorrhœa. The work is illustrated by fifty-seven engravings, mostly drawn from actual scenes in office work, which add greatly to the value of the book as an aid in every-day practice.

Traité pratique des Maladies des Pays Chauds et Tropicaux. Par le Docteur J. Brault, ex-Médecin-Major de l'Armée, Professeur à l'École de Médecine et de Pharmacie d'Alger. Paris: J. B. Baillière et Fils. 1900.

The works on tropical diseases are beginning to multiply themselves, and none too rapidly in these days when physicians educated in northern countries are sent to the tropics, where the aspect of familiar diseases is often so changed as to render them almost unrecognizable, and where many unknown affections are encountered. The work before us is divided into seven parts: (1) vegetable parasitic diseases; (2) skin diseases due to the action of vegetable parasites; (3) animal parasitic diseases; (4) affections caused by noxious animals; (5) diseases due to physical and chemical agents; (6) auto-intoxication; (7) diseases of an indeterminate nature. The work is a valuable addition to the literature of tropical medicine.

La Chirurgia del Pericardio e del Cuore. Par Prof. Errico Giordano, Libero Docente di Medicina Operatoria nella R. Università di Napoli; Chirurgo Ordinario nell' Ospedale dei Pellegrini. Napoli: F. Sangiovanni. 1900.

This is an excellent little monograph on the surgery of the heart and pericardium. The work is divided into three parts, dealing respectively with the anatomy of the pericardium, the surgery of the pericardium, and the surgery of the heart. It is especially valuable on account of the very extensive bibliography which it contains. In reading the book one is placed in possession of all that is known and all that has been done in this interesting field.

Diet and Food, Considered in Relation to Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital and to the Royal Hospital for Children and Women. Second edition. Philadelphia: P Blakiston's Son & Co. 1900.

The views of the author of this little work in relation to uric acid as the cause of many of the common ills of mankind are too well known to need restatement here. In this book he goes a little further in placing fatigue among the conditions frequently caused by the presence of uric acid in the blood. The remedy, of course, is the same as that advocated by the author for other uric-acid manifestations, namely, a vegetable diet. The writings of Haig are always interesting because of his evident sincerity, but they are not necessarily convincing. Here especially ought the saying to apply, that the proof of the pudding is in the eating.

La Ginnastica Razionale senza Attrezzi. Par Dott. T. E. Gatti. Roma: L. Cecchini. 1899.

This little work treats of the various forms of exercise which are possible without the aid of apparatus of any sort. There are seventy-eight outline sketches showing the different exercises.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—PATHOLOGICAL SOCIETY—BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY—SIR JOSEPH FAYRER—BIRMINGHAM UNIVERSITY AND THE CONSULTING AIDS CLUB—ROYAL COLLEGE OF SURGEONS—LONDON HOSPITAL—RECENT DEATHS—STORMS—SUNSTROKE—AMBULANCE SERVICE—MEDICO-CHIRURGICAL SOCIETY—PYORRHŒA ALVEOLARIS—LORD LISTER OPENS WESTMINSTER HOSPITAL LABORATORY—MR. MYLES, F.R.C.S.I.—SUICIDES—DEATHS OF DRS. ALTHAUS, WILLIAMSON, FITZPATRICK, AND BLAKE.

London, June 8, 1900.

There is little more to report from the prolonged sitting of the General Medical Council. The tenderness with which the corporations are treated is what one might expect from its constitution. The two colleges have formulated their objections to fall into line with the other bodies on the question of the first years of study. These two London colleges are determined if possible to maintain their right to recognize ordinary schools as places of scientific instruction, so that a few lessons in chemistry at a boarding-school are to enable the schoolboy to count himself a medical student. The Council wishes students to complete their general education and pass the preliminary examination before the five years' curriculum commences. The reasonableness of this requirement is obvious to every one except the rulers of the two colleges which dispute the authority of the Council to lay down a law to that effect, and the Council once more had not the courage of its convictions, and so it passed on to the lawyers the question of its power to enforce its regulations. If it had refused to register any student who had not complied with these regulations the recalcitrant colleges would have been on their knees; for of course the students would have resorted to other qualifying bodies, and these two would have lost more fees than they can hope to gain by thus stealing a march on the other corporations.

The Apothecaries' Society invited the Council to join in a lawsuit as to the right of a licentiate to call himself "physician and surgeon," but the Council decided to let the society pull its own chestnuts out of the fire.

There was much additional talk about personation, and as to this also refuge was sought in the legal advisers.

The difficulties of raising the standard of preliminary education were reported upon, and a fear was expressed of creating a dearth of candidates for admission into the profession—a notion which must cause curious emotions where overcrowding is most marked. The limit of age for entry was left at sixteen years, though a hope was expressed of raising it shortly to seventeen. The attention of these grave seniors might well be turned to the question as to whether boys of sixteen or seventeen are old enough to enter the wards of our hospitals.

The annual meeting of the Pathological Society was held on the 29th ult. The report indicated a prosperous condition with six hundred and eighty-one members. The laboratory meetings, a new departure on which I have commented, are pronounced a conspicuous success. Some alterations in the rules have been made to meet the developments of pathological science. A vote of thanks was passed to Mr. Gould, who acted for the president in the latter part of the session and to the other officials. Mr. Cheyne was appointed president for 1900–1901, and the other officers and council were also elected.

Among the exhibits was the thyroid of a puppy, from the mother of which the thyroid had been removed by Mr. Walter Edmunds. Nearly the whole thyroid was removed, leaving only one parathyroid and a morsel of thyroid proper. A few months later the bitch gave birth to the puppy, and it was found that the puppy's thyroid was large, the colloid being absent and the secreting cells lining the vesicles hypertrophied. These appearances were the same as Halsted had previously shown to take place in such circumstances.

It has been observed that women suffering from Graves' disease or from myxœdema improve in health during pregnancy. Perhaps the hypertrophied thyroid of the fœtus may compensate for the loss of the mother's thyroid.

The Balneological and Climatological Society has had the good fortune to secure an address by Sir Joseph Fayrer for its annual meeting, which was held on the 30th ult. Sir Joseph took for his subject "The Hill Stations of India as Health Resorts." He spoke of them not merely in reference to the treatment in disease and convalescence, but as places where Europeans might colonize. Not that he had proof to offer, but he thought there were some grounds for believing that there was a prospect of success in those stations, though none in the plains of India. There is every variety of climate in India, and some of these were described, to the delight of the society. Sir Joseph, however, only professed to touch the fringe of the subject, which he said might be investigated with advantage by the society.

Birmingham just now presents a curious contrast. Her new university is established, and Mr. Chamberlain has been made its first chancellor. The institution may be expected to infuse scholarship into the restless activities of the midland capital, and to encourage a high standard in the learned professions. Yet at the same time the chancellor's son, Mr. Arthur Chamberlain, is pushing in a most objectionable manner the consulting-institution which he has started in conjunction with the local Saturday fund on the lines of medical-aid associations and against the unanimous opinion of the local practitioners. Advertisements of this institution have appeared in the local papers (appropriately enough, in the columns devoted to quackery), which should bring it under the condemnation of the Medical Council, as would probably be the case had they been issued by a general practitioner. The patronage of the son of the Colonial Secretary ought not to protect it. The medical man who sells his services to it should be ignored by all other practitioners.

The coming election of the council of the College of Surgeons is exciting rather more attention than usual—perhaps because of the centenary to be celebrated. There are thirteen candidates for the four vacancies, but perhaps some of these will not go to the poll. The election will be on July 5th. The centenary is to be celebrated on July 25th, 26th, and 27th. On the first of these days there will be a conversazione; on the second a meeting in academic costumes, an address, conferring of honorary fellowships, and, of course, a dinner; on the third the Lord Mayor will give a conversazione. Objects of interest will be demonstrated each day in the museum, library, and laboratories.

At a meeting of the governors of the London Hospital the day before yesterday it was stated that the working-classes had diminished their contributions to the extent of £700 per annum since the managers had levied a charge of threepence for bandages, dressings, or medicines. This is what was expected by many when the new departure was determined upon, notwithstanding a general feeling that it was unadvisable, to use the mildest term.

The midwives bill is postponed to the 27th, and as that is an early day it may not then be taken up.

A select committee has been appointed on the rating of hospitals and other charities.

The medical, surgical, and hygienic exhibition opened on Tuesday and closes to-day. It is of the same kind as its three predecessors.

Mr. J. G. Mackinlay died on the 24th ult. He was oph-

thalmic surgeon to the Royal Eye and the Royal Free hospitals, and much esteemed. He was an original fellow of the Ophthalmological Society and contributed a number of papers to its Transactions. His health, never very good, had quite failed for the last year.

The war is taking a toll from the Royal Army Medical Corps as well as the other forces. Maj. T. A. Marsh and Capt. R. Fawssett have to be added to our list of heroes. South Africa has also called for civil surgeons, and death has taken some of these: Dr. Adair on board a transport, Dr. Irvine at Ladysmith may be named. The death of Colonel Hayes, R.A.M.C., is a fitting crown to his hard service and unflinching courage on the field. At Aldershot he had the care of returned invalids from South Africa, and, though suffering from malignant disease of the gullet, carried on his work until six days before he died.

London, June 15, 1900.

The week opened with promise of summer, but the heat increased so rapidly that it soon became oppressive, and then violent thunder-storms were reported from all parts of the country. The maximum shade readings of the thermometer exceeded the June average of the last thirty years by about 12° F. on Sunday; by 16° on Monday; and by 10 on Tuesday. Since then there has been a fall and showery weather.

There were military manœuvres on Monday, and our red-tape-ridden War Office provided no helmets, but sent the men out in forage caps; it is said the reason was that they had not enough helmets on hand. No one seems to have had the sense or the authority to postpone the manœuvres, and so the men were out all day exposed to the sun, with the natural result—six deaths and hundreds of admissions to hospital. At the inquest it further transpired that the men were without food all the time—eleven hours. It is said that the present forage cap is a design of Lord Wolseley's. Whether or no, it is useless as a protection from the sun.

The deficiency of London in ambulance service is attracting attention, and New York is being held up to us as an example. We are told you have a motor car fitted with every requisite for immediate aid and rapidly taking the sufferers from accident in the easiest way to hospitals or their homes. With daily street accidents London should be able to improve on her antiquated system, or rather want of system. An estimate of the number injured in our streets places it at fifty thousand yearly. Last week our hospitals received three hundred and forty-one cases. There is certainly scope enough for the best system. It seems, however, that the provision made is not regularly used—the police not seldom putting a person into a cab within a short distance of an ambulance station.

The Medico-Chi has adopted the alterations in by-laws recommended by the Council. The effect of these changes is that the publishing of the Proceedings will be discontinued, and the Transactions will contain reports of the discussions as well as the papers read at the meetings. Further, the fellows are no longer to be precluded from publishing their papers in the journals. After these changes were agreed to, the ordinary work was resumed by the reading of a paper by Mr. R. J. Godlee on "The Complications of Pyorrhœa Alveolaris—Riggs' Disease, as it is Sometimes Called." It consists of a spongy condition of the gums with recession, and deposit of tartar. This last is often regarded as the cause. Inflammation extends to the peridental membrane or periosteum of the fang, and suppurating pockets are formed. Not often considered serious, it may give rise to symptoms of grave disease, three examples of which Mr. Godlee related. The discussion was interesting as involving both medical and surgical points, but there was not much adjustment of view between the physicians and surgeons. The disease is so often looked upon as a dental affair that the remarks of Mr. Tomes were naturally listened to with attention. He pointed out that the majority of cases presented scarcely any symptoms, the discharge being so commouly swallowed; but at night a bloody fluid might run out and stain the pillow, thus leading to its detection If without obvious cause pressure along the margin of the gums caused purulent fluid to exude, the diagnosis was clear. Antiseptics should be applied, but the improvement they produced did not always last. Riggs' method of scraping the margin of the alveolus was tedious and painful, and with this plan relapses also occurred. If a tooth was extracted from an affected socket the wound seldom went wrong, though that might seem strange. The question as to the local or constitutional origin of the disease was raised, and something was said on each side. It occurs in animals, is common in glycosuria, is often symmetrical, and sometimes seems to be hereditary. Gout and rheumatism were mentioned as often associated, and one speaker thought many cases of malignant endocarditis might originate in the disease.

Lord Lister opened the new clinical laboratory of the Westminster Hospital on Tuesday. It has cost some £2,000. His lordship said the public owed the managers a debt of gratitude for so wisely spending the money, and urged that before many years it would be generally recognized that such laboratories were among the most important means of rendering good service to mankind.

The presidents of the two royal colleges also spoke.

Mr. Myles has been elected, unopposed, president of the Royal College of Surgeons in Ireland. At an earlier stage there was a threat of opposition founded on an unaccountable blunder. A circular was issued charging Mr. Myles with associating himself with the Irish League. On being called to account by a writ for damages, his opponent had to acknowledge he had in some way confused two paragraphs in an evening paper, and so he tendered an ample apology and had to pay costs. Hitherto I am told politics have not been introduced into the college elections, and when feeling runs so high it is to be hoped the old reticence will continue to be observed.

There has been quite an epidemic of suicide lately—nearly sixty cases have been reported within a month, a number far beyond any recorded in any month for the last ten years. One poor lady took morphine and then shot herself for fear of being buried alive. A medical man took prussic acid, but the jury at the inquest could not say whether by mistake or intentionally.

Dr. Julius Althaus, well known as a writer on neurology and on electrotherapeutics, died on the 11th inst., aged sixty-seven years. He was one of the founders of the Hospital for Epilepsy and Paralysis, where he worked for some twenty-eight years. On his holiday last year he injured his knee, and his friends noticed that from that time he had failed. In fact, he had attacks which were spoken of as gout, but some thought the explanation insufficient. He has been quite laid aside for some months, and though the case was a little obscure, it seemed to be phlebitis, and so it has proved.

George Edward Williamson, F.R.C.S., died on the 5th inst., within a week of a full day's work at the Royal Infirmary, Newcastle-on-Tyne, to which he was ophthalmic surgeon. He had also been professor of physiology and surgery in the Durham College. He was only forty-eight years old.

Dr. Thomas Fitzpatrick, who died on the 31st ult., was a man of many attainments, a distinguished graduate of both Dublin and Cambridge universities, 1862-67. You may have met with his "Autumn Cruise in the Ægean" or his "Transatlantic Holiday." Among his accomplishments may be mentioned acquaintance with several languages, including modern Greek, and a wide knowledge of ancient classical literature.

Dr. J. Gibbs Blake, of Birmingham, died on the 27th ult. He was one of the original trustees of Mason College and bestowed great labor on its foundation. He was educated at University College, where he had a very distinguished career, crowned by the London M.D. and his election to a life governorship. He was also an accomplished classical scholar and had great artistic talent.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE POZZI-DEVILLERS DUEL—DEATH OF DR. CHÉRON—NETTER'S ARTICLE ON PLAGUE AND MEASURES TAKEN AGAINST THIS DISEASE—PROFESSIONAL SECRECY IN FRANCE—OFFICIAL LIST OF FESTIVITIES CONNECTED WITH THE THIRTEENTH INTERNATIONAL CONGRESS.

Paris, June 15, 1900.

A general topic of conversation in the social as well as the medical world in Paris is the Pozzi-Devillers duel, which took place last Sunday, on June 10th. This duel, like so many others of recent occurrence, has sprung out of the political agitation brought on by the Déroulède trial before the senate. Dr. Pozzi, the gynæcologist who performed an abdominal operation on Sarah Bernhardt, has been a senator for several years, like Dr. Labbé, the great surgeon, who performed gastrostomy in 1876 to remove a fork from the stomach of a waiter. He was therefore obliged to take part in the discussions which were held at the Luxembourg during the progress of the trial, and it would seem to be clear that he was in favor of banishment being pronounced against Déroulède. Dr. Devillers, Déroulède's physician, was present at the last meeting held in the rooms of the Medical Club in the Avenue de l'Opéra on June 7th. This club was founded a few months ago by Dr. Doléris, and Dr. Pozzi had been offered the president's chair. Dr. Devillers began by making some disagreeable remarks to Dr. Pozzi about politics, but but the latter told him he did not consider a medical club a fit place for discussing such a question. Dr. Devillers thereupon insulted him and

threw his glove in his face. The man was at this junction taken care of by his friends and led into another room. On hearing Dr. Pozzi say that he thought it likely that Devillers was not in his right mind, he burst forth again into the most violent language. As might be expected, a duel was decided upon, and though it is thought advisable generally to carry out these encounters within twenty-four hours after the offence, the "rencontre," as they say in French, only took place on Sunday, and was carried out in the most orthodox manner. The place chosen was Louveciennes, a small town near St. Germain-en-Laye, and though Dr. Pozzi had not done any fencing for the last ten years, he chose swords. Dr. Devillers is, on the other hand, an expert fencer. The swords were sterilized to prevent any infection of the wounds, and immediately after the word was given Dr. Devillers ran his sword into Dr. Pozzi's right hand between the fourth and fifth fingers. Dr. Pozzi was therefore unable to continue, and the two adversaries shook hands. I have been told that Dr. Devillers wished to wound Dr. Pozzi seriously, a fact which does not agree with the result of the duel. It seems that Dr. Devillers will be prosecuted for having attacked a magistrate in the exercise of his functions, Dr. Pozzi having this quality while acting as senator in the recent trial. A procedure, as it is called, has already been put in motion against him, but Dr. Pozzi, who has shown throughout a most conciliatory spirit, states he will do his utmost to prevent any further action being taken in the matter.

It can be asked if it is advisable for doctors to take an active part in politics, when they have a large practice to attend to. Dr. Pozzi's political opinions are not of a nature to attract to him the sympathy of the Faubourg St. Germain, as the French nobility residing in Paris is called, as it seems that he advocates measures which are not conservative. However, medical men are being heard of more and more in political life, and can bring quite a good deal of influence to bear upon the measures and laws enacted at the Chamber of Deputies.

Dr. Jules Chéron, who was well known for his works on subcutaneous injections, died recently in Paris. He was the son of a military doctor, and began by taking up the study of natural history. He decided later to become a physician, and was chosen as doctor of the St. Lazare Infirmary for Prostitutes in 1870. His principal works are as follows: "The Use of Electricity in the Treatment of Fibromas," "On Treatment by Oxygen in Consumption," "The Cicatricial Properties of Picric Acid." He was one of the first to use artificial serum, and he recommended the use of a solution containing carbolic acid as a hypodermic injection in the treatment of certain forms of general debility and exhaustion. His formula was: Pure carbolic acid, 1 gm.; chloride of sodium, 2 gm.; sulphate of sodium, 8 gm.; phosphate of sodium, 4 gm.; boiled distilled water, 1,000 gm. From 5 to 120 gm. was to be injected into the gluteal or retro-trochanteric region very slowly; slight massage was performed, and the injection was repeated according to the needs of the case. For the space of nineteen years Dr. Chéron directed the *Revue Médico-chirurgicale des Maladies des Femmes*, in which paper he advocated conservative treatment, being bitterly opposed to the surgical interventions which were too much in fashion a few years ago.

Dr. Netter, who is an authority in France on questions of hygiene, has published recently in the *Presse Médicale* an article on the spread of plague in Australia and America. A map is given, wherein are indicated the different ports visited by the scourge. This article and that of Dr. Lochelongue, about which I have already spoken, show that we are awakening to the fact that stringent measures should be taken to prevent the spread of this disease. A method for suppressing rats is now being studied in Paris, and measures have been taken by the mayor at Marseilles to insure the destruction of all rodents such as mice and rats. He published a decree offering a premium of half a cent for every mouse and of a cent for every rat, dead or alive, that should be delivered at the municipal offices in the city. In the space of two weeks after the promulgation of this order, five hundred and two rats and one hundred and eighty-four mice had been handed in.

Professional secrecy is a rule which is enforced with a great deal of strictness in France, and a recent occurrence will show how far this principle will command silence on the part of a medical witness. For a case of supposed suppression of childbirth tried before a French court, one of the witnesses was the midwife who had attended the woman accused of the deed. When judgment was pronounced, it was clearly stated that the testimony of the midwife would not be accepted, and, on the attorney-general sending the case before the criminal chamber of the court of cassation, the action was decided against him. In the decree published by this august body it was declared that all medical attendants were bound over to complete professional secrecy, barring those cases in which the law demanded divulgation. As such cases no longer exist, it may be said that professional secrecy is now of an absolute nature in France.

The official list of the festivities that are to take place in Paris in connection with the Thirteenth International Medical Congress has at last been published. On August 2d there will be a reception offered by the president of the council of ministers in the name of the French Republic. This reception will most likely be held in the rooms of the Palais Bourbon. On August 3d there will be a festival given by Professor Lannelongue. Special invitations will be sent out for this social function, which will take place either in Dr. Lannelongue's large house in the Rue François I. or else in some hall chosen for this affair. On August 5th the president of the republic will receive the members of the congress at the Elysée in the evening. On the 8th there is to be a grand festival in the palace and gardens of the Luxembourg, under the direction of the bureau of the organizing committee. The municipal council may also have some sort of entertainment, and of course in each section there will be special dinners and receptions. I may state also that at all these functions the wives, sisters, and daughters of the members of the congress will be invited, and a special ladies' committee will be established to receive them.

LETTER FROM BEYROUT, SYRIA.

(From our Special Correspondent.)

The spring is bringing on the time of flowers, some one said or sung some time ago. It came to us with the 20th of March or thereabouts. Flowers are everywhere; on the highways and hedges, even on the trees—primulas and primroses with their companions, the fair chaste marguerites, the little speedwell "with its darling blue"; roses of all tints, most beautiful and most fragrant; camellias of surpassing beauty, and perfect poppies, the largest and comeliest we have ever seen, and many more besides. So much for the flowers.

Disease is not rife among us at this time. There is talk of plague coming on; but we think it is a myth. Nevertheless, it has been reported at Cairo and at Smyrna, and it is thought to be approaching us. If it does, it will do its duty on the rats that stroll about our streets, where the barley is on sale, regardless, may it be understood, of passers-by—the rats, we mean.

An order went forth the other day to kill six hundred dogs. This was on account of a young man of the town having been bitten by a little dog that he owned. The master of the dog (which saw instant death) was treated by modern methods, and has now no fear of the infection. Speaking of the spring, I forgot to say that the swallows have come. They are killing millions of mosquitos a day. Here, no one would think of pointing a gun at one of those swift scavengers of ours. What our death rate is here (as, I think, I said before) I cannot tell, as I have got no references; but in any case our little feathered friends can reduce it.

Lebanon has got his night-cap on and looks well. It is cold up there. Here we have an average of 73° F. in the shade. Out in the sunlight it ranges about 110° F., and the glare is far beyond the electric light. The changes of temperature in this month of May are very great just now—rising and dropping 10° F., coming and going, and making us all miserable from a disease which, rudely speaking, has been facetiously baptized as "sniffles." It is not aristocratic enough to be the great influenza, but it seems to have an affection for it (perhaps an offspring). It does not do so much evil, however, as the after results are more or less *nil*. The misery during the attack, which lasts for about a week, is modified by the patient's wishing for a better land. The treatment, of course, depends on the circumstances and the patient's history—the attendant physician's judgment to boot. Dysentery and enteric seem to have been doing their duty in the beleaguered towns in far South Africa. Horse broth and mule stew with fricasseed locusts might have been good enough without risk; but "pea-soup water tinted drab," wherein dead horses were having their last siesta, was not good for what is generally spoken of as "health"; and many went down under the regimen.

We have had a wind on us for the last three weeks. Rain came with the advance of spring, and was of a sporadic character, raining, as it did, spasmodically and most uncertainly, and even when the sky was blue. It cooled us and refreshed us, and laid the dust, and we were all glad for those pigmy showers.

A catastrophe occurred on April 21st on one of his Majesty the Sultan's torpedo-boats. The boiler exploded, and out of seventy there were seventeen persons either rescued or saved. One man was carried home, dying two hours afterward, presumably from shock. Rigor mortis setting in four hours later, a movement of the hand was seen. A

consultation was called, and he was pronounced dead, as he most certainly had been for six hours at least.

Mosquitos and cock-crowing are here, both of which are mischievous, and, other reasons apart, indirectly insalubrious, as they prevent sleep. The mosquito does his duty as a manufacturer of germs—besides, the source of the—be it confessed—necessity of looking up our vocabulary for fresh words. This causes much evil to body and spirit.

In conclusion we may say that the authorities are regularly watering our streets lately; there is very little dust—formerly a notable thing here—and we think the people of this land can (even by frightening them) learn to be cleanly.

By the way, I have just noticed an article in *Treatment* suggesting changing of camps in cases of enteric or diarrhœa or dysentery or any of the other diseases that come to the beleaguered and to those who have to sit and watch them. We will remember the advice of an old expert in fevers, and those of that ilk—"Always change your patient from room to room, morning and evening, and keep your windows open." He was very successful in his treatment, and others who may adopt his method may be so, too. When we are shut up we have no option, but being free, it devolves upon us to keep ourselves and others clean and pure as much as in us lies.

LETTER FROM BRAZIL.

(From our Special Correspondent.)

THE PLAGUE AT RIO—GENERALIZATION OF YELLOW FEVER.

São João del Rei, Brazil, May 25, 1900.

Although the bubonic plague has been threatening Rio de Janeiro for the past six months, there being one or two sporadic cases on two different occasions, it is only within the past week that it can be said to have gotten a foothold. On the 16th inst. there were two cases reported as suspicious. Both patients died, and the bacteriological examination proved them to be genuine cases. Upon examination it was discovered that within a short time seven others had died in the same locality presenting similar symptoms. Since that date a large number have been isolated, and on the 24th one case was found in another part of the city several miles from the primary focus. On the 18th inst., at the laboratory in connection with the custom house, and in streets adjoining, there were found a number of dead rats, and the director of the laboratory discovered the plague bacillus in the one he examined.

The section of the city in which the first cases were found bears the pleasing name of Saude (health); however, the following extract from one of the Rio papers would indicate that there is considerable irony in the name as applied to that locality:

"The police inspector of the fifth city district made a visit of inspection last night, and at No. 7 of the Alley Costa Velho found a tavern in which were sleeping twenty-four persons, among whom were the well-known thieves Perua, Fina, and Alsaiate, who were removed to jail. In No. 55 Misericordia Street they found eighty-six. In No. 94 of the same street were found seventy-seven in a deplorable state of uncleanness. In No. 44 were found one hundred and two; and in No. 19 of the same street were sleeping sixty-six. In this house the air was unbreathable, in all parts there being a most nauseating smell. Immediately upon learning of the vile condition of these lodging-houses, Dr. Graca Conto took energetic measures to improve them."

Another extract from the same journal, May 25th, gives some idea of the origin and present extent of the disease:

"It has been absolutely impossible for the sanitary authorities to circumscribe the plague which is attempting to fix itself in this city. The cases have appeared simultaneously in various points, and from this come the difficulties the authorities have in trying to limit the evil to a single zone. The absolute lack of cleanness in which are found the sections of Saude, São José, and others has helped wonderfully in spreading this terrible evil. The hundreds of third-class passengers who have come to this port in various steamers from Europe and the Argentine, with large quantities of dirty baggage, have also been a powerful agent in making our sanitary condition worse. The sanitary authorities are sparing no pains or expense in fighting the evil, and consequently our people ought to be confident and, above all, heed the hygienic counsels. If they will do this they will render inestimable help to the authorities."

Dr. Nuno de Andrede, chief federal health officer, is in charge and is employing the same means which he used in Santos and São Paulo, where it was conquered in a short time. A quarantine station has been established at Ilha Grande, about six hours from Rio, where all vessels must be disinfected. Disinfecting-stations have been also established at the terminal railroad stations, where all passengers and baggage must be disinfected. There seems to be no panic, and the presence of the disease has not affected the money market, which here is a very good thermometer of public confidence. There is not much fear that it will spread into the interior, and it is sincerely to be hoped that it will be stamped out in Rio itself.

There has been very little yellow fever in Rio this season, but epidemics of it have recurred in several interior towns where it was never known before, and there is a fear that it will eventually reach all parts of the country. Juiz de Fora, in the state of Minas, which was so terribly visited last year, is again suffering from the same evil, although the city spent a large sum in perfecting its sewerage system during the past year.

THE MEDICAL ASPECTS OF THE SOUTH AFRICAN WAR.

(From our Special Correspondent.)

This will be the last regular communication that I shall send your readers, for although the war still flickers on, the medical aspects are not likely to present any more novel features. Since my last communication the British flag has been hoisted in Johannesburg at the end of May and five days later at Pretoria by Roberts; while Buller has forced Almond's Nek, with the result that all the Boers have been driven from Natal and that the operations are now being conducted entirely upon the soil of the republics. Two minor Boer victories after the occupation of Pretoria by the British have shown that the Boers are able to act with concerted force and great spirit, but although guerilla resistance is still to be expected, regular pitched battles are not now likely to occur. Hence it may be taken for granted that the medical lessons to be learned from the campaign are at an end, although desultory fighting will go on for some time, while the ravages of epidemic disease will certainly add many hundreds to the total losses of either side.

The Total Losses of the British up to the occupation of Pretoria amount to 25,000 men, the figures being made up as follows:

	Officers.	Men.
Killed in action	235	2,283
Died of wounds	63	551
Missing and prisoners (excluding those who have been recovered)	186	4,486
Died of disease	112	3,609
Accidental deaths	...	58
Sent home as invalids	664	13,481
Totals	1,260	24,468

Total losses (exclusive of sick and wounded men now in British hospitals in South Africa), 25,728.

The figures are instructive. In eight months the British army has lost twelve and one-half per cent. of its strength. The officers, whose ratio to the men is less than 1 to 100, have lost in the proportion of 1 to 10 killed in action and 1 to 9 died of wounds, the figures showing that the officers have not feared to take risks and have had no advantages whatever over their men in the way of surgical treatment. In death from disease the ratio of officers to men is 1 to 30, and here the superior accommodation in officers' quarters and the superior food at their messes have probably not counted for so much as the possession of private means. On the march the officers and men have fared alike, but in times of inaction the officers have had a healthier or less crowded environment and have been able to purchase small comforts. The two largest items in the roll call of disaster, being between them responsible for more than two-thirds of the total, are the lists of missing and prisoners and of invalids sent back home. These men, or at any rate a large proportion of them, can be regarded as only temporarily lost to their country, for the long sea voyage to England as a rule completely recuperates the sick, while the prisoners who are daily being released by their friends, despite stories of their treatment, have been found generally in good condition.

The Prevalence of Enteric Fever and Dysentery among the British troops was by the end of May simply awful. The figures with regard to the former, when they can be made known, will constitute a record. They are being very carefully kept, as they should prove an absolute answer to the question that all medical men, military and civil alike, are putting as to the efficacy of the anti-typhoid serum in-

oculation. At every hospital that I have mentioned patients are being nursed for enteric fever, and several, the Portland and the Langman, for example, have been compelled to increase their accommodations, which in the time of hot fighting had been found sufficient. The percentage of recoveries is very large, and, as I have just pointed out, once the patient is sufficiently convalescent to be put on board ship, he usually arrives in England well, the voyage home being exactly what he requires to build him up again.

In Conclusion, I trust that your readers will have been able to derive the proper medical lessons of the war from the brief accounts that I have sent. It may have seemed that I have occasionally dwelt with unnecessary detail upon the merely military conduct of the campaign, but unless the progress of the different generals was followed the enormous difficulties of transport and the reasons for the locations of the hospitals would not have been apparent. I need not recapitulate the views that must, until some new weapon of precision alters both prognosis and treatment, prevail among all surgical authorities concerning bullet wounds. Sir William MacCormac and Mr. Treves have laid down rules which will be authoritative until new conditions upset them. But it will not be out of place to enumerate briefly the reasons why the British Royal Army Medical Corps has emerged from the fierce trial of the South African war with so much credit to themselves. Firstly, their organization was excellent, the military training at Netley, following upon the course of hospital work necessitated to qualify for the corps, making of them a body of obedient, hard-working men. Secondly, their undermanned ranks were early filled by well-chosen young men of hospital experience, able adjuvants in the wards and still fresh from the discipline of their civilian staff surgeon. Thirdly, the corps was cheered as well as helped by the presence of great scientific surgeons, so that they always felt that undeniable testimony would be forthcoming to the value of any good work, and that a first-class surgical opinion could always be obtained for the asking in cases of difficulty. Fourthly, the choosing of the hospital sites was left to the medical department, so that the sick when brought to the base were always treated under the most favorable hygienic conditions. Bearing these facts in mind, I believe that the result of the war will be a reorganization of the Royal Army Medical Corps, so that the success which they have secured in this campaign by extraordinary efforts will in future campaigns follow upon ordinary routine. And the other first-class powers of the world, who are compelled to keep a standing army, will probably organize the medical department of their armies in much the same direction. The pay of the Royal Army Medical Corps will be raised, chiefly by way of special allowances, so that the service may be made attractive to the best class of young medical men. Leave will be granted to the medical department in order to enable them to return home occasionally and revise their learning; and other encouragement will be offered to them to pursue original scientific study. And a reserve of first-class operating-surgeons will in some way be affiliated to the corps, so that the government, by paying a small annual sum in times of peace, will be able to secure the pick of surgical skill in times of war. It should, and possibly will, also become the rule of the British War Office to send a medical attaché to join the head staff of the army of any other nation engaged in war, a practice which has been observed by the German War Office in South Africa.

THE PLAGUE IN RIO DE JANEIRO.

To the Editor of the Medical Record.

Sir. A note on the recent outbreak of bubonic plague in this city may be of some interest, although full information at this time is hard to obtain.

After a long delay, probably due to a reluctance to allow quarantine to mar the celebration of the fourth centennial of the discovery of Brazil, the government, on May 21, 1900, officially declared the existence of bubonic plague in the city of Río de Janeiro. Sporadic cases of plague have been observed here since January last, and several cases of adenitis inguinalis perniciosa have proved fatal, as may be seen in the reports of the United States Marine-Hospital service. The manner in which the original case was introduced is still a disputed point, but the best-informed here believe that it was brought on a ship arriving here from Tamatave, Madagascar. On May 15th a suspicious mortality among the rats in the custom house was observed, and upon examination of the bodies, the bacilli of pestis bubonica were found, and cultures were made in the bacteriological laboratory under the direction of Professor Lerin and Dr. Gomes. The authorities were informed, but no official action was taken. About the same time several cases of plague occurred from which the typical bacillus was obtained. When quarantine was finally declared, there were nine cases and five deaths reported. Since then the daily increase has been as follows:

Date.	New Cases.	Total Cases.	Deaths.
May 23d	3	12	5
May 24th	5	17	2
May 25th	4	21	
May 26th	3	24	2
May 27th	9	33	7
May 28th	6	39	2

Through the courtesy of Dr. Havelburg, of the United States Marine-Hospital service, to whom I am indebted for much of my information, I am able to state the above figures with some certainty.

Prophylactic measures have not been taken with much apparent energy, although the usual general quarantine has been established. Vessels leaving for Brazilian ports must be disinfected at Ilha Grande (the regular quarantine station), and no vessels are allowed alongside the wharves to load or discharge cargo. Local measures consist of isolation of the patient by removal to the Jurujuba Hospital, across the harbor, and by disinfection of the house with sulphur or formaldehyde. Incidentally the people object strenuously to sanitary restrictions and place every obstacle in the way of disinfection and cleanliness. The following quotation from the Rio *News* of May 22d gives an idea of the feeling toward modern medicine down here. After noting the fact that the presence of the plague has been officially acknowledged and the city placed under sanitary law, the editor says: "With all due respect to the professional gentlemen who have discovered the bubonic bacillus in the blood of a guinea-pig after being inoculated with the blood of a person dying of suspected plague, we are compelled to say that we do not believe there is any such thing as bubonic pest in this city, nor that there is any occasion whatever for the irritating and prejudicial restrictions placed upon the commerce of this port. The doctors are clearly bacillus-mad, and the losses caused by their ridiculous restrictions are worse even than any likely to be caused by the plague. These quarantines are as worthless, besides, as they are prejudicial, and, to speak plainly, they serve no other purpose than to afford extra pay to a few doctors and quarantine employees."

Professor Lerin and Dr. Gomes have been studying the plague in the bacteriological laboratory, and Professor Lerin has succeeded in obtaining a prophylactic similar to that of Haffkine. Until last week only a few experimental inoculations had been made, but now many people are being inoculated, and figures should soon be forthcoming.

As to the treatment of the disease in the hospital, little can be learned. A shrug of the shoulders may be expressive, but it is neither encouraging nor enlightening. The Yersin serum can be obtained here, but, I believe, has not been used.

The outlook is certainly not promising. The poorer classes are half-starved, half-naked, and altogether dirty. They live in dirty districts which the authorities do not seem disposed to clean. There is every opportunity for a large mortality in the next few weeks, unless vigorous measures are undertaken at once.

James R. Whiting, Jr., M.D.

Rio de Janeiro, Brazil, May 29, 1900.

THE SAVING OF LIFE IN CUBA.

To the Editor of the Medical Record.

Sir: I have read your remarks on the report of Chief Surgeon Ives of the Department of Matanzas and Santa Clara. I had just received an extract from the report of Maj. George S. Cartwright, quartermaster, who has had charge of the Department of Street Cleaning and other sanitary improvements, such as drainage, etc., and I send you the number of deaths per month in Matanzas. As an object-lesson I think it will emphasize your remarks:

	Deaths.		Deaths.
December, 1898	449	September, 1899	102
January, 1899	323	October, 1899	72
February, 1899	257	November, 1899	88
March, 1899	205	December, 1899	95
April, 1899	136	January, 1900	89
May, 1899	131	February, 1900	85
June, 1899	118	March, 1900	107
July, 1899	121	April, 1900	68
August, 1899	112		

The city of Matanzas had a population of 38,000 in 1898. It would appear that American occupation has not been a failure so far as saving life is concerned.

S. S. Cartwright, M.D.

Roxbury, N. Y.

Society Reports.

PRESENTATION OF A LOVING-CUP AND ALBUM TO PROF. ABRAHAM JACOBI, M.D.

At the annual meeting of the Section on Diseases of Children of the American Medical Association, held at Atlantic City, June 5, 1900, a very unusual and interesting ceremony took place, occasioned by a dinner to Dr. Abraham Jacobi and the presentation of a loving-cup to that gentleman.

Dr. Louis Fischer, of New York, secretary of the Section on Diseases of Children, American Medical Association, made the presentation of the cup as follows:

Mr. Chairman, Friends, and Members of the Section on Diseases of Children: It appears to me that it is with malice prepense that I have been chosen to address our honored guest of the evening, Dr. Abraham Jacobi. The committee in charge have evidently noticed that a handsome woman chooses as her steady companion one who is extremely plain and homely; her reason for such action is evidently a desire to shine by contrast. In this way I explain perfectly the fact that upon me has devolved this pleasant task. My youth and verdancy, I suppose, are to set off our guest's venerable age; inexperience is to be placed in juxtaposition with the accumulated lore of three generations; the bubbling, fervid passion for his chosen profession of the Bachelor of Medicine is opposed to the staid, dignified, and ripened love of the Master, the Father, the Nestor of American pediatrics.

But, be that as it may, I take courage in knowing that I stand here as the representative of American pediatrists, as the mouthpiece of the followers of the Doctor Jacobi, and as an admirer among admirers of the many lovable qualities and the sterling character of the man Jacobi.

It is unnecessary for me to discourse on the achievements of our Grand Old Man! His numerous contributions to medical science are well known to you. From 1859, when he published with Noeggerath "Contributions to Midwifery and Diseases of Children," to the present year, 1900, when at Paris, as an honorary president at the International Congress, he delivers an address on "Report on Artificial Feeding and Sterilization of Milk"—during all these years we find him never tiring, ever busy, ever discovering, ever studying, and ever teaching. His reputation, indeed, is far from being merely local, or confined only to the limits of this section, proud to call him founder. We find him known, quoted, honored, loved abroad as well as at home. As an example of the regard in which he is held, allow me to mention that such societies as the Deutsche Gesellschaft für Kinderkrankheiten sends congratulations signed by their prominent members, on the occasion which we are gathered to celebrate to-night.

But enough of this! I fear that by enumerating all the virtues of our guest, I should most assuredly bring down upon my head the imprecations prompted by his modesty. I had occasion to ask him in a joking way, whether all these celebrations might not prove too much even for his modesty, and whether they would not—to use the vernacular—swell even his cranium. He laughingly answered that such could not be the case, since he believed only about one-half of all the encomiums showered upon him. You must, therefore, not blame me if, to punish him for his disbelief in honestly expressed opinions, I omit three-quarters of what I intended to say, or rather of what you intended to say through me. But I shall use his own words and apply them to him with perfect propriety. In a presentation speech delivered nineteen years ago in honor of the noted Dr. George F. Shrady, Dr. Jacobi spoke as follows:

"We know quite well that he meant to perform his duty only. Neither he nor any other sterling man works for thanks or appreciation expressed in any way. The best intellectual and social labors are always performed by those who work from inner necessity only. But when one man works industriously, honestly, and usefully in the service of society, country, or scientific body, it is both natural and becoming, it is good instinct and wise principle on the part of those who derived benefit from his personal efforts to prove themselves worthy of them by word and action."

And this, my dear friend Dr. Jacobi, we tried to do to-night. I beg you to accept this loving-cup as a token of our appreciation of your successful efforts in the behalf of science and in our behalf. May you remain with us a long time to come; yes, may you live to witness the presentation of loving-cups on the seventieth birthdays of those who now take such delight in offering this one to you.

And lastly, as regards these engrossed, signed resolutions, we beg you to look upon them as an expression of our desire to be remembered by you as your friends and admirers.

Permit me to read them:

"*Whereas*, In the fulness of time, the life and career of men conspicuous for unselfish devotion to duty become the common property of all; and the subject of pride to those with whom he may be connected by reason of friendship, respect, and love, whose work has impressed not only those with whom he is surrounded, the student to whom he spoke, the brother with whom he advised, the profession with whom he dwelt, but the whole world of medicine, and most especially that pertaining to the diseases of children, alone in the ripeness of his years, with a reputation unsullied, and the pride of his profession, stands Abraham Jacobi, 'The Father of American Pediatrics,'

"We, his friends and admirers, brethren in the same profession, and followers to his teachings, bring to him our felicitation. We entertain for him that respect and esteem which has been engendered by his many estimable qualities. That unusual progress that has been made in advancement of the scholastic reputation of the institutions, societies, or associations with which he has ever been connected.

"As an expression of our deep and enduring appreciation of his unvarying courtesy toward all; his unflagging interest in the professional welfare of all; and his indefatigable efforts for the practicable and liberal enlightenment in the subject of pediatrics—

"We, the members of the American Medical Association, and especially the Section on Diseases of Children, of which he was the original founder, tender to Abraham Jacobi every sentiment of veneration and respect and gratitude for that unvarying virtue that points to him as the true physician, and as a partial acknowledgment of the great obligation to his zealous personality present him with this loving-cup, and hope that the memories of our yearly intercourse may ever linger with him."

Toasts were given and responded to as follows: "The American Pediatrist," by William Perry Northrup, of New York; "The International Medical Congress," by F. X. Dercum, of Philadelphia, Pa.; "The American Medical Association," by Joseph M. Mathews, of Louisville, Ky.; "The Section," by A. C. Cotton, of Chicago, Ill.; "The Medical College," by James C. Wilson, of Philadelphia, Pa.; "The Deceased Members," by H. E. Tuley, of Louisville, Ky.; "Fraternal Greetings," by John H. Musser, of

Philadelphia, Pa., William Osler, of Baltimore, Md., Henry Koplik, of New York, N. Y., and R. C. Moore, of Ohama, Neb.

Dr. Jacobi replied as follows:

Mr. Chairman, Ladies, and Gentlemen: When I was invited to be present at your annual dinner, I took it for granted, until this afternoon, this was to be an informal affair, and no address was expected of me. The outcome is quite fortunate for all of you, for I shall be brief, but less so for me who hates to be unjust to men and things. Knowing I should find many friends here, I accepted the invitation, though I admit that my eagerness was mingled with sadness. The latter is based on the fact that for eighteen long years—though engaged in the same work with you and every honest professional man—I have not been inside your doors. After all, however, I know I belong here, for I am among pupils, co-operators, peers, or masters as the case may be, but always among friends.

I am afraid when I speak at all—I always was a better listener than talker—I shall repeat what I have said a great many times before. It is true a man may quote himself, and copy his former sayings without quotation marks. In that respect I have the advantage over all of you. They have told me so often lately I was seventy years old, that I begin to believe it myself. Now, in scores of years I have said many things that fortunately are forgotten, and when I repeat them now and then for a new generation, they are not remembered. Indeed, perhaps your fathers were my pupils. Think of it! it is nearly a generation that Busey and Rotch and I founded this section, which has since gone on flourishing and growing.

It was a wondrous contrast to former failures. Twenty years previous to that memorable meeting at Richmond, I undertook to found a section for pediatrics in the New York Academy of Medicine, and failed utterly. Evidently neither I nor the time was matured. It is true that a few papers and books had been written on the, or on some of the diseases of children, but they were isolated creations. You are well acquainted with the names of Dewees, Eberle, Condie, Ch. D. and Forsyth Meigs, W. V. Keating, and their individual exertions. It was only in 1860 that the first systematic instruction could be arranged for the New York Medical College, for the University Medical College in 1865, for the College of Physicians and Surgeons in 1870. In that same decade other schools in the Atlantic States followed those examples. Among the men who were at that early time most active in the study of diseases of children, I consider as most prominent J. L. Smith, of New York, and Parry, of Philadelphia. I should also mention my friend Fountain, of Davenport, Iowa, whose tragic end some of you may have found described in my treatise on diphtheria (1880), or in the famous patriarch Stillé's "Materia Medica and Therapeutics." Fountain's history is brief. Both of us experimented with potassic chlorate. A letter I wrote him on the results of my experiments with one-half ounce of the drug, consisting in temporary polyuria, crossed the news of his death, which was caused by his taking one ounce with speedy fatal termination. He was an unselfish and enthusiastic worker, and neither his life nor his death should be forgotten. If he had been a general, he would be remembered by a monument. Being only one of us, maybe nobody knows now where it is that the soil covers his remains. That was forty years ago. Sketches of the history of pediatrics in the United States have been published by S. S. Adams and Crozer Griffith; with both of them you are acquainted. Its progress is marked by the interest taken in it by a large number of industrious and scientific men, and by the co-operation of many of them for a common end. Such co-operative enterprises are John M. Keating's "Cyclopædia" and L. Starr's "American Text-book," accompanied or followed by two journals exclusively dedicated to pædology.

All this you know as well as I. With some of the phases of this development many of you, who have worked so assiduously, are better acquainted than I. What is particularly encouraging in the rapid strides pediatrics has taken, is not only the charm its study has by itself, but the mutual relation of pediatrics with all branches of medicine and its special doctrines; so that it gives and takes in equal measures. A narrow specialism has never been exhibited in pediatrics or in pediatrists. Co-operation, as it is the signature of the end of the century in commercial enterprises, is also the source of unprecedented results in medicine; it is true, on a different basis and with different results. Combination of efforts in financial and commercial enterprises is apt to lead to jealousy and avarice, and to prove destructive to the public welfare; in scientific pursuits it improves and benefits all. This sort of scientific, moral, and professional "trust," as they call it, is beneficial to mankind.

With the development of pediatrics in our and in other countries, my name has often been connected; also by you, to an exorbitant degree I am certain. It is true I commenced at an early time to furnish abstracts of European literature; soon I ventured into writing papers. In that early time I published a case of intussusception with obstructive hæmatomata, or perhaps obstructive hæmatomata with intussusception, also an essay on the diagnosis and pathological importance of the premature closure of the fontanelle. That was—if you permit me to speak of antediluvian times—in 1858. In the next year Noeggerath and I published a big volume of contributions to midwifery and the diseases of women and children, of which I speak because Osler could not find it, and, therefore, according to the pathologic and dead-house turn of his mind, which probably never admits anything he has not seen or felt, thought it was perhaps apocryphal. I say there is, or rather was, such a book, and it was one of my great successes, financial and otherwise. The book appeared, was sent to the journals, was favorably criticised, and made some reputation for the authors; but nobody purchased it. We paid $1,000 for printing and publishing. After a few years we sold the edition as old paper for $68. Clear profit $68, a good deal for poor young doctors. Such financial successes I had many in my life. Another book of mine, also out of print, of those times is "Dentition and its Derangements," 1862. It is queer all my books are out of print, with the exception of my "Therapeutics," which my kind-hearted publishers say may still be had.

From what I have been told to-night, and several times lately, I am to conclude that it is a common belief that I had a good deal to do with the development of pediatrics as a pet study in the profession, and as a subject for instruction all over the land. It is said I had my finger in most pediatric pies. It is true, in spite of unspeakable stage frights, I began to lecture very early, even in the spring course of the College of Physicians and Surgeons in 1857, and then 1860, as what they call a professor, in the New York Medical College. I also attached myself to a children's service in the newly established German Dispensary in 1857. Indeed I had the ambition that if ever the history of pediatrics in the United States would be written, my name should not be absent from its pages.

My merits, however, have been overrated, I am sure. But as an excuse for the mistakes made in my favor, I may say that I have been very fortunate in many respects. Mind, I was the first in the field when most

of you had not even the foresight of being born. Then I could recognize early how little had been done in America; and moreover all sorts of facilities were given me. As early as 1860 I could speak, long before I published my papers in the *American Medical Times*, on diphtheria in a discussion of the Academy of Medicine, simply because it had been my luck to see many cases and not to overlook them. For they were not quite so rare as they were believed to be. Indeed, their presence was denied by most. One of my warmest friends—at least I thought he was—was reported to say that week, but that week only: "I always thought Jacobi was an honest man. How the world is given to lying!" It so happened, however, that a week after the discussion alluded to a great many cases were reported.

Besides, the profession of New York, and of the State at large, was, as I think it is to-day, unprejudiced, anxious to learn even from the young who had facilities, and afforded me many more to learn and to teach. It gave me any and every opportunity for work, and many places of honor, showed me implicit confidence, and enabled me to use my influence in favor of young men whom I knew or believed to be willing and able to work. While I was busy myself, I could encourage others to work and to come to the front in pediatrics and otherwise. That is perhaps the best I have done in my life. Never has a foreigner, a young man, been treated with so much consideration, regard, and favor as the man who is speaking to you has been treated by the democratic generosity of the medical profession of America. And you here, all of you, form no exception. I am the more grateful for all I have received from you and from others lately, the less I may have the claim of having worked, though ever so successfully, in limited lines, or ruts perhaps, of a narrow specialty. I always was a general practitioner.

Indeed, the most important factor in active medical work, both curative and preventive, is the general practitioner, and among his class the pediatrist. His responsibility is the very greatest, his duties are the most serious. The questions of feeding at different ages, and of educating the well and the sick, the bright and the idiotic, must be answered by him. His domain is at the same time hygiene and pedagogy. The prevention of constitutional disorders, such as rickets and scrofula, and of infectious and contagious diseases such as scarlatina, measles, diphtheria, tuberculosis, and syphilis, are his studies and his duties. Whatever concerns the future citizen of the republic he is responsible for. In the performance of these duties he has to co-operate with nurses and mothers. I draw the line at grandmothers, with their hearts swelled with untimely sympathies and their pockets with indigestible sweetmeats. They are a constant danger. Mothers-in-law cannot hold the candle to these in point of dangerousness. One of the greatest dangers in the pediatrist's life—for that matter in that of every medical man—is overfeeding. In that respect I simply remind you of what you all know, that more infants are suffering from over- than from underfeeding. Still, the overfeeding of some adults is attended with equal danger. There are some of our trained nurses, who after a two years' course of instruction are bursting with learning. I met one lately, filled to her throat with Greek six-syllable terms, that ran a thermometer into an eight-weeks-old baby's vagina instead of the rectum. If you will look at the big-bellied textbooks they are compelled to swallow whole, you understand how those things can happen. What is wanted is more training, and less improvident, too technical learning. The tendency of our times is meddling with other people's business; that is why nurses are interfering with yours all the time. The public at large also is tempted to embark in the most dangerous dilettanteism of all, viz., that in medicine. The cheap yellow or otherwise colored newspapers, and the facility with which strictly technical books can be obtained, are a positive calamity. I know that a certain good text-book on the diseases of children, meant for the practitioner and the advanced student of medicine, is—to the advantage, I suppose, of the publisher, and of the retailer who pockets his commission, and to the detriment of the public—sold over the counter of a well-known New York milk-shop. This is a demoralizing measure which appears to be quite general, if I may judge from what happened to me two years ago. I at that time received the invitation from the secretary of a so-called congress of (alleged) mothers, in which I was told that I was considered competent to deliver an address before them at 3 P.M. on a certain day, on the physical education of children, and that they would refund my travelling-expenses to and from Washington, D. C., and also give me the permission to sell my books then and there.

Now, my friends, if there be anybody among you that thinks I am not at all pleasant in my remarks, but rather abusive, I could only reply that I was made that way. You see I must be consistent. If I were not, you would say: "Old age has changed him wonderfully."

That, however, reminds me of old Cicero, who was an intolerably garrulous man in the most polished Latin; he said—when he looked into the glass, I suppose—*loquar senectus*, old age is talkative. Unless I stop right here you will say I have grown old, and I want to do some work before I die, worthy, if possible, of the reception you have given me.

Of this reception what shall I say? Though I do not respond to your roll-call, you have treated me as if I belonged here; indeed, much better than that. You never honored a man as you honored me. That proves to me that I belong here after all. Indeed I find so many friends here that it is an impossibility not to feel perfectly at home. The honors your confer upon me prove only one thing to me, of which I am both glad and proud, viz., that you are firmly attached to pediatrics in the sense in which I always considered it, as a study full of interest in itself, of import to mankind, intimately connected with all branches of medicine, taking from them, giving to them, and combining the interests of biological research with the necessities and wants of the people. It finally proves one more thing, viz., that I have been able to gain your confidence, and that I have not lived in vain. Goethe says, that whosoever has succeeded in satisfying the best of his era has lived for all times. I thank you from all my heart.

AMERICAN ACADEMY OF MEDICINE.

Twenty-fifth Annual Meeting, Held at "The Shelburne," Atlantic City, N. J., June 2 and 4, 1900.

First Day—Saturday, June 2d.

THE meeting was called to order at 11 A.M. by the president, Dr. G. Hudson Makuen, of Philadelphia.

The secretary, Dr. Charles McIntire, read the minutes of the Columbus meeting.

The treasurer reported that the Academy was free from debt, but that the balance on hand was not so large as usual. The year had been marked by several losses from death.

Among the election of fellows to the Academy were: Drs. O. A. Emberly, of Massachusetts; Ella B. Everett, of Philadelphia; Thomas Snyder, of Niagara Falls; A. O. J. Kelley, of Philadelphia; J. Addison Joy, of Atlantic City; Judson Daland, of Philadelphia; W. R. Powley, of Atlantic City.

Drs. Risley and Carhart were appointed auditing-committee, and Drs. Connor, of Detroit, Jackson, of Denver, and Wilson, of Columbus, were appointed on the nominating-committee.

Report of the Special Committee for the Study and Formation of Principles Respecting Specialism and Respecting Advertising.—The secretary read the report of this committee, which first defined the word "specialism," as used by the committee, and presented the following propositions: (1) Specialism was not only desirable; it was unavoidable. (2) It was proper for a physician to seek to perfect himself in the direction of his greatest ability, even to the neglect of some other field of practice. (3) A specialist as well as the general practitioner could have a practice directly with his patients, or indirectly through consultation. (4) In his direct practice, a specialist ought not to be an exclusivist. (5) In his consulting-practice, a specialist stood in a different relation to his fellow-physician than did the general practitioner in consultation. He was rather a coadjutor than a consultant. (6) Specialism *per se* did not create discord in the harmony of professional intercourse. (7) The time to enter upon a specialty could not be predetermined by rule.

As to advertising: (1) No physician could escape advertising. (2) The true physician served humanity first; the earning of a livelihood being secondary. (3) Any method of advertising reversing this order was not to be commended. (4) Any method of advertising which only sought to inform the public that the advertiser was ready to be of service was permissible. (5) The above principles were fixed; their application varied with the environment. (6) Regulations restricting advertising should be equal in their action.

A symposium on "The Medical Aspect of the Home" followed.

The Essential Conditions for a Habitation to Develop and Maintain a Healthful Family Existence.—Dr. Rosa Engelmann, of Chicago, read a paper with this title. She stated that healthy family life depended upon health, character, intelligence, industry, frugality, mutual affection, forbearance, and the wherewithal to furnish a happy and healthy environment. Of supreme importance for the development and maintenance of these attributes was the separate-housing system. Among the essential conditions mentioned were fresh air and sunshine, adequate pure-water supply and good plumbing, healthful employment, healthful recreation, educational facilities. Lack of these conditions in large cities was considered, with the results, and the remedies therefor.

The Influence of Early Training of Manly and Womanly Qualities to Avoid Degeneracy.—Dr. J. Cheston Morris, of Philadelphia, furnished as a text an incident of a little girl poutingly disobedient, and the necessity of an early training in submission to authority. Acts spoke more effectively to children than mere exhortations or commands. Dr. Morris stated that the training in self-control must begin early in life, and that the reign of law and the influence of patient example was necessary to bring them about. Heredity, so-called, was often but the unconscious imitation of the parents' peculiarities by the very young. The lack of this early development permitted many forms of degeneracy, hence the importance of this early training.

The Influence of Medical Supervision of Children in their Homes.—Dr. J. Madison Taylor, of Philadelphia, read this paper. He said that the child was supposed to be capable of satisfactory development if allowed moderately good opportunity and environment, and was seldom or never systematically directed in its physical growth or development. The consequence was that very many faults of both mind and body were acquired, many of which seriously affected the subsequent activity of the child. He stated also that no attention was paid to the mating of the parents, as was done in the case of domestic animals, and consequently many faults of inheritance or heredity showed themselves. It was the purpose of the paper to call attention to these facts, and to demonstrate that if an intelligent direction was given to the growth and development of children these early faults could be corrected. He said that the province of the physician was limited, as yet, to the relief of actual illness and to repairing the effects of disease. If he were only encouraged to direct the growing child, his position as an apostle of preventive medicine would enable him to accomplish infinitely better results than merely the repair of damage. He then discussed the question of motherhood and the difficulties which arose from the lack of knowledge of those things which constituted a good mother. He stated that the first thing needed was that mothers should realize that the best specimens of human beings were not likely to come from haphazard up-bringing. He thought it safe to assume that skilled direction from a medical adviser would soon become recognized as of the greatest importance, and that the children of the poor should be provided with opportunities to receive skilled physical direction. This could be done only by educating the public to realize the importance of this fact, and by securing the co-operation of teachers of all grades in furthering such work.

School Hygiene and Medical Inspection of Schools.—Dr. W. M. Carhart, of New York, read a paper on this subject. He said that school life should be harmonious with and supplementary to home life. The growth of the child in bodily vigor, in strength of character, and in intellectual attainments should be as continuous at school as at home. School hygiene was divided into: (1) Hygiene relating to the personal habits of the child: necessity for cleanliness of both body and clothing, the avoidance of infection, and the exclusion of contagious cases. Vice had a physical basis; vicious habits should be discovered and corrected. (2) Hygiene in relation to methods of instruction. All children were not alike, and should not be taught as if they were. Backward and dull children needed special care. An inattentive child, usually defective in special senses, may possibly be slightly deaf. The human eye was going through the period of adaptation to the needs of the twentieth-century civilization, and in the interval asthenopia was a necessity under the modern methods of culture; the result was that weak eyes were permanently damaged and developed into myopia and astigmatism. (3) Hygiene in reference to the school environment. In this connection the writer stated that school buildings should be healthy in location, with adequate playgrounds, well furnished and well built, and with dry cellars. Good ventilation and clean rooms and lavatories with modern plumbing were also necessary. Desks and seats should be adjusted to the size of children.

Defectives and Delinquents Inside and Outside the Family Circle.—Dr. James W. Walk, of Philadelphia, gave in this paper the sociological definition of defectives and delinquents. The influence of defectives upon other members of the family circle was considered, as was also the influence of aggregate life (in hospitals, asylums, etc.) upon defectives. The influence also of family life upon defectives was spoken of. Delinquents and their environment were discussed in a similar manner. The author stated that efforts to benefit defectives and delinquents should be consistent with the welfare of society in general.

The Relation of the Habitual Use of Alcoholic Intoxicants to the Sanitation of the Home.—Dr.

J. W. Grosvenor, of Buffalo, read this paper. He considered the effect of the use of intoxicants on the moral character, intellectual development, and physical integrity of the inmates of a home. Two remedies of value for the relief of the unsanitary condition of the home were suggested—education and law. The writer considered that the enlightenment of the public along all sanitary lines was incumbent upon all boards of health. In the conservation of public health the medical profession had an important position. It was the opinion of the writer that the physician should not only by precept teach the danger of alcoholic intoxicants, but place himself and his home outside the use of alcoholic stimulants of every description. The clink of the inebriating cup should not be heard at his festive board.

The Hygiene of Vision in the Home.—Dr. S. D. Risley, of Philadelphia, read this paper. He described the family living-room—its origin, pleasures, and evils. The natural and artificial lighting of the home were spoken of, and the importance of sufficient and suitable illumination of the home in conserving the general health and vision of the family was emphasized.

The Physician's Influence in Regard to Vacation Schools.—This paper was read by Dr. Helen C. Putnam, of Providence, R. I. She said that inventions and municipalization had altered the popular minds that free schools were originally planned to supply, and that to-day more should be done for citizenship, character-building, and physical development. In the speaker's opinion liberally educated medical specialists were needed in this readjustment. Reference was made to vacation schools started by philanthropists to protect from their environment the children living in the poorest wards, and developing into a permanent institution of direct influence upon educational systems. In these schools no books were used; pedagogic excursions into the country were made; manual training by wood and iron work was taught; the æsthetic development of music, color work, out-door sketching were encouraged, out-door gymnastic games were indulged in, and self-government obtained in place of autocratic.

President's Address: Some Measures for the Prevention of Crime, Pauperism, and Mental Deficiency.—The president, Dr. G. Hudson Makuen, of Philadelphia, in his address stated that crime, pauperism, and mental deficiency were on the increase and were beginning to be a menace to our national life. The causes of this increase were many and complex. Civilization had not progressed uniformly. Many of its most important advances had a tendency to swell the ranks of the defective, delinquent, and dependent classes. The survival of the unfit had become our motto, and the fact that hand-in-hand with their survival went their reproduction had been ignored. The natural resources of our country had attracted foreigners in great numbers and in all conditions of mental and physical depravity; hence the necessity for restricted immigration, more stringent marriage laws, and, in carefully selected cases, the entire removal of the power of procreation. The evils of promiscuous almsgiving and promiscuous dispensary service were also pointed out, and attention was called to the fact that real charity was that which helped people to help themselves. He also touched upon the evils of institutionalism in the care and treatment of the defective, delinquent, and dependent classes, and suggested, as a final measure for the prevention of crime, pauperism, and mental deficiency, the widening of the scope and influence of our methods of education. The object of education should not be so much the acquirement of knowledge as the development of character and of brain power, of which the acquirement of knowledge and its effective application were the natural corollaries. Every possible avenue to the brain should be utilized in education. The action and effects of the various kinds of mental and physical training, and the best methods for their application, should be studied. Thus could be demonstrated the important fact that the moral nature was as capable of development as the intellectual nature; and that muscle training in all its varied forms was an essential factor both in the formation of character and in the development of brain power.

Second Day—Monday, June 4th.

At the opening of the session the nominating-committee announced the following nominations: *President*, Dr. S. D. Risley, of Philadelphia; *Vice-Presidents*, Drs. C. M. Culver, of Albany, Rosa Engelmann, of Chicago, G. G. Groff, of San Juan, W. C. McClintock, of Detroit; *Treasurer and Secretary*, Dr. Charles McIntire; *Assistant Secretary*, Dr. Alexander Craig, of Columbia, Pa.

The above candidates were elected.

The selection of time and place of meeting was placed in charge of the council.

How One College Endeavors to Teach Social Health Problems.—Dr. Charles McIntire, in this paper, gave Billings' definition of hygiene, which was approved by sanitarians and included sociology. It was stated that Lafayette College offered an elective on sanitary science to the seniors, and the paper outlined the course given, with the purpose of presenting the social problems having an influence upon the public health.

The paper of Dr. E. Stuver, of Fort Collins, Colo., on "The Home and the School," was read by title.

The discussion of the papers read in the symposium on "The Medical Aspect of the Home" was taken up at this point.

Dr. Tuckerman, of Cleveland, in reference to this topic said that they had in Cleveland just succeeded in the adoption of medical inspection in schools. He cited a case in which a teacher having sore throat had gone into her school, and as a result in two weeks' time five children had died and forty cases of diphtheria had developed. In reference to Dr. Walk's paper on "The Treatment of Defectives and Delinquents," Dr. Tuckerman approved of the suggestion of the president of asexualization, believing that these male defectives coming to puberty were as dangerous as wild animals let loose in the community.

Dr. Grosvenor, of Buffalo, referring to one of the papers on the parental teaching of children, spoke of a custom of some parents, of teaching their children to call their parents by their first names. He had observed this custom in his own city. He feared that if a strong protest was not made against it the custom would become more prevalent.

In the discussion of the paper of Dr. Engelmann, of Chicago, Dr. Knopf, of New York, thought that while the separate-housing system for habitation was very desirable, the suggestion seemed impracticable. He thought the solution of the problem could be more easily secured in the improvement of tenements, and the destruction of old tenements and the erection of new ones with proper appliances of sanitation. In reference to the early training of children he suggested that the whole problem might be solved by adding to the higher schools for girls a chair of practical motherhood.

Dr. Connor, of Detroit, thought that the great underlying principle of the papers and discussion was to attempt to find out the weak methods in our art of training men.

A paper entitled "A Few Notes Concerning the Relation of the Academic to the Medical Course," by Dr. Howard S. Hansell, of Philadelphia, was read by title. The purpose of the paper was to advocate the admission of the college-bred man into the second year of the medical course.

The Opportunity of the Small Medical College.—Dr. Bayard Holmes, of Chicago, read this paper. He said that the tendency toward large classes was not consistent with good pedagogy, and that small classes and individual supervision were possible in the small school. As requisites were mentioned the following: A few teachers and leaders of men, with time and adequate salary; suitable buildings and laboratory equipment; a small hospital under the complete control of the college; a well-selected working-library, containing the material for the study of medicine; intimate relations between the various departments; a curriculum granting freedom to teacher and student. All of these requisites it was stated were possible to the small college.

Neglected Clinical Opportunities in American Medical Centres.—This paper was read by Dr. S. A. Knopf, of New York. He endeavored to show that in spite of the vast progress many of our medical college had made during the past year toward a more thorough curriculum, clinical teaching was still very deficient, not from lack of clinical opportunities, but from the neglect to utilize those available. The writer contended that the essentials for a college graduate leaving college, feeling that his clinical teaching, if not quite equal to that of any hospital graduate, was at least nearly so, were: (1) A co-operation of all the medical colleges located in one medical centre for the purpose of a general and equal utilization of all the clinical material of their city; (2) the appointment of every physician and surgeon attached to a subsidized hospital as a clinical teacher independent of college affiliation, and the payment of a reasonable fee to these clinical teachers for their services rendered as teachers to the students; (3) the suppression of all didactic lectures for second, third, and fourth year students during the morning hours; (4) the obligatory presence of every second, third, and fourth year student in his capacity as senior or junior externe at the clinic or at the daily hospital visit of his teacher; (5) the keeping by the clinical teacher of a record of attendance and work, to be counted in the final examinations.

Psychology as Preliminary to Medical Education.—Dr. W. J. Herdman, of Ann Arbor, Mich., read this paper. He stated that normal anatomy and histology were essential to a right understanding of normal physiology. Psycho-physiology must be known if we would correctly interpret psycho-pathology and create a rational psychotherapy. The speaker considered that at the present day a very small percentage of candidates for the degree of Doctor of Medicine had pursued a systematic study of physiological psychology. Such knowledge was claimed to be essential to a right understanding and direction of educational methods, since faulty methods of education resulted in disease. Functional disorders would be much better understood and more rationally treated were the physician well trained in psycho-physiology. The mental element of disease was largely-ignored by the practitioner of to-day, and in this soil left uncultivated by the scientific physician faith-cures and other noxious weeds took root and flourished. He believed that a broader preparation was needed to fit the physician to take possession of this field.

Dr. Elmer Lee, of New York, said that Dr. Herdman's paper was along the line of his own observations, and upon which some words of his own had been published. The fact that there was a mental state in the practice of medicine was too little understood and too seldom successfully used.

Dr. Knopf, of New York, advocated the including in the curriculum for senior students the study of hypnotism, so that this important therapeutic agent might be taken out of the hands of those who by their wrong-doing depreciated the value of hypnotism as a therapeutic agent.

Dr. Connor, of Detroit, thought that Dr. Herdman's presentation was a clear demonstration that what he called psychology was simply a refined part of physiological and pathological processes.

Some Experiences of a Volunteer Surgeon in the Philippines.—Dr. H. P. Ritchie, of St. Paul, late captain and assistant surgeon in the Thirteenth Regiment Minnesota Volunteer Infantry, read a paper on this topic. He said with reference to the transport service that the causes of complaint and discomfort during the first expeditions were unnecessary, as shown by the pleasant experiences of the home voyage eighteen months afterward. The effect of the campaign before Manila upon the future health of the troops was considered. The condition of Manila at the time of its occupation, and its transformation under American rule, were described. The climate was discussed, and the diseases among the troops were briefly considered, with their prophylaxis and their danger to the civilian. The paper closed with a plea for the establishment of schools for instruction in tropical diseases.

"Good Form" in Professional Cards.—Dr. Charles McIntire, of Easton, Pa., in this paper referred to the source of gratification to the fellows of the Academy of Medicine that there had been almost no necessity to discuss the individual actions of its members. Last year an exception was taken to the wording of a professional card, and the secretary was instructed to correspond with the member whose card was criticised. The present paper was the result of that correspondence, classifying a number of professional cards from various parts of the United States.

The Desirability of a Medical Editor on the Staff of the Daily Newspapers.—This paper was read by Dr. Walter L. Pyle, of Philadelphia. As an indication for this need the speaker called attention to an article recently appearing in the New York *Herald* entitled "Sleep Cure for Nervous Dieases." This cure consisted of "eight grams of bromine every two hours in a glass half full of water." It was further stated in this issue that the discoverer of this rest cure maintained that rest—absolute, prolonged rest—was the one thing which persons suffering from nervous disorders stood most in need of, and that they could obtain the rest through the agency of bromine better than in any other way. It was suggested that the medical member of the newspaper staff would prove satisfactory, particularly in editorial work upon such subjects as food adulteration, water filtration, and quarantine. The offensive medical advertisements might be corrected by the medical editor, who should act as a censor on all notices of a medical nature.

Domestic Hygiene.—Dr. Elmer Lee, of New York, read this paper. He said that sickness, suffering, and death were the most expensive factors in human existence, and that each human being enjoyed or forfeited his rights exactly in proportion to his use or abuse of them. Air was referred to as the most important factor of all the agencies which contributed to animal life; everywhere it was adapted to the creature who rightly used it. A drink of cool water had virtues superior to any and all life-saving agencies. Mineral waters, either natural or artificial, were less wholesome, in the writer's opinion, than water which held no minerals in solution. The rainfall was the source of pure water. Carbonic acid gas was an ingredient

of dangerous nature, and was the basis of the effervescing waters. This gas, it was stated, was a deadly poison to all animal life, and was at all times a waste product in the blood. Water was stated to be man's sweetest and safest drink, and if rightly used would in itself largely help to extend his life well toward the century mark. In the matter of food, in the author's opinion, there were ample proofs to show that it was not a greater variety in vegetable, flesh, or mixed diets consistent with health that was needed, but rather the use of any diet in moderation. The subject of human feeding was regarded as the one most neglected in popular education, and it was incumbent on mothers to form health kindergartens, first for their own information and secondly to lead and direct their children in the light.

New Instruments.

PRACTICAL HINTS FOR *X*-RAY WORKERS.

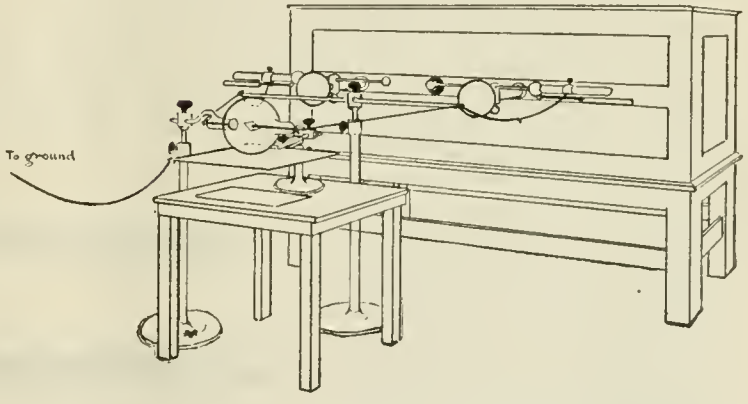
By GUION THOMPSON,
NEW YORK.

THE choice of an *x*-ray apparatus is usually perplexing to the person buying it for the first time and who is unfamiliar with the results and methods of operation of the different styles of apparatus, and, after making a choice, many give up on account of failure to get good results. It is not my intention to consider the advantages and disadvantages of different apparatus, but to give my opinion as to which is best, and how to operate it properly, and this opinion is arrived at by experience and study in electrical science.

The static machine is the ideal generator of electricity to operate the *x*-ray tube. It should not be smaller than one of eight thirty-inch revolving plates, and should be run by a motor capable of a speed of about six hundred revolutions per minute. The plates should be of glass of the best insulating qualities obtainable, and the machine should be of the type known as the "Holtz-Influence" and not the "Holtz-Toepler." The "Holtz-Toepler" machine has small metal discs on its plates for the purpose of making it self-exciting, and these discs cause the machine to generate a pulsating current that will often reverse while the machine is in operation. In the "influence" type the electric current is steady and generated in an even flow that will not reverse unless it is purposely made to do so. The tubes should be those that are made to be used with the static machine, and must have their terminals far apart at opposite ends of the tube. The body of the tube should be a sphere, and the centre of the anode disc should be exactly in the centre of this sphere. The cathode terminal is a cup-shaped disc whose concave face should focus exactly on the centre of the anode, which is set at an angle of 45° to reflect the cathode rays focused on it to the side of the tube. The cathode cup and the anode disc should not anywhere approach nearer than within one-half inch of the glass walls of the tube. When nearer than this, liability of the tube to puncture is increased. Have a proper adjustable stand for holding the tube in any desired position and another to hold a thirty-inch porcelain or ebonite rod, with hooks or clips on each end. This is extremely handy—half the time absolutely necessary—to support the conductors from machine to tube. These conductors have small hooks at each end, one to connect to the eyes at the external terminals of the tube and the other to connect with the "interrupters" at the terminals of the machine.

Start your machine and see that it is charged and generating, and determine which is the positive pole. To find this, draw the sliding poles about half an inch apart and observe the spark; it will be of a violet color with white tips at each end. The end at which the white tip is largest is the positive side of the machine. Now attach the interrupters, leaving them wide open, and hook on the conductors.

Adjust the tube in the stand so that the anode reflects the cathode toward the point from which you wish to observe, and see that the tube is so placed that the anode can be connected with the positive of the machine and the cathode with the negative without crossing the conductors; hook them to the tube in this position, using the porcelain rod to support and separate them. Close the interrupters and draw apart the sliding poles of the machine. Before they are an inch apart the spark stops and the tube lights up faintly a palish green all over the glass in front of the anode disc, while back of it is shadow, faintly tinged with violet. The tube is "low"; its vacuum is low. Open the positive interrupter so that you have a spark gap in the circuit on the anode side of the tube. Two or three hours' use of the tube connected in this manner will bring it up, especially if it is "shut off" frequently for short rests. These low tubes can be used for such light work as making radiographs of the hands, etc., until they come to their best working condition, when they should be kept for heavier and more



difficult work. Close the sliding poles of the machine to within about a quarter of an inch of each other; open both interrupters and remove the conductors from the tube, and try another. Connect up the same as before, close the interrupters, and draw the sliding poles slowly apart. The spark lengthens out perhaps to eight or ten inches before the current passes through the tube, and when it does there is only a faint and fluttering tinge of light on the walls of the tube, with here and there bright oval spots of greenish light that come and go all over the walls of the tube. The tube is said to be too "high." To bring it down, open the interrupter at the negative terminal of the machine so that there is a spark gap in the circuit at the cathode side of the tube. If this does not bring it down in a few minutes, heat the tube carefully and evenly with a spirit-lamp or Bunson-burner gas flame, and it will work beautifully. If, when we try to start a tube, it stays perfectly dark and shows no action whatever, it may possibly be brought down by persistently working at it, but it had better be re-exhausted, as it will always be a nuisance when most wanted if left so high.

Disconnect this tube and connect up another. If, when you draw apart the sliding poles, the spark stops when it gets about four inches long, and the tube lights up with a clear, even, bright glow on the hemi-

sphere in front of the anode disc and remains dark behind it, then you have an almost perfect tube. The fluoroscope will show more finely how a tube is working, and each tube should be examined with it for penetration, focussing qualities, etc. A tube running without a spark gap in circuit will give the finest definition. When using the fluoroscope it will be noticed that a tube will appear to give more light with a spark gap in circuit than without, but with less clearness and definition. For many reasons it is best always to run the tube without any spark gaps at all, if possible. The spark causes the current passing through the tube to be an intermittent one of exceedingly fast periods, and as the tube is of a certain resistance it allows just so much current to pass whether with or without the spark gap, and as the current is varied in any given tube so are the rays emitted by that tube. Therefore it is clear that the spark gap cannot increase the *x*-rays generated by any tube, but by interrupting the current so that it passes in flashes through the tube, each flash becomes brighter than the light of a continuous current, because in it is stored the energy of the dark periods between flashes.

These rapid, bright flashes affect the eye so that there appears to be a brighter light than when they are absent; but in making a radiograph we have to increase the exposure of any tube if we have a spark gap in circuit, and the exposure increases in proportion to the length of the spark gap, proving that the spark gap absorbes energy, which of course it must do. Also, when we make a radiograph with a spark gap in circuit we lose definition in the shadowgraph; this is seen also in the fluoroscope, and is caused by the rapidly pulsating current inducing an opposite potential in the tube at each flash, which has the effect of "upsetting" the focusing of the cathode rays on the anode disc and causing them at each flash to focus at a different spot, so throwing the shadow caused by each flash at a slightly different place, the whole appearing to the eye, or coming out on the sensitive plate, as a blurred shadow. The spark also increases the danger of burning the patient a hundred-fold, as the strong pulsating currents it causes set up opposite currents and charges of electricity in near-by bodies by induction from the tube. These currents have "burned" patients badly at times, and an example of how strongly a patient will become charged under a tube being operated in this manner is shown by the shock received on touching the subject after a few minutes' exposure. If you will always use a thin metal screen between the patient and the tube, and ground the screen by connecting with gas or water pipes, you need never fear "burning" the patient. The screen is inductively acted on instead of the patient, and the currents that would make a "burn" are carried off to earth. A thin aluminum screen is the best of metal screens, as it is less opaque to the rays than other metals. A damp cloth may also be used—the water acting as the conductor.

When running a tube without any spark gap in circuit it is almost needless to use the screen, but the safest practice is always to use it, as any moment during an exposure may necessitate a spark gap to control the action of the tube.

In making radiographs, the patients should be in as restful a position as possible, so that they may have every advantage for keeping still. Lay the sensitized plate, emulsion side up, on a perfectly flat surface, and let the region to be taken rest upon it. The plate should be in a light-proof envelope to protect it from the action of ordinary light. Place the tube above the plate and patient so that its rays shall pass through the subject to the plate. The distance of the tube from the plate is governed by the thickness of the subject being taken, and should always be far enough away not to distort the shadow unduly. The exposure can be judged only by watching the light with the fluoroscope, and experience is the only instructor here. Be careful that no plates are near by—not even in the next room—or you will wonder what makes so many of your plates develop "fogged," or altogether black. The rays from the tube will go through walls and furniture and spoil many a plate if you are not careful. You cannot keep them far enough away. Do not use a fluorescent screen with your plates. It shortens the exposure but kills definition and sharpness in the radiograph, and this result is most unsatisfactory.

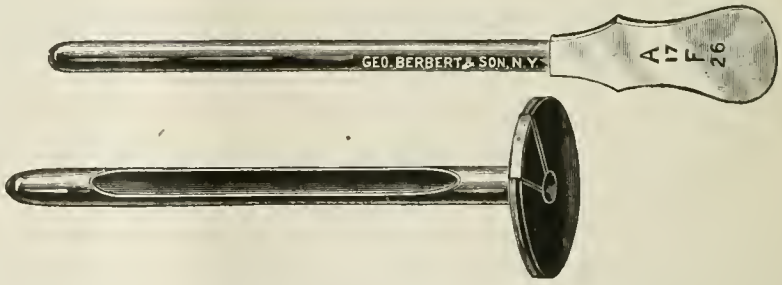
289 Fourth Avenue.

A NEW URETHROSCOPE.

By FRED. J. LEVISEUR, M.D.,

NEW YORK.

This instrument, which is destined for the examination and treatment of the pendulous part of the urethra only, consists, like the ordinary urethroscope, of a hollow tube with disc and obturator. The tube is closed at the distal end and fenestrated on the side, the slit extending to within a quarter of an inch of each end. The obturator has the shape of an ordinary straight sound, and fits loosely in the tube. A V-shaped mark on the disc indicates the position of the fenestration. The instrument, well lubricated, is introduced with the obturator *in situ*. When the latter is withdrawn, a considerable portion of the mucous membrane becomes visible, slightly bulging into the lumen of the tube. The picture thus presented markedly differs from that which we are accustomed to see with the ordinary urethroscope, where a small cone of the mucous membrane only is visible at the time, and the rest is brought into view by gradually withdrawing the tube. With this instrument the remaining three longitudinal sections of the urethra can be inspected by introducing the obturator—also lubricated—each time and rotating the urethroscope through an angle of 90°. Before the removal of the instrument from the urethra the obturator is introduced again.



The examination can be made either with direct or reflected light, though I have found the direct light the best. The introduction of the instrument is not more painful than that of an ordinary sound, and there is no danger of injuring the mucous membrane.

Pathological conditions situated at the distance of one-half to one inch from the meatus can be seen especially well. It is also possible to locate the position of a stricture by noting some additional bulging of the mucous membrane in front as well as behind the affected spot. What renders the picture a particularly interesting one is the presence of the numerous circular folds, which give the mucous membrane a finely striated or rifled appearance.

640 Madison Avenue.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 30, 1900:

	Cases.	Deaths.
Tuberculosis	123	133
Typhoid fever	29	7
Scarlet fever	95	4
Measles	202	24
Diphtheria	285	35
Laryngeal diphtheria (croup)	4	7
Cerebro-spinal meningitis	0	6
Chicken-pox	15	0

Law for the Control of Milk Dealers in Japan.—The following is a brief translation of the law recently promulgated for the control of dealers in milk:

Art. II. The specific gravity of milk shall be from 1.028 to 1.034 in the case of new milk and from 1.032 to 1.038 in the case of skimmed milk; in both cases at a temperature of 15° C. In new milk the quantity of fat must exceed 2.7 per cent., and in skimmed milk it shall not be less than 0.5 per cent.

Art. V. Dealers in milk are not allowed to obtain milk: (1) from cows affected by contagious diseases, such as cattle plague, rabies, jaundice, dysentery, fever, etc.; (2) from cows being medically treated with powerful or poisonous drugs; (3) from cows which have calved within the space of one week.

Art. VI. Dealers in milk are forbidden to use porcelain vessels glazed with zinc, copper, bronze, or other injurious materials, or vessels of iron coated with materials containing lead.

Art. VII. No milk dealer shall undertake the sale, transport, or preservation of sour milk; milk which is curdled or of bitter taste, or is of blue, red, or other unusual color; milk mixed with other materials.

Art. XII. Dealers in milk shall not allow persons suffering from consumption, leprosy, syphilis, or other contagious disease to handle milk or milk products or vessels used for holding or measuring the same, or to enter into a place where such articles are handled.

Art. XIV. The local governor may despatch officials to inspect the cows owned by milk dealers, and upon finding any diseased animal may brand or mark its horn, or affix a ring to its ear.

Art. XVIII. Offences enumerated below shall be punishable with a fine not exceeding twenty-five yen: (1) Dealing in milk without obtaining official permission; (2) contravention of Article V.

Art. XIX. Any person failing to inscribe the quality of milk on the vessels containing it, or to segregate a diseased cow or cows, shall be liable to a fine not exceeding ten yen.

Art. XX. These regulations shall come into operation from the 1st of July in the thirty-third year of Meiji (1900).

Definition of the Word Physician.—Dr. Murray, of Oxford, England, and the editor of the *Oxford Directory*, thus defines the origin of the word physician: The word physician was taken by us from Norman-French in the thirteenth century in the form fisicien, and in its present sense of practiser of the healing-art, medicus, the only sense which it had in contemporary French. It has never had any other sense in English, though one or two writers have expressed a desire to abolish this and to convert the word back to the sense of Latin physicus (Greek φυσικὸς), student of nature, naturalist, natural philosopher. Hume did this, but only as an etymological fancy. In French it has been different: médecin has successfully ousted physicien, and the latter in modern French since the sixteenth century has meant physicist. If you will turn to Du Cange's "Lexicon of Mediæval Latin," you will find that the regular mediæval Latin sense of physica in medicine is medicina, and physicus equals medicus. But in classical Latin and as late as the Latin lexicons come down, *i.e.*, to the fifth century or so, physica in Latin literature meant natural science, and physicus a physicist. What you have to do then is to show how the Latin physicus and physica passed between the fourth and fifth, and say the eighth or ninth centuries—during the very midnight of the middle ages—from the ancient to the mediæval and modern sense. This is an inquiry that lies far away behind the scope of an English or even a French dictionary; it is part of the general history of the Latin language during the period of the break-up of the Roman Empire and civilization, for which perhaps no materials exist, and all that can be said is that the change took place and was a very natural and intelligible one. I have little doubt that even in the third century the common peasant of Italy or Gaul thought a physicus must know something about the influence of stars and planets and mysterious influentias or influenzas generally, and about the position of bones and virtues of herbs, the only practical use of physica to him, and so thinking the physicer a medicus called the medicus a physicus. Does not the ignorant nineteenth-century Englishman call a drug-seller a chemist for the same reason, and does not the drug-seller find it profitable to call himself a chemist, which he is much less than a baker or whiskey maker is? Well, when the Roman civilization perished all the literary class (as a class) perished, and the peasant survived, and his Latin became the language of the modern world. He did not call in a medicus to use his medicina to cure his bad "crures" or his aching "caput," but got a physicus with his physica (fisicus and fisica he wrote them when he could write) to attend to his "gampas" (pins or hockey sticks), or his "testa" (shell or cocoanut). The substitution of physicus for medicus is the only part of the great revolution, but it is a long way anterior to English, and to the Englishmen of thirteenth century who accepted physicien or fisicien as quite the fashionable, courtly learned title for their own leche or leech. Of course modern etymologists, going back to the original Latin and Greek sense, are apt to think the words ought to have the original sense, which is to undo history and pull down the Tower, St. Paul's, and Westminster, to say nothing of Cannon Street station, in order to restore Roman London. (They do so at Athens and Rome.)—Meeting of General Council of Medical Education and Registration in England.

Endemic Centres of Plague.—In China, in the Himalayas, in Mesopotamia, in Persia, in Arabia, and in Tripoli centres of plague have long been known to exist and have always been regarded as possible sources of danger in the future, and recent inquiry has further brought to light the fact that similar foci of the disease have, at least for some years past, been more or less active in Siberia, in Mongolia, and in Central Africa. Plague has for a long period been endemic in Yunnan, the province in the extreme south-west corner of the Chinese empire, closely bordering on Burmah on the west, and extending northward toward the frontiers of Tibet. . . . A Chinese gentleman has quoted in the pages of *Nature* a passage in a Chinese work which he found in the library of the British Museum, and which he says "bears witness to the much earlier occurrence of the pest in Yunnan, insomuch as the author, who was born in 1736 and

died in 1809, speaks of his contemporary dead thereby thus: "Shi-Tan-Nan, the son of Shi Tan, now governor of Wang-Kiang, was notorious for his poetic gift. . . . Then in Chan-Chan [in Yunnan] it happened that in the daytime strange rats appeared in the houses, and lying down on the ground perished with blood-spitting. There was not a man who escaped the instantaneous death after being infected with the miasma, Tan-Nan composed thereon a poem entitled 'Death of Rats'—the masterpiece of his; and a few days after he himself died of this queer rat epidemic." The close association of this peculiar behavior of rats with the prevalence of plague in man observed in the same province in recent years makes it almost certain that the disease here referred to was plague, although no symptoms are mentioned by which it can be finally identified.—*Journal of Tropical Medicine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended June 29, 1900:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia, Washington	June 16th to 23d	14	
Illinois, Chicago	June 16th to 23d	7	
Indiana, Indianapolis	June 15th to 22d	2	
Kansas, Wichita	June 16th to 23d	3	
Kentucky, Covington	June 16th to 23d	12	1
Louisiana, New Orleans	June 16th to 23d	16	7
Shreveport	June 16th to 23d	3	
Massachusetts, Fall River	June 16th to 23d	5	
Lowell	June 16th to 23d	1	
Michigan, Grand Rapids	June 16th to 23d	1	
N. Hampshire, Manchester	June 16th to 23d	3	
New Jersey, Jersey City	June 17th to 23d	10	
Newark	June 8th to 23d	1	
New York, New York	June 16th to 23d	4	
Ohio, Cleveland	June 16th to 23d	12	
Pennsylvania, Pittsburg	June 16th to 23d	1	
Tennessee, Nashville	June 16th to 23d	5	
Washington, Tacoma	June 8th to 16th	1	
West Virginia, Charlestown	June 19th	14	
Wheeling	June 22d	1	
Smallpox—Foreign and Insular.			
Austria, Prague	June 2d to 9th	8	
Belgium, Antwerp	May 26th to June 2d	1	
Brazil, Rio de Janeiro	May 11th to 18th	7	5
Canada, Quebec Province, Bonaventure Co	May 21st to 28th	1	
China, Hong Kong	May 5th to 17th	1	
England, Liverpool	June 2d to 9th	4	
London	June 2d to 9th	11	
Southampton	June 2d to 16th	2	
France, Lyons	May 19th to 26th	..	3
Paris	June 2d to 9th	..	3
Gibraltar	June 3d to 10th	1	
Greece, Athens	June 2d to 9th	4	2
India, Bombay	May 16th to 29th	..	29
Calcutta	April 21st to 28th	..	41
Kurrachee	May 13th to 27th	61	48
Madras	May 5th to 25th	..	1
Mexico, Chihuahua	May 26th to June 9th	..	4
Vera Cruz	June 8th to 16th	..	9
Porto Rico, Ponce	June 4th to 11th	2	
Russia, Moscow	May 26th to June 2d	13	3
Odessa	June 2d to 9th	6	1
St. Petersburg	May 25th	47	8
Warsaw	May 19th to June 2d	..	6
Scotland, Glasgow	June 15th	..	1
Spain, Corunna	June 2d to 9th	..	1
Straits Settlements, Singapore	May 10th to 17th	..	3
Yellow Fever.			
Colombia, Barranquilla	June 2d to 9th	4	3
Panama	June 11th to 18th	3	
Cuba, Havana	June 6th to 17th	6	2
Santa Clara	May 16th to June 21st	26	8
Trinidad	June 19th	1	
Mexico, Progreso	June 8th to 15th	2	1
Vera Cruz	June 8th to 16th	..	15
Cholera.			
India, Bombay	May 17th to 29th	..	110
Calcutta	April 21st to 28th	..	92
Plague.			
Arabia, Aden	May 12th to June 2d	170	100
China, Amoy	June 23d	Reported.	
Hong Kong	May 5th to 19th	155	142
India, Bombay	May 17th to 29th	..	410
Calcutta	April 21st to 28th	..	343
Kurrachee	May 13th to 27th	154	115
Japan, Osaka	May 25th to June 2d	4	
Shidzuoka Ken	May 25th to June 2d	5	
Turkey, Smyrna	May 29th	1	

White Meat and Dark Meat in Dietetics.—In a recent series of articles published in a German medical journal Drs. Opper and Rosenquist deal with the opinion that has been accepted by many that white meats are more suitable for the sick owing to greater digestibility and the presence of less uric acid and nitrogenous extractives. This belief is shaken by the analyses made by the medical men referred to, which show that while white meats, such as poultry and fish, do in certain cases contain less extractive and nitrogenous derivatives, the average amount does not appreciably differ in dark and white meats, such as poultry, veal, beef, pork, mutton, etc., to make either preferable. They point out that the only way of limiting the ingestion of these deleterious extractive and nitrogenous substances is by diminishing the amount of meat taken rather than by forbidding dark meats. They also assert that among the extractives present in meat, the most important ones are by no means harmful if taken in small quantities as is ordinarily done. The same holds good as regards the other organic extractives which are nitrogenous.—*Public Opinion.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Orthopedic Surgery, Medical Papers. By Henry Jacob Bigelow, M.D. 8vo, 373 pages, Illustrated. Little, Brown & Co., Boston.

A Memoir of Henry Jacob Bigelow. 8vo, 297 pages. Little, Brown & Co., Boston.

The Mechanism of Dislocations and Fractures of the Hip, and Litholapaxy or Rapid Lithotrity with Evacuation. By Henry Jacob Bigelow. 8vo, 356 pages. Illustrated. Little, Brown & Co., Boston.

A Text-Book of Practical Therapeutics. By Hobart Amory Hare, M.D. 8vo, 798 pages. Illustrated. Lea Brothers & Co., Philadelphia.

Surgical Anæsthesia; Addresses and Other Papers. By Henry Jacob Bigelow, M.D. 8vo, 378 pages. Little, Brown & Co., Boston.

Contributions to the Science of Medicine. By the pupils of William Henry Welch. 8vo, 1,066 pages. Illustrated. Johns Hopkins Press, Baltimore.

Sexual Disorders of the Male and Female. By Dr. Robert W. Taylor. 8vo, 438 pages. Illustrated. Lea Brothers & Co., Philadelphia.

Medical Treatment of Diseases and Symptoms. By Nestor Tirard, M.D. 8vo, 632 pages. Lea Brothers & Co., Philadelphia and New York.

Transactions of the New York State Medical Association for 1899. Edited by M. C. O'Brien, M.D. 8vo, 887 pages. Published by the Association, New York.

Annales de l'Institut de Pathologie et de Bacteriologie de Bucharest. By Victor Babes. Folio, 465 pages. Illustrated.

Contributions from the William Pepper Laboratory of Clinical Medicine. Folio, 419 pages. Illustrated. Phœbe A. Hearst Foundation, Philadelphia.

Encyklopædie der Therapie. Herausgegeben von Oscar Liebreich. 8vo, 1043 pages. Verlag von August Hirschwald, Berlin.

Progressive Medicine. By Hobart Amory Hare, M.D. 8vo, 411 pages. Lea Brothers & Co., Philadelphia.

Normal Histology. By Edward K. Dunham, M.D. 8vo. 318 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

A Manual of Medicine. By W. H. Allchin, M.D. 12mo, 442 pages. The Macmillan Company, New York.

A Manual of Obstetrics. By A. F. A. King, M.D. 12mo, 612 pages. Illustrated. Lea Brothers & Co., New York.

Obstetrical Technique. By Joseph Brown Cooke, M.D. 12mo, 109 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

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Original Articles.

SOME CLINICAL OBSERVATIONS ON LUPUS ERYTHEMATOSUS; THE PATHOLOGY OF LUPUS ERYTHEMATOSUS.[1]

BY J. A. FORDYCE, M.D.,

AND

O. H. HOLDER, M.D.,

NEW YORK.

A NUMBER of the so-called chronic inflammations of the skin, whose clinical manifestations are so unlike that we do not hesitate to give them distinct and definite names, present very similar microscopic pictures. In lichen planus, psoriasis, and other superficial affections, we find in the papillary area of the derma an accumulation of lymphoid cells accompanied by a proliferation of the prickle-cell layer of the epidermis with varying degrees of parakeratosis. Some cause with which we are unfamiliar operates either through the blood stream or possibly through the skin from without, exciting an outpouring of leucocytes and the subsequent changes which take place. The pathogenic agent not being sufficient to destroy the implicated tissues, complete restitution takes place, and little or nothing remains to show that a struggle has occurred between the tissues and the foreign organism or poison. This happy outcome is not often met with in the deeper-seated infectious granulomata, for even after the involution of such lesions without ulceration, more or less destruction of the connective-tissue elements of the derma takes place with resulting atrophy.

In lupus erythematosus, which is under consideration in this paper, we have a chronic inflammation of peculiar type, which, in the early stages of the affection, appears to be exclusively confined to the small vessels of the upper and middle regions of the derma. In its later stages the connective tissue undergoes a peculiar degeneration leading to a superficial but pronounced atrophy of the skin, the leading clinical feature of the disease (Fig. 1). The negative results which have followed attempts to find a local bacterial agent, as well as the failure of repeated culture and inoculation experiments, have led many clinical observers to the opinion that we have to do with a toxic agent which is carried by the blood current from some extra-cutaneous focus. The resemblance of lupus erythematosus to lupus vulgaris in its gross clinical features led many of the elder dermatologists to regard them as closely allied processes, if not actually identical. A more careful clinical as well as microscopical study of the two affections, however, showed them to differ in so many respects that they were, with few exceptions, looked upon as totally dissimilar diseases.

The fact that lupus erythematosus is at times associated with tuberculosis of the lymph nodes, the lungs, or other visceral tuberculosis, has prevented Hutchinson, Besnier, and others from accepting the view, until lately almost universally held in Germany, that they are in no respect related. Besnier and the majority of the French school uphold in the most emphatic manner the close relationship of the affection to the tuberculous process.

Boeck [1] in an elaborate article supports the same view. In his carefully tabulated record of thirty-six cases he finds pronounced symptoms of tuberculosis in two-thirds of them, and a family history of tuberculosis in half the remainder. It would not be possible, as he well states, to find so large a percentage of tuberculosis in an equal number of the adult population.

Roth [2] has collected from literature records of about two hundred and fifty cases of lupus erythematosus, and in one hundred and eighty-five of them there was more or less pronounced evidence of tuberculosis. As tuberculosis frequently exists in a latent form which is difficult or impossible to recognize, it is not improbable that the percentage of such cases in connection with lupus erythematosus may be even greater than the statistics of Boeck and Roth would seem to show.

FIG. 1.—Lupus Erythematosus Discoides of Eight Years' Duration, Showing the Characteristic Atrophy. In addition to the lesions on the face there are three bald and atrophic spots on the scalp. The patient, aged thirty years, is a tailor, and though somewhat anæmic gave no personal or family history of tuberculosis.

In Boeck's opinion, the symmetrical outbreak of the disease is due to the action of the tubercle bacilli toxins on certain vasomotor nerve centres. The symmetry of the eruption is by no means a constant feature

[1] From the Dermatological Laboratory of the University and Bellevue Hospital Medical College.

[1] Arch. für Derm. u. Syph., B. xlii., S. 71, 1898.
[2] *Ibid.*, B. li., S. 3, 1900.

of the disease and may be susceptible of other explanations.

The absence of positive knowledge concerning the etiology of the affection under consideration has led to the most varied views as to its causation. It has been regarded as a tuberculosis; an inflammation produced by local causes in individuals of slight resisting-power; an angioneurosis; a specific infectious disease caused by the growth of micro-organisms; a form of skin tuberculosis produced by a species of bacilli supposed to differ from those found in the lungs and in lupus vulgaris; a neuritic inflammation of the skin, the result of the growth of the tubercle bacilli in the nerve fibres in analogy with the skin changes caused by nerve leprosy.

Fig. 2.—Lupus Erythematosus Disseminatus. The eruption began, two months after the patient became pregnant, as an erythema multiforme of both hands and forearms. The centre of the erythematous patches was marked by superficial atrophy.

As most of these theories have been shown to be untenable, an attempt is now being made by an increasing number of dermatologists to explain its frequent association with tuberculosis by the action of the toxins of the bacilli. Although difficult to demonstrate, the hypothesis is an attractive one and has much to commend it. The poisonous substances which result from the growth of tubercle bacilli are not well known. We have learned, however, from the experiments of Prudden and Hodenpyl, Vissman, and others, that dead tubercle bacilli when injected in animals are capable of producing tuberculous nodules ending in fibrosis. E. A. de Schweinitz[1] has shown that a crystalline substance which he obtained from pure cultures of the tubercle bacilli produced necrosis of the liver cells of guinea-pigs when injected in minute quantities directly into this organ, and in the skin of these animals when used subcutaneously. This substance, he is led to believe, is the temperature-reducing agent and is distinct from the fever-producing principle of the germ. We can only surmise, in view of our lack of positive knowledge, that certain cases of lupus erythematosus, when met with in conjunction with visceral or other tuberculosis, may be due to the action of the toxic products of the tubercle bacillus. The primary involvement of the blood-vessels, together with the symmetrical outbreak of the eruption in the majority of cases, favor the supposition that the causative agent is one acting through the blood stream.

[1] "Some Products of the Tuberculosis Bacillus and the Treatment of Experimental Tuberculosis with Antitoxic Serum." Reprinted from the Transactions of the Association of American Physicians, 1897.

The involvement of the flush area of the face, which is so frequently met with in this affection, can be readily explained by the slowing of the blood current and the diminished resisting-power which the paretic vessels offer to the hypothetical toxin.

It is not improbable that lupus erythematosus, like many other diseases in dermatology, may have more than one etiological factor; that it is not a distinct entity, but the result of the action of other agents than those formed by the bacillus of tuberculosis.

In view of our imperfect knowledge concerning the etiological factors in skin affections, we are not in a position to assert that all eruptions apparently alike must be due to a single cause. In the skin, no less than in other organs, we may have the same conditions caused by various toxic or bacterial agents; on the other hand, a definite pathogenic bacterium, as the tubercle bacillus, may give rise to symptoms more or less dissimilar, but which we are able to class in a single group by reason of our ability to detect the germ by the microscope or through culture or inoculation experiments. The supervention of the disease on local injury to the tissues, as in the case of frost bite, sunburn, etc., and on previous affections of the skin, like seborrhœic dermatitis, suggest that a purely local cause may, at times, be responsible for its occurrence. Atrophy of the skin has been observed to follow the dermatitis produced by the Roentgen rays without antecedent ulceration. Some observations which have recently been made in syphilis by one of us would seem to show that we may have in that disease an eruption closely allied in its clinical and anatomical features with lupus erythematosus.

The following brief clinical reports of some of the cases which have come under our observation are intended to illustrate a few of the types of the affection.

Case I.—Lupus erythematosus disseminatus disappearing during pregnancy. The patient, whose case has been previously reported,[1] developed two months after the beginning of pregnancy a symmetrical eruption of the dorsal surfaces of both hands and over the forearm not unlike an erythema multiforme. A very superficial but distinct atrophy appeared in the centre of the larger patches (Fig. 2). The margins of the eruption were only slightly infiltrated and no scaling was evident. The patient was again examined when almost at term, when all evidence of the disease had disappeared, except the atrophied spots, surrounded by a pigmented zone. She was seen again after her confinement, and stated that preceding labor she had had a number of convulsions from which she recovered.

We have in this case a suggestion at least that some form of toxæmia was responsible for the symmetrical erythematous eruption, and that the toxic agent was of such a character as to destroy permanently a portion of the connective tissue of the true skin. Although tuberculosis could not with absolute certainty be excluded, it is quite unlikely that it was present in view of the absence of all positive signs of the disease.

Crocker[2] has called attention to a variety of types of lupus erythematosus resembling papular, nodular, and diffuse erythemata, from which they were distinguished by their slow development, persistence, and tendency to spread at the margins. Similar cases have come under our observation in which the diagnosis was for a long time doubtful, and could be made only by excluding other conditions. The disseminate form of the disease not infrequently simulates polymorphous erythema in its evolution and distribution, and is at

[1] Journal of Cutaneous and Genito-urinary Diseases, vol. xiv., 1896, p. 89.

[2] *Ibid.*, vol. x., 1894, p. 1.

times accompanied by vesicular and bullous eruptions, fever, and severe constitutional disturbances which are followed by death. We have in such cases a clinical picture of a severe toxæmia, the nature of which, however, can only be surmised.

Intermittent fever, headache, and other general symptoms may accompany the localized forms of the disease, as shown in the following case:

Case II.—Lupus erythematosus of the face and scalp with general symptoms. The case was one of long duration but attended by acute exacerbations, during which the patient suffered with chills, fever, intense headache, pains in the bones, and from a swollen and painful condition of the face. These attacks have recurred each year for fifteen years, lasting several weeks. The patient, a woman aged seventy years, says her scalp was affected twenty years ago; the left side of the face was next involved; the right side for only a year. The vermilion border of the lower lip is slightly affected. Both forearms are the seat of an itching papular eruption, the skin in this location being much thickened. The scalp patches are markedly atrophied. On the face the atrophy is not so marked, but can be made out. She was seen during a febrile attack and it was noted that the face was much swollen, painful to touch, and the color a more vivid red. After the fever subsided, the pain and swelling of the face almost completely disappeared. The development of new patches was not observed during the acute febrile attack. Nothing in the general condition of the patient was detected which could be invoked to explain the skin affection.

Case III.—Lupus erythematosus secondary to tuberculosis of the skin. This case was presented before the New York Dermatological Society,[1] at which time several opinions were expressed as to the nature of the eruption. She would not consent to have a picture made, nor to the excision of a piece of skin for microscopic purposes. The patient was a woman fifty years old, a widow. She had been married twenty-five years, during which time she had had six children and one miscarriage; five of her children are living and well. Eleven years ago she had a paralytic stroke affecting the right side and followed by a loss of speech which persisted for two weeks. At the present time she has a symmetrical erythema of the cheeks and nose of a purplish-red color, with slight elevated and well-defined edges; on the right cheek there is considerable atrophy of the skin, while on the opposite side there are several retracted scars. On the right side also a subcutaneous nodule can be made out. The left ala nasi is partly destroyed from an old ulceration. There is considerable induration underneath the erythematous lesions, but no scaling or separate nodule suggesting lupus vulgaris. Her right ring finger is swollen from involvement of one of the phalangeal bones.

We were at first inclined to think that the woman had had syphilis, upon which a lupus erythematosus had become engrafted. Large doses of potassium iodide had failed to produce any effect upon the induration or the bone lesion. Lesions on the cheek had existed about eight years. After a thorough trial of the iodides the diagnosis of tuberculous gummata, which had healed leaving retracted scars and the present affection, an unusual type of lupus erythematosus secondary to skin tuberculosis suggested itself. It is difficult to impart to others the impression produced on one by the careful observation of a case of cutaneous disease which does not conform to the usual types. In this patient the long-continued redness and infiltration of the nose and cheeks, with atrophy, and absolutely none of the diagnostic features of lupus vulgaris, would almost force one to the conclusion that the active process was a lupus erythematosus.

At the same meeting of the society[1] Dr. Jackson presented a young man who had previously had numerous patches of lupus erythematosus of the face, which had disappeared after the excision of strumous lymph nodes from the neck. Two years after he was found to have lupus vulgaris. The history of the case seemed to show clearly the intimate connection between the tuberculous lymph nodes in the neck and the eruption on the face, the spontaneous disappearance of which after removal of the tuberculous foci would speak against its having been a primary lupus vulgaris.

Bronson[2] has reported a case of erythematous, scaly and pustular eruption, probably an atypical lupus erythematosus, in a woman with tuberculous lymph nodes in the neck, which disappeared after the nodes were removed. The eruption recurred with each recrudescence of the focus in the neck.

These cases are exceedingly suggestive, if they do not furnish the actual proof that an extra-cutaneous tuberculous focus may be the source of toxins capable of producing lupus erythematosus or closely allied eruptions. In addition to the cases briefly referred to in this paper, we have notes of three others in which the patients were affected with general tuberculosis. A report of one of them with the autopsy findings can be found in the *Journal of Cutaneous and Genito-urinary Diseases*, vol. xvii., 1899, p. 113.

The frequent association of lupus erythematosus and tuberculosis, together with the occasional outbreak of the former disease as a generalized eruption with severe constitutional symptoms, favors the view of those who connect the two processes by means of the toxin of the bacilli. The characteristic atrophy of the connective tissue may be brought about by the necrotizing principle of the germs, which Dr. de Schweinitz has shown to be a crystalline substance that is intensely active in minute quantities.

Should it ever be possible to prove this hypothesis, which has a certain amount of clinical evidence to support it, a satisfactory explanation would be afforded of those rapidly fatal cases of the disease which have been described by Kaposi, Hardaway, Besnier, and others.

The Pathology of Lupus Erythematosus.—By O. H. Holder, M.D. Two years ago, in a paper read before the Harvard Medical Society of the city of New York, and afterward published in the *Journal of Cutaneous and Genito-Urinary Diseases*, May, 1897, an attempt was made to bring the condition of lupus erythematosus into closer relation with the obstructive processes seen in the finer vessels, a point which was not of general observation and which seemed worthy of the most careful consideration. At that time but few sections were at our disposal, but through the efforts of Dr. Fordyce and myself, during the two years, tissue has been obtained which has afforded us sections which number slightly over one thousand. In regard to the treatment of this material, formalin two per cent., absolute alcohol, and saturated solution of bichloride of mercury were used as fixing agents, and the specimens were afterward embedded in paraffin and mounted serially. The paraffin and staining on the slide methods seemed especially applicable to our work, as we wished to retain as far as possible the contents of the vessels, and that the albumen fixative perfectly accomplished its object is demonstrated by the presence of the mononucleated leucocytes in the capillaries. Comparing these sections with the older ones embedded by the celloidin process, we cannot help feeling that this important factor of the disease is often lost, and it may account for the difference of

[1] Journal of Cutaneous and Genito-urinary Diseases, vol. xv., 1897, p. 133.

[1] *Ibid.*, vol. xv., 1897, p. 134.
[2] *Ibid.*, vol. xv., 1897, p. 225.

opinion recently expressed by writers. None of the killing fluids used by us seemed of especial value. After all of them the tissue cuts readily, for the epithelial layer is exceedingly thin and the scar-like atrophy differs entirely from sclerotic tissue.

Fig. 3.—Lupus Erythematosus: Face. Spencer objective ½ inch; Zeiss proj. ocular 2. Approximate magnification × 120. Stain, hæmatoxylon and eosin. From fully developed erythema. Very irregular dilatation of capillary. Granular masses to the left are normal red blood corpuscles. The peninsula in centre is completely surrounded by endothelium which shows the hyaline strip below to be within vessel. The two blood areas above connect over isthmus in next section. Slight development of plasmoma to the right. Finger and toe processes of the epithelium obliterated.

When serial sections were made, hæmatoxylon and eosin or Congo red were used. The special stains used in the investigation of the connective-tissue changes will be taken up in detail later in this paper. All the specimens were from the discrete class of the disease, only one case of the disseminate type appearing at the clinics, this patient refusing to submit to the removal of tissue. The most acute of our specimens was the telangiectatic case reported by Dr. Fordyce in the *Journal of Cutaneous and Genito-Urinary Diseases*, March, 1899.

In order that a comprehensive view of the process might be obtained, tissue was excised with the Keyes circular punch from the three clearly defined clinical areas, the periphery of the lesion, the raised erythema, and the atrophic centre. The microscopical appearances in these areas differ widely, and, in a full description of the disease, it has been the custom to give a separate place to each; but as these differences are only a question of degree, such a scheme gives a wrong impression, and is hereby abandoned to take up the main pathological factors as they vary in going from the periphery toward the centre. These factors making up the histo-pathological complex are few, and may be divided into three groups: (*a*) The round-cell infiltration; (*b*) the peculiar degenerated condition of the connective tissue; (*c*) the secondary atrophy.

(*a*) The round-cell infiltration has for a long time been considered the most important phenomenon of the process, and is, as far as can be seen, the primary departure from the normal. It is best studied in young lesions, although tissue taken from 2 to 4 mm. outside an old erythema answers as well. In both of these positions, in which it is fair to presume that the process is in the earliest stage of development, the infiltration is distinctly perivascular, and is well described by Unna under the name of plasmomatic. These infiltrated areas consist of open capillaries, which are surrounded by very loosely packed leucocytes. The capillaries here are enormously dilated and of irregular outline, but show no sign of endothelial proliferation (Fig. 3). Those affected are confined to the network of the upper and middle corium, and in the early stages there is no tendency to involve the capillaries of the hair follicles or glands. This error has crept into the literature of the subject by the examination of mature lesions.

The round cell consists here of a brightly staining nucleus surrounded by a clear homogeneous body with a very slightly differentiated cell wall. I have been unable to bring out any body reticulum of these cells with acid fuchsin, eosin, or other plasma stains, but attach little importance to the fact beyond inferring that they are well placed as far as their food supply goes. In this connection our observations are also in accord with those of Unna that there is no granular or fatty degeneration. When we move toward the atrophy, the leucocytes become more and more closely packed, making it even more difficult to make out the cell walls. The dilated capillary in their centre becomes compressed and is often difficult to trace. New and deeper areas are involved and now extend to the follicles and glands, and down into the fat bodies where the typical plasmomatic appearance of the earlier affected vessels is beautifully paralleled.

It is not unusual now to see, in those cases which do not have a tendency to sink in, a great mass of leucocytes filling the corium from the level of the sweat coil to the epidermis, or running horizontally for great distances. These larger areas are apparently unconnected with any vessel and are sharply circumscribed. Such a one is shown in the photograph (Fig. 4) and tallies well with one of the recent descriptions of the French. There is, however, no evidence of a tuberculous nature in this process, for this particular photograph was taken from a lupus erythematosus of the cheek in an English coachman, who insisted on the fact that it came four years before from a frost-bite. The erythema was about the size of a silver dollar and showed no tendency at all to atrophy or spread.

Fig. 4.—Lupus Erythematosus: Face (Cheek). Spencer objective 1 inch; Zeiss proj. ocular 4. Approximate magnification × 100. Stain, hæmatoxylon and eosin. Height of erythema. Shows extensive focus of infiltration in a case which had no tendency to atrophy. Small plug in opening of sweat duct. This is the circumscribed area described by the French.

When we get to the atrophy, the leucocytes are again beginning to lessen in number, and here occupy the dilated lymph space last involved, namely, between

the muscle and nerve fibres. Before leaving this subject one point must be mentioned that has the most important bearing on the pathology—that is, our knowledge of the life history of these cells. How much is really known of their origin, how long do they exist, and what is their ultimate fate? Of the first and last of these questions, the answer is pretty clear. We are almost sure that they come from the blood current. Such is the general opinion of dermatologists, and this point may be considered closed, for they can be demonstrated lying free in the capillaries. It is also the opinion that they undergo some form of degeneration and disintegrate, and as they have mostly disappeared in atrophic portions, this point, too, may be considered justly terminated. How long these cells live is an absolutely unknown quantity, for there are no means at our disposal of estimating any such question of time. It may be weeks or months. In our opinion past writers have put the probable time much too short. They give in their works the impression that the cells are rapidly dying and being replaced, and we feel that there is no ground for such an idea. The fatty and granular degeneration is an error of observation when spoken of as characteristic

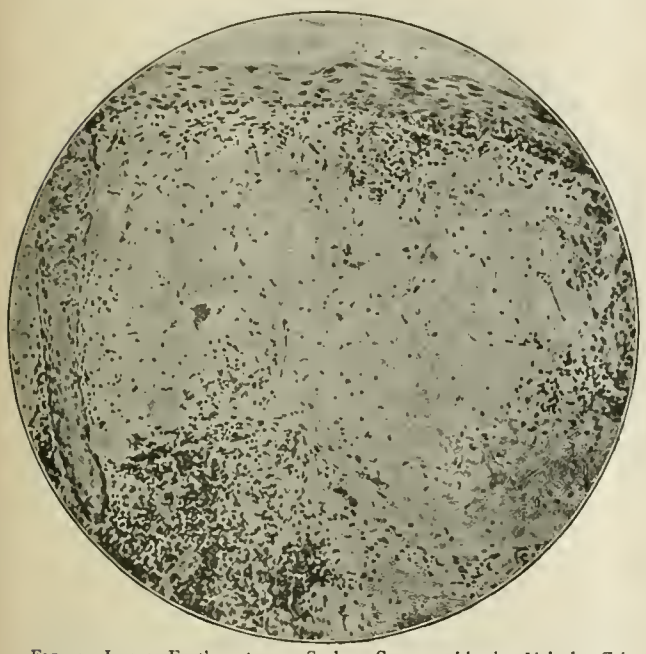

Fig. 5.—Lupus Erythematosus: Scalp. Spencer objective ½ inch; Zeiss proj. ocular 2. Approximate magnification × 140. Stain, hæmatoxylon and erythrosin. From central atrophy. Cloudy appearance of the connective tissue in upper corium. On left irregularly shortened duct of sweat gland. General infiltration about region of coil. Large number of leucocytes within the atrophied Malpighian layer.

of the process, and as to the compressed look of the cells in the older lesions, this is probably due to contraction of the connective tissue, and is of no special significance as regards the vitality of the cells.

(*b*) In passing to the changes in the connective tissue, we come to the consideration of a less recognized, though equally important process of the disease. Indeed, were it necessary to make a diagnosis from sections, it is here that the nearest approach to a pathognomonic sign could be found. In the youngest lesions, this change is slight but always present, and is confined to small areas in the upper corium, which are irregularly surrounded by the typical plasmomatic capillaries. The collagenous tissue in them looks grayish and swollen, suggesting the appearance of a coagulation necrosis, and with the usual dyes does not stain (Fig. 5). As Unna points out, his acid orcein solution gives a sharp, dark-brown color, but his inference that this degeneration contains elastin is not proved. The tinctorial characteristic of this substance is decidedly against Unna's statement, for although it takes up acid orcein (Fig. 6), it does not react to the other recognized stains for elastic fibres. The three mordanted hæmatoxylon methods, namely, Mal-

Fig. 6.—Lupus Erythematosus: Scalp. Spencer objective 1 inch; Zeiss proj. ocular 2. Approximate magnification × 80. Stain, acid orcein and thionin. Area from height of erythema. Shows position of changed connective tissue which reacts to orcein. This is the most characteristic feature of the disease, histologically.

lory's tungstic acid-hæmatoxylon, Herxheimer's iron process, and the iron-alum method of Heidenhain, give beautiful stains here for the elastic fibres, which are well preserved even to the end of the process, but leave this substance absolutely uncolored. Van Gieson's stain gives an opaque yellow. With the plasma stains, eosin, erythrosin, orange G and Congo red, there is a marked color, but the peculiar opacity is still retained and brings it into sharp contrast with the normal collagenous tissue below. When the old lesions are examined to see the ultimate fate of this

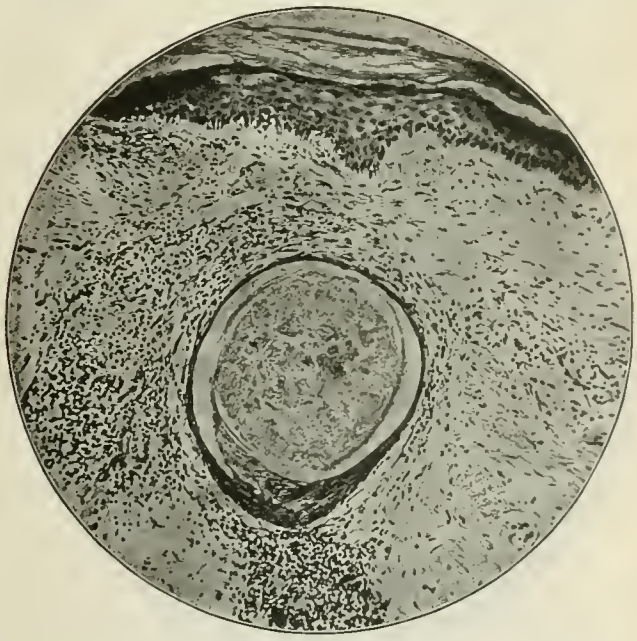

Fig. 7.—Lupus Erythematosus: Scalp. Spencer objective ½ inch; Zeiss proj. ocular 2. Approximate magnification × 120. Stain, hæmatoxylon. Atrophied portion. Cast in upper part of sweat gland. Above the opening was plugged, and below the coil was almost destroyed.

tissue, we see it forced up toward the surface and slowly disappearing. Its height of development seems to be when the height of the erythema is reached, and its formation is in some way connected with the plas-

momata. Of these two important processes, it is impossible to say surely which is the cause of the other, but we are inclined to put the vascular disturbance as

Fig. 8.—Lupus Erythematosus: Scalp. Spencer objective ¼ inch; Zeiss proj. ocular 2. Approximate magnification × 180. Stain, hæmatoxylon. From atrophied portion. Granular obstruction in fine vessel.

the primary one, because a similar change can be found in rosacea. In no other disease have we ever had any success, although it is our custom to stain almost every specimen that we get with this solution. No other stain can compare with acid orcein when it is the object to bring out the elastic fibre, but we have found thionin superior to Unna's polychrome methylene blue for its counter-chromatin stain. It gives a much sharper color, and is recommended for lupus erythematosus.

Besides this cloudy appearance of the collagenous tissue, there are many other changes in the connective tissue, though none belong to the early lesion. In le-

Fig. 9.—Lupus Erythematosus: Scalp. Spencer objective ¼ inch; Zeiss proj. ocular 2. Approximate magnification × 200. Stain, hæmatoxylon. Longitudinal and transverse cut of obstructed vessel.

sions fully developed, a clear homogeneous band runs along below the lowest layer of the epidermis, giving the appearance of a much-thickened basement membrane. Above it, the epidermis is always thin, and through it vessels pass and carry the leucocytes into the prickle layer. A similar metamorphosis seems to be present in the walls of the vessels, and possibly to it may be connected the casts found in the sweat glands and in the dilated capillaries of our telangiectatic case. This substance is not stained by acid orcein, and must not be confused with the change in the collagenous tissue.

(*c*) Included in the secondary atrophy must be grouped not only all the epithelial changes, but many of those of the cells of the connective tissue and its differentiation. While there may be a slight degree of thinning of the prickle layer in early lesions, I should say that, as a rule, all the epithelial constituents are close enough to it to be called normal. It is extremely difficult to be sure in this regard, for the two places where these lesions are most common, *i.e.*, on the cheek and scalp, differ anatomically from each other in a marked degree. The method of excising small pieces is faulty, because it gives us no healthy skin for comparison with the diseased.

The changes in old lesions have been fully described, and were it not that many curious develop-

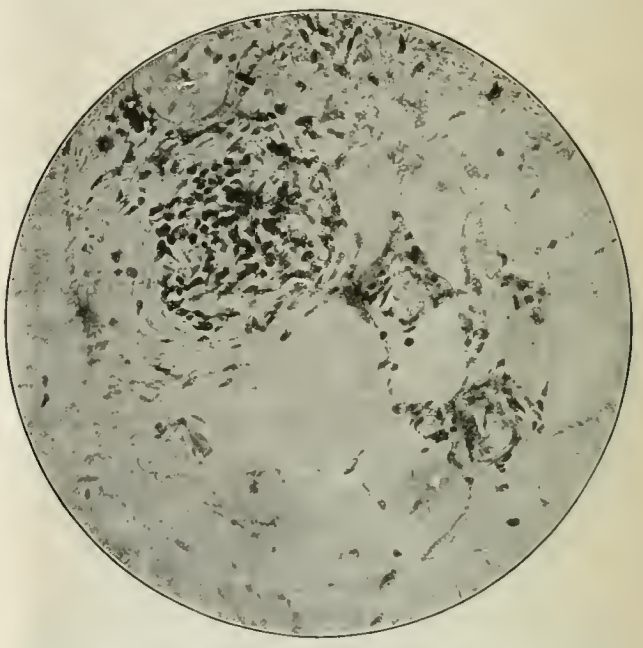

Fig. 10.—Lupus Erythematosus: Cheek. Spencer objective ¼ inch; Zeiss proj. ocular 2. Approximate magnification × 180. Stain, hæmatoxylon and eosin. From long-standing erythema. Organization of old thrombus in vessel from the deep portion of corium. The irregular oblong space toward bottom of vessel is still open.

ments have appeared in our sections, we should have nothing to add. Of these the most interesting are the sweat glands. More or less dilatation of the coil seems to be an extremely common result as soon as the infiltration has reached the adjacent capillaries. It must not be considered a general feature, for while one coil is much dilated, the next may be little or not at all. In those we followed out, there were both a large plug (Fig. 7) in the orifice and a marked lymphangiectasis, with infiltration in the upper part of the duct. As there is no reason to suppose that the normal sweat is under pressure, this transference of the lymph pressure to the fluid in the cavity of the gland may account for the dilatation. The intra-canalicular growth of the duct shown in the photograph was rare, being confined to one case from the face. Both hair follicles and sebaceous glands in these sections present much the appearance generally described, the atrophy in both being always accompanied by the presence of the infiltration among the epithelial cells. The muscle and nerves, as have been said, are attacked only after a long time.

Turning our attention to the condition of the vascular system, we see the most interesting of all the pathological changes. It was stated early in the paper that the obstructions in the vessels had been formerly noted (Figs. 8 and 9), and that our work of the last two years had been carried on with the express purpose of verifying the question of their existence. The literature on this point is extremely scanty and does not do justice to its importance.

An obstructive inflammatory process in the larger vessels is described by Leloir, under the name of endoangiotitis obliterans, but no great stress is laid on it. The existence of this process is denied by Unna, whose descriptions and observations are always most careful. Recently two large meetings of dermatologists have been held in which the discussion of this disease was made a principal feature. In that of the American Dermatological Association, held in Princeton June, 1898, Dr. Robinson, of New York, the reader of the paper on etiology and pathology, absolutely denied that there was any thrombosis, but later Professor Boeck, of Christiania, at the meeting of the section in dermatology of the British Medical Association, held in Edinburgh, Scotland, July, 1898, said he had seen the thrombosis as described. As far as our own observations go, we can say that we have seen markedly obstructed vessels, as described by Leloir, but as these vessels are much atrophied, the identification of an endarteritis is impossible. In most cases the cells, which occupy the old calibre of the vessel, seem to be quite similar to those familiar to pathologists in organization of thrombi from the vessel wall (Fig. 10). Never is there seen anything which resembles the endarteritis of syphilis, and hence Leloir's nomenclature is confusing. Emphasis must be laid on the fact that this involvement of the large vessels belongs to the process only after a long time, for it is never seen at the periphery of the lesion, and cannot throw light on the etiology of the disease.

Of those changes of the early lesion, two are ever present, the mantling infiltration of the capillaries and the dilatation of their calibre. On the strength of this infiltration alone, the disease has been classed as an inflammation of the skin by Kaposi and others. Much better would it be to call it a disease in which the vascular condition of an acute inflammation is reached and persistently maintained. That these two conditions can be other than evidence of an abnormally high pressure is impossible, and it is clear that they must afford the main basis for theoretical speculation on the pathology.

Most important in the first place would be the relation of this condition to general pathology. Nothing, however, has ever been obtained along this line, and a pathology has been devised for the disease more or less based on the peculiar anatomy of the skin. Among those to whom I have shown sections was Prof. E. K. Dunham, who said that the only place which he had seen similar vascular changes was in certain specimens of interstitial nephritis, but that he was not familiar enough with the various inflammations of the skin to give an opinion. It is true that the skin has much in it that has a separate pathology, and there is nothing in it more specialized than the vascular system when we consider it over the flush area, one of the favorite sites of lupus erythematosus. Yet I cannot help feeling that some time light may be thrown on this subject by the comparative study of general pathology. Professor Dunham's observation is particularly valuable in that an increase of pressure is the chief feature of these two processes; and the suggestion is not out of place that both lupus erythematosus and rosacea are worthy of the most careful comparison with the various conditions embraced under the name of interstitial inflammation.

If we admit that an abnormally high pressure exists in these plasmomata, we are able then to work out to a certain degree the cause. By following along the course of the vessels, we are able to tell whether obstructions from within exist. While the short downward extension into the fat bodies gives a clear answer to this question in the affirmative, the extremely small lateral extent of our sections prevent the following out of most of the plasmomata at the periphery. In a few cases I have reached the area of densely packed capillaries and lymphatics, but in following out others would say that this plasmomatic condition never leaves the vessel in going toward the centre of the lesion. This unbroken involvement of the upper corium, and in fact all evidence that the microscope can afford, exclude all ideas of an inflammation from a local septic cause. It is extremely rare to find red blood corpuscles in these dilated capillaries, though they must be free from any tendency to contract and drive them out during fixation. Free leucocytes are extremely common, and help to prove that owing to high pressure and slowed stream the marginal currents are alone deflected into the lesion, and the segregation of the white blood corpuscles is the result.

The choking of the capillaries and lymph spaces, as above described, is the main vascular condition in the erythema, and to it may be attributed the mechanism by which the pressure is maintained in the plasmomata, and the lesions spread. It is hardly correct to speak of it as a capillary thrombosis, for all evidence of clotting, beyond the massing of the leucocytes, is absent. No fibrin, even in the most densely packed areas, can be demonstrated by Weigert's stain, but this has nothing to do with the obstructed action of the position of the cells, and is a sign only of the extreme chronicity of the process.

The etiology of lupus erythematosus throws almost no light on the pathology, two conditions only appearing to hold antecedent relations with the disease. One of these, a local injury of the corium, includes cases which have been reported to have followed frost-bites and tattooing. The other is tuberculosis. In the last two years three cases in the first group have come under our observation, two of frost-bite, and a third rather vague case which followed scarification for rosacea. Of the second group, we have one in which there was no uncertainty of coexisting tuberculosis. This was the telangiectatic case which came to autopsy. Five others complete our list. In these no special examination of the lungs was recorded, but granting them all to be tuberculous, our list shows no such percentage as that of the French school. So uniformly do their records run that it is not out of place to bring up a possible solution of the actions of toxin. If anything is absolutely known about lupus erythematosus, it is that Koch's bacillus is not present in its lesion, and the disease is not true tuberculosis of the skin. Were it possible to establish the chain by which remote foci can act through the blood current, the long record of cases in France becomes of great interest and importance. The link in this chain is commonly ascribed to the stimulation or paralysis of the vasomotor centres, or to the direct action of the soluble poison on the walls of the vessels. Both these ideas are unanswerable, for pathological anatomy can neither indorse nor refute them, and it is not unlikely that they may always remain to explain in a vague way the existence of many of the erythemata and general tuberculides. Lupus erythematosus is too local a process to be attributed to a chemical disturbance of the vessel wall, for all the vessels of the skin must be subjected simultaneously to an identical action, and they show no sign of it. To the early observation of the skin, the vasomotor theory of the physiologists and the allied theories of pathology owe in part their ex-

istence. No one can dispute the care with which these observations have been made, nor the clearness of the experiments and their results. It is only the inferences that are too hasty. The limited space of this paper does not permit a lengthy discussion of these theories, and so in a few words I shall try to point out what seems to be one of the gravest errors in their application to the skin. An important, and perhaps the most important specialization of the skin in warm-blood animals is the control of heat by the dermic blood supply. In giving that control to the differentiated arterial walls, as the modern vasomotor theory does, not only is the seat of action removed from the upper corium, but the main muscles of their skin are completely neglected. In the well-known experiments on the rabbit's ear, dilation follows the cutting of the sympathetic nerve. The question is, Does this nerve go to the vessel walls or to the unstriped musculature of the corium; and is the secondary contraction the result of a return of the arterial tone or a filling of the lymph spaces, and the closing of the walls of the capillary by the equalization of lymph and blood pressure? Not the slightest evidence has ever been brought forward that the normal capillary wall in the skin is not at rest, and the pressure without equal to that within. The known movements of lymph and venous blood are an absolute proof of this statement. This all-important question of the lymph pressure is always lightly touched on in physiologies, because it affords almost no means for experimentation nor data for abstruse mathematical calculations.

Anatomical findings show many muscles running diagonally from the deep corium toward the surface, and as these are attached indirectly to the epithelial layer through the attachments of the connective tissue, either they must have no normal traction or the skin must be pulled down on the lymph space and capillaries. The laws governing the movement of fluid in the body are those which physics has proved in regard to confined fluids and should be so applied, the capillary wall being really submerged whether it is patent or not. We place, then, this lymph pressure under the control of these muscles, though the entire connective tissue is concerned in its maintenance. It is clear that any interference with their contraction must mean the loss of lymph pressure. Following out the possible variations, it is clearly seen that relaxation of either the muscles or the connective tissue would cause dilated lymph spaces and diapedesis, and although there might be a paralysis of the muscle from a toxæmia affecting the vasomotor centre, it is more likely that it is the connective tissue which is concerned and which we have shown to be very early involved in lupus erythematosus. If the swelling of the collagenous tissue means loss of function, it is possible that the infiltration is secondary to it. I admit that our sections by no means exclude this solution, and this unknown chemical change may be the result of toxæmia and hence tuberculosis.

In summing up the results of our work there is little to be said. Everything that is seen in the microscope points conclusively to the fact that lupus erythematosus is a disease in which the blood supply is interfered with. The normal capillary pressure is raised, but the cause is open to further investigation. Of the two phenomena that are characteristic of the early lesion, we are inclined to place the infiltration secondary to a capillary obstruction in the height of the erythema, but we allow at the same time that it may be the effect and not cause of the connective-tissue change. As this still requires further work, we again take the opportunity to recommend to both pathologist and dermatologist the use of Unna's acid orcein in lupus erythematosus.

ENDOCARDIAL MURMURS OF ORGANIC ORIGIN, LOCALIZED IN THE PULMONARY AREA OF THE HEART.[1]

By JOHN WINTERS BRANNAN, M.D.,
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At the last meeting of the society, a patient was presented with full clinical history and well-marked physical signs of cardiac disease, and yet the difficulties in the case were so great that most of the gentlemen present hesitated to venture a diagnosis without further observation and study of the case. I have brought the patient again to-night, in order that the members of the society may have another opportunity for examination.

The case, in brief, is as follows: The patient, Arthur Jasper, a well-nourished young negro aged sixteen years, was born a healthy baby, with no evidence of congenital defect of any kind. He remained well until the age of five years, when he had an attack of acute articular rheumatism involving also the heart. At seven years of age he had another attack, accompanied with cardiac disturbance. Since that time he had had more or less palpitation and dyspnœa, but has been able to pursue his occupation, that of a peddler. The illness from which he has recently recovered began about March 1, 1900, with cough and pain in the side, fever, sore throat, and headache. The ankles and knees became swollen, painful, and tender, and he was unable to walk. The cardiac symptoms mentioned above became more marked and at times he could not breathe in the recumbent position. On March 21st, he was brought to Bellevue Hospital.

On entrance, the patient's temperature was 104° F., the pulse 100, and respiration 28 to the minute. He had frequent cough with slight muco-purulent expectoration and some dyspnœa. The lungs were normal except for sonorous and sibilant râles throughout both sides of the chest. On examination of the heart, the apex-beat was difficult to locate, but could be seen, wave-like in character, with greatest distinctness in the fifth space in the nipple line. The cardiac impulse was stronger over the base than at the apex. Over the whole præcordium there was a systolic thrill with maximum intensity in the second left intercostal space. On percussion, the left border of the heart appeared to be three inches from the median line of the sternum, the upper border at the third rib, and the right border three-quarters of an inch beyond the right edge of the sternum. A long, loud, rough, systolic murmur was heard over the whole cardiac area, with maximum intensity in the second left space close to the sternum. The murmur was also heard over the left side of the chest in front and behind, and was apparently transmitted into the carotid and subclavian arteries. The second aortic sound was very faint, the second pulmonic accentuated. The action of the heart was rapid and irregular. There was no pulsation in the epigastrium nor in the vessels of the neck. The mucous membranes were of a healthy red color, and the sphygmographic tracings were alike in both radial arteries, not varying much from the normal.

The patient rapidly improved with rest in bed and treatment with the salicylates, and at the end of ten days he was up and about the ward doing light work. The physical signs in the chest remained as before, except that the lungs were free from râles and the heart's action had become slow and regular.

When he was presented at our meeting, five weeks ago, there was no cyanosis, no clubbing of the finger ends, no embarrassment of breathing or of the circulation, and nothing to suggest disease of the right side of the heart except the murmur and thrill in the pulmonary area and the cardiac enlargement to the right of the

[1] Read at a meeting of the Practitioners' Society, May 11, 1900.

sternum. The murmur was heard with equal intensity throughout the respiratory act. The thrill was then present, but has now disappeared.

Before I had been able to make even a probable diagnosis of this case, a second patient entered the hospital with physical signs which were almost identical with those in the first patient. The history of the case is as follows: The patient is a young man twenty-three years of age, a stoker by occupation. He has been a hard drinker, but has had no illness except the diseases of childhood. His present illness began about February 1st, with pain and tenderness in the wrists and ankles, and gradually involved the knees, right shoulder, and hips. The pain was accompanied with some swelling of the joints. There has also been at times palpitation of the heart, but no dyspnœa or cough. On April 5th, when the patient entered the hospital, the temperature was 102.2° F., the pulse 100, and the respiration 24 to the minute. Both knees were painful and tender and the left knee was red and swollen. There was also some stiffness of the left hip. The heart presented the following conditions: The apex beat was in the fourth space, distinctly seen and felt in the nipple line four inches from the middle of the sternum. The beat was forcible, not diffuse nor wavelike. The right border on auscultatory percussion was one-quarter inch to the right of the sternum, the upper border was at the third rib, the left border five inches from the median line. In the second left intercostal space close to the sternum was felt a systolic thrill. In this same region was heard a long systolic murmur, not transmitted in any direction. The murmur was somewhat inconstant. The valvular sounds elsewhere were normal. On the 7th of April it is noted in the records that the joints were much improved and that a distinct impulse was to be seen in the second left space. Three days later the thrill was no longer to be felt, and when the patient left the hospital on the 17th of April the murmur was not to be heard. I had hoped to present the patient to-night, but unfortunately he has left the city.

Since our last meeting I have given much thought and study to the subject of systolic murmurs in the pulmonary area, and have made such search of the literature as time would permit. The patient Jasper has also been kept under constant observation. The problem presented by this case may be stated as follows: Does the murmur originate in the pulmonary artery itself either as a result of structural change in the vessel or its valves, or as a result of pressure from without, or is it generated at the aortic or mitral orifice and conveyed thence in some manner to the pulmonary area?

Acquired affections of the pulmonary artery are extremely rare, whereas congenital malformations are not uncommon but are seldom observed except in infancy or early childhood. In the Transactions of the London Pathological Society, from its foundation down to the present year, I have found but two cases of acquired endocarditis of the right side of the heart. In one of the cases there was also a congenital defect of the interventricular septum, but the endocarditis was apparently of recent origin. The mitral, pulmonary, and tricuspid valves were all affected. In the second case the patient was apparently healthy at birth, though there is no note to that effect. The symptoms dated from an attack of scarlet fever in early childhood. The physical signs were indicative of pulmonary obstruction and regurgitation and of tricuspid insufficiency. Death occurred at the age of eighteen years, and on autopsy there was extensive disease of the pulmonary and tricuspid valves. There was no congenital defect, and the left side of the heart was normal with the exception of two or three small warty growths on the mitral valve. There are many cases of congenital malformations reported, and in all, when any clinical notes are given, there is a history of cyanosis or of dyspnœa or of more or less embarrassment of the circulation. A search of the transactions of the New York and Philadelphia Pathological Societies gives similar results. In our case, as we have seen, there was no cyanosis nor any sign of circulatory disturbance until the attack of rheumatism at the age of five years. I think, then, we are fairly justified in excluding congenital disease, and in believing that acquired disease of the pulmonary artery is in the highest degree improbable. Pressure upon its walls may cause systolic murmurs in the pulmonary artery. The pressure may be produced by aneurisms of the aorta, or by enlarged bronchial glands, or by tumors in the mediastinum or in the lungs. In the case of Jasper there are none of the usual local signs of an aneurism, and its existence is rendered improbable by the similarity of the pulse tracings in the two radial arteries. It is of course possible that there may be pressure from a gland or by a growth, but I do not think it likely in this instance. Systolic murmurs heard in the pulmonary area are believed by Quincke and by Broadbent to be sometimes due to incomplete covering of the conus arteriosus by the overlapping left lung, so that a part of the conus or the pulmonary artery itself comes into contact with the chest wall, and during systole is more or less flattened against the chest wall. An eddy is thus formed in the current of blood rushing into the pulmonary artery which gives rise to a murmur. Quincke states that in these cases the pulsation of the pulmonary artery can be seen and felt in the second left interspace. During a full inspiration the murmur disappears, as a cushion of lung is then brought over the conus arteriosus between it and the chest wall. Bramwell, however, thinks it doubtful whether the heart does or can compress the pulmonary artery in the manner which Quincke has supposed, as the "conus arteriosus descends to the plane of the base during the ventricular systole; and the length of the ventricle does not alter during the contraction of the heart." On the other hand, he reports two cases under his observation in which the left lung was retracted and systolic murmurs were heard in the second left interspace. In these cases he concluded that the murmur was exocardial and produced by the contact of the pulmonary artery, or rather the roughened portion of the pericardium which covers the root of the pulmonary artery, with the anterior wall of the chest. In both cases the retraction of the lung was due to pleurisy, and there was reason to suppose that the outer portion of the pericardium was roughened by a deposit of lymph. Bramwell noted the peculiar loudness, roughness, and localized character—not propagated in any direction—of the murmur in his two cases. I have never to my knowledge met with an instance of the murmur with the characteristics described by Quincke and Broadbent. The explanation offered by them can hardly apply to our case, for, as we have seen, the murmur is not at all affected by the act of respiration.

Turning now to the left side of the heart, let us consider the aortic and mitral valves as possible points of origin for the murmur. An aortic obstructive murmur is sometimes heard to the left of the sternum with greater distinctness than to the right, but never, I think, is the difference so great as in this case. Nor is the murmur in our patient really transmitted into the carotid arteries, although it is so stated in the notes of the case. On careful examination I find that the sound is simply conveyed up the left side of the neck through the bones and tissues just as it is carried everywhere throughout the left side of the chest. On the right side of the neck, and especially over the carotid artery, the murmur is heard very faintly if at

all. The pulse also does not show the tracing characteristic of aortic obstructive disease.

Having eliminated all other sources for the murmur, the mitral valve alone remains. Many writers have noted that the murmur of mitral regurgitation is occasionally heard in the pulmonary area, and various explanations have been offered for the fact. Naunyn was among the first to make this observation, and his theory of the causation of the murmur has been accepted by Balfour and other authorities. Naunyn holds that the murmur is conducted to the second left interspace through the dilated appendix of the left auricle. Normally the left auricle is almost completely hidden by the right side of the heart and the root of the pulmonary artery. But in disease of the mitral valve with dilatation of the auricle, the auricular appendix winds around the pulmonary artery and lies in front of it, in contact with the chest wall. In a case of mitral insufficiency, therefore, the reflux current of blood flows into the auricle, and as the appendix communicates freely with the auricular chamber we can readily see how the sound should be conducted to the second intercostal space better than toward the apex. Naunyn's murmur, however, is not heard with maximum intensity at the edge of the sternum, but at a considerable distance from it, about one and one-half or two inches to the left, or at the point which corresponds with the situation of the auricular appendix in these cases. In our case, on the other hand, although the murmur is heard very loudly at this point, the place of maximum intensity is without question close to the left border of the sternum. This situation is just over the mitral valve, and I have finally come to the conclusion that the murmur in this case is due to regurgitation through the mitral orifice and that it is transmitted directly upward from the place of its production. Sansom, in discussing the murmur of mitral regurgitation, states that in rare cases it may be audible only at the second and third left costal cartilages and the neighboring interspaces. He believes that in these exceptional cases it is due to the morbid material about the mitral valve being a good conductor of the vibrations, which become sonorous, to the so-called pulmonary area. In one case under his observation, he found on autopsy that a calcareous thickening about the mitral orifice, involving the cords and curtains in this position, was so extensive as to encroach upon the conus directly below the aortic valves, distinctly narrowing the lumen of the aortic orifice in this situation, and he thought that this might very probably be the cause of the systolic murmur heard in the position mentioned. Balfour, also, lays stress upon "the natural tendency of murmurs to be propagated to the surface through the organ in which they are produced (in this case by the impingement of regurgitant fluid waves upon the tense wall of the left auricle), provided the conditions are suitable." In another place he asserts that the slightest dilatation of the right ventricle pushes the left apex backward into the thoracic cavity and away from the chest wall. In our case the right ventricle is not dilated at present, whatever it may have been when the patient was in the hospital. It is, however, a fact that the apex beat has never been felt very strongly in the fifth space. At the time of my last examination, one week ago, I made the following notes: "Systolic impulse strong over the fourth left costal cartilage and in spaces above and below, more marked than over apex. Murmur heard with greatest distinctness in second left space close to sternum and carried loudly directly to left for an inch or two, also diagonally upward to the left with steadily diminishing intensity, but nevertheless more distinct under the clavicle than at apex. No second sound to be distinguished at the base over either aortic or pulmonic orifice, but well marked at apex." It would seem, then, that we have here the conditions necessary for the transmission of the murmur from the mitral valve directly to the surface above, the base of the heart being apparently in close apposition to the chest wall. The murmur is also conveyed strongly to the left by the reflux blood current through the auricle into the left auricular appendix, in the manner described by Naunyn. But the essential feature of the case, if I comprehend it rightly, is the conduction of a mitral regurgitant murmur directly to the chest wall above, to the so-called pulmonary area.

I have not discussed the mechanism of the functional murmurs heard in the pulmonic area nor the diastolic murmurs of organic origin localized in this region, as they did not seem pertinent to the subject under consideration and would have added unnecessarily to the length of the paper.

CONVULSIONS.[1]

By CLARENCE KING, M.D.,

MACHIAS, N. Y.

So accustomed are we to hearing certain symptoms spoken of as the names of disease, that it is difficult for us to realize, or for the public to comprehend, that we have not made a diagnosis when we assign one of these as a cause of sickness. We recognize as a disease a condition attended by definite pathological changes of a nearly uniform nature and accompanied during life by a certain line of symptoms. Hence every disease is made up of several symptoms; and, likewise, each one of these symptoms may belong to several diseases. So it is well for us, occasionally, to study these general symptoms, and to-day I shall consider convulsions and point out some of the diseases which they may accompany.

A convulsion may be defined as a sudden explosion of nerve force which is manifested by involuntary tonic or clonic contractions of the general muscular system or a large part thereof, usually with loss of consciousness and insensibility, and tending to irregular recurrences. Convulsions are very common, and every one who has seen much sickness or mingled much with the world has seen them in some form. Practically all convulsions partake of the same general characteristics, the only difference being in degree. Thus, general eclampsia or a fully developed case of grand mal may be taken as the type of the more violent forms, while localized convulsions or Jacksonian epilepsy represent the milder forms. Spasms, which involve a single muscle or a very small group of muscles, like wry-neck, athetosis, or writer's cramp, are of the same general order, yet should not be classed as convulsions on account of their strictly localized and very mild nature, and unimportance as regards life or future health. Likewise chorea, paralysis agitans, and the tremor which is common to advanced age do not come within the scope of our definition because of their continuous and protracted character, and the want of that sudden "motor discharge" which forms one of the leading features of a convulsion.

Clinically, we may divide convulsions into two classes—those which occur in adult life and those which occur in infancy and childhood. In adults convulsions are most often produced by epilepsy, hysteria, or poisoning by some substance introduced from without or developed within the body. Many organic diseases of the brain, as tumor, hemorrhage, inflammation of the substance of the brain or its coverings, and traumatic injuries, especially those which produce

[1] Read before the Thomas J. King Medical Club, November 23, 1899.

irritation or pressure on the motor centres, are frequent causes. Cerebral syphilis, tetanus, the flushing out of a pleuritic cavity, and sudden disturbances of the circulation, as sometimes happens in syncope or in fatty degeneration of the heart, are also well-recognized causes. Reflex irritation from other organs, as the uterus, the nose, or the eyes, has been considered by many a potent factor in producing convulsions in some persons; but its influence in adults is denied by others. Malingering is an occasional cause among prisoners accused of crime or rogues seeking to profit by the excitement which a fit in a public place produces. And, lastly, it occasionally happens in the course of an acute rheumatic or malarial attack or certain other diseases, but here, as in tetanus, it is a question if it is not due to the same poison which is responsible for the primary illness, and hence should not be mentioned as a separate cause but included in the class due to poisoning.

Case I.—Looking back at least twenty-five years I well remember the first case of general convulsions I ever saw. It was the case of a man aged about twenty-five years, who was a patient at the county almshouse, and who had strayed away to a picnic in a neighboring grove. I heard his initial scream, and with the crowd hurried to the place where he lay. He was then in tonic spasms, his face turned to one side, his mouth and eyes drawn to the same side, his arms and legs extended. The muscles of his whole body were rigid so that respiration was nearly suspended, and as a consequence his face was cyanosed. Soon he slowly turned his face to the opposite side and clonic twitchings of the muscles of his face and eyelids began, which extended to the limbs and body. His respiration was irregular and froth came from his mouth, but it was not bloody. After a little the twitching of the muscles gradually subsided, and in about ten minutes he sat up and looked around in a dazed and bewildered manner. Soon after he got up and slowly made his way to the cottage some half-mile distant.

Here, then, was a typical case of epilepsy. How long it had lasted or what was its cause were alike unknown to me. It might have been idiopathic; that is, it might have occurred without assignable cause, and it is to this class of cases I would restrict the word epilepsy; or it might have been due to one of the other causes I have enumerated. Idiopathic epilepsy is perhaps most commonly due to heredity or the neurotic temperament, in which one form of nervous disease appears in one member of a family while other forms attack other members of the family. Sex and age are also important factors, the greater proportion of cases occurring in females under thirty years of age. So important is age as a predisposing factor that we can lay it down as a general rule to which there are few if any exceptions that "an epilepsy developing after the age of thirty-five is not idiopathic but is due to organic brain disease, the abuse of alcohol, reflex irritation, or other cause," which may be so obscure that we cannot discover it. Climate, season, race, and occupation may also have determining influences as tending to enfeeble the general stability of the nervous centres. But these are practically all the causes of idiopathic epilepsy, as now recognized, and undoubtedly true idiopathic epilepsy is rarer than generally believed. Every case of convulsions should be thoroughly investigated before being pronounced epilepsy of idiopathic origin, as such a diagnosis amounts to practically the same as an admission of ignorance.

Case II.—F. B——, aged about thirty years, suffered a fracture of the skull in the temporal region when only two or three years old. He was attended by a competent surgeon who removed several pieces of bone, and the wound healed nicely. Some years afterward he began having convulsions, which became so frequent that he would sometimes have six or eight a day for a week or more at a time. These convulsions differed in no way from those described in the first patient, and as a result of them he lost his mind entirely and also became partially deaf. Dr. Hammond, of New York, was consulted, but refused to make any operative interference on the ground that all was done for him at the time of the injury which it was possible to do, and that the point of irritation was probably inaccessible to the knife. The man remained in this way until his death some four or five years ago.

The convulsions in this case were evidently due to the injury, but whether the irritation was caused by a spiculum of bone which was overlooked at the time of the operation, or by inflammatory thickening of the dura, I was unable to ascertain, as an autopsy was denied me. I am, however, inclined to the latter view on account of the time which followed the injury before the convulsions began.

Injuries to the head causing concussion or contusion of the brain often give rise to convulsions, as in the following case:

Case III.—J. M——, aged thirty-two years, weight one hundred and ninety pounds, fell a distance of about twenty feet and struck on his head and shoulder. When I reached him he was sitting up supported by his companion, but did not know any one and could not speak. He had been unconscious for a short time, but would then look up when spoken to sharply. He was taken to his home and put to bed, and soon after had a convulsion which was followed that night and the next day by several others. He vomited several times, the first being clear blood, and had a sanious discharge from his right ear. Within a few days his right eyelid became badly ecchymosed. I do not recollect that there was any paralysis, but it was fully three weeks before he regained his consciousness sufficiently to be able to tell what was passing around him.

The next cause of convulsions which I shall consider is poisoning, and the list of toxic agents which may produce convulsions is quite large. Thus, we all know convulsions may be caused by alcohol, by lead, by strychnine, by arsenic, by mercury, and by urea. But there are many other poisonous substances which may cause convulsions which are not so well known but which we are liable to meet with at any time. Among these I may mention tobacco, aconite, veratrum viride, oxalic acid, and tartar emetic, as perhaps the most important. I have already mentioned malaria and rheumatism as sometimes causing convulsions, but it has also been demonstrated that the poison of other diseases, as pneumonia, typhoid fever, erysipelas, scarlet fever, and other grave diseases, especially if accompanied by excessive vital depression, high temperature, or marked toxæmia, may also produce them. As an instance of convulsions caused by poisoning by an unusual drug I will relate the following:

Case IV.—Mrs. A. B——, mother of two children, the younger two or three years old, kept an almanac at hand for ready consultation, and her peace of mind was regulated by it. She discovered one day that she had passed the time for her menses by at least three days, and after worrying all day took a drachm of oil of tansy at bed-time. Within half an hour she began having severe convulsions which were continued for at least an hour, during which time she must have had a dozen or fifteen. Most of these were severe and accompanied by frothing at the mouth. She finally recovered, but menstruation was not established until a week or ten days afterward.

The diagnosis of toxic convulsions must be made from the history of the case and those special features which are generally present, but often the character of the attack itself will greatly aid us. Thus, in uræmia

the convulsions are generally preceded by headache, by vomiting, and by œdema of the face and eyelids; there is seldom an initial scream; defecation and micturition do not occur, and tonic spasms are generally if not always absent. In addition to these an examination will show evidences of kidney disease, and the convulsions, if left to themselves, are apt to be repeated several times within an hour. Coma or unconsciousness supervenes after the first convulsion and defies all efforts to arouse the patient. In tetanus the spasms are developed gradually and first appear in the muscles of the lower jaw, are always tonic, and may last for many hours; consciousness is preserved, although obviously talking is impossible. Convulsions due to alcoholism are usually preceded by headache, vomiting, and excessive tremor, and are followed by mental derangement, often with hallucinations, especially of terror. The convulsions of strychnine poisoning take the form of opisthotonos and are excited by any noise or jar of the bed: clonic spasms of the neck and extremities are also present.

Hysterical convulsions form an important class and are frequently met with. Generally they occur in women of the child-bearing age, but are not confined exclusively to this period of life or even to this sex. Neurotic and emotional people are more prone to such attacks than others, and often some sudden mental impression, as joy, grief, or fear, can be given as the cause. The following case is typical, although more severe than many:

Case V.—G. L——, male, aged about twenty-eight years. I was called to see this patient as a consultant and arrived a short time before the attending physician. As the patient was then having convulsions I was hurried to his room, notwithstanding my expressed desire to await my colleague. I found the man on a bed with two men and half a dozen women and girls around him to hold him from throwing himself to the floor. His hands were firmly clinched and he was trying to free his arms from his attendants. As I entered he turned and looked at me and was quiet for a moment, but soon after arched his back in opisthotonos and while in that position threw himself violently to one side. Respiration was irregular and his face flushed from the exertion of his efforts, but not cyanosed. After the convulsion he appeared exhausted and relaxed all his muscles. His breathing was then rapid and shallow. They told me that before I arrived he had spoken and asked to be fanned; so they fanned him in the intervals between the convulsions, and he turned his face toward the person with the fan. Soon the rigidity of the arms returned and in about eight or ten minutes he had another convulsion. I watched him through one of these, and left the room without speaking. My diagnosis was made, but I refused to disclose it, and only told the anxious friends he would recover. When the doctor came I met him at the gate. He had seen the case before and thought it suggested strychnine poisoning; and later, upon learning that they had had a party at the house the night before at which the patient had eaten of ice-cream, advanced the idea of ptomain poisoning from the cream. I adhered to my original diagnosis, but said little to the family, only that it was my opinion he would get well, which of course he did in two or three days. Afterward I learned that he has since had similar attacks, and that in every case they followed excitement or disappointment, or other mental emotions.

Syncope occasionally produces partial or general convulsions which are known as cardiac epilepsy. The most prominent features, aside from the clonic spasms, are an intense coldness and pallor of the surface, which afterward becomes flushed, and a greatly diminished pulse rate. This never occurs unless there is fatty degeneration or other disease of the heart or blood-vessels which interferes with the proper nutrition of the brain; and hence happens most often in aged people.

Epilepsy and insanity are the diseases of all others which are simulated with the object of escaping punishment for crime or gaining sympathy. Ordinarily, the deception can be easily recognized, as the malingerer is apt to overdo the convulsive feature, while he omits or cannot simulate certain other symptoms which should accompany the convulsion. He seldom bites the tongue or falls so as to hurt himself. The corneal reflexes react normally, the pupils respond to light, the color of the face is rarely changed, and the prick of a sharp instrument produces evident pain. Yet the malingerer, by study and determination, may so school himself as to imitate nearly all the symptoms of epilepsy with some degree of perfection. Thus the celebrated case of Clegg, the prince of malingerers, may be mentioned. Clegg was known in street parlance as a "dummy-chucker," and his business was to travel the streets and have fits wherever he could get a crowd without danger of arrest, and then collect what alms was offered him and hurry away, while an accomplice picked pockets among the spectators. He was often arrested on various charges, but so well could he simulate epilepsy that he deceived many prison officials and physicians, and repeatedly escaped punishment and prison duty because of his supposed affliction. By practice he was able to imitate the clonic and tonic spasms perfectly, could control the action of the eye so as not to flinch when the cornea was touched with the finger, nor show any feeling when pins were thrust into his flesh. In an attack he fell heavily, often injuring himself, bit his tongue or injured his gums so that blood would be mixed with the froth which came from his mouth, and held his breath so as to produce a livid countenance. The fraud in his case was exposed by the facts that the nails were not livid, the rigidity of the muscles could be easily overcome, the sphincters were not relaxed, the fingers were not closed over the thumb, and there were no ecchymoses or extravasation to indicate recent injury.

In infants and children convulsions partake mostly of the same general features as in idiopathic epilepsy of adults, but the causes are not the same. In infants the nervous system is more highly developed in proportion to the other organs of the body than in adults, and hence they are more susceptible to disturbing impressions of these centres. Consequently, reflex irritations hold a higher place in the etiology of convulsions in them than they do in older people; and hysteria and intentional deceit cannot, of course, be considered.

Convulsions which occur during the first few weeks of life are generally caused by injuries received at birth. Obviously injuries to the brain are more apt to be received in instrumental deliveries, in breech presentations, and in cases of difficult labor in which the head has been subjected to compression for a long time. Just what these injuries are, or in what part of the brain they are located, it would be difficult to determine, but they are probably minute extravasations in various parts of the encephalon. We know that the infantile brain is poorly protected from pressure and that consequently it must be more tolerant than in the adult; otherwise it would be difficult to see how any child escapes death at birth.

The most frequent cause of infantile convulsions in reflex irritation from some disturbance of the gastro-intestinal tract. Thus, difficult dentition, indigestible food, intestinal parasites, a foreign body, or a loaded rectum may result in reflex action and produce them. We all know how common they are as a complication in the summer diarrhœas of young children, and that they generally cease when the bowel is flushed

its whole length. Other causes of irritation which may produce them are severe injuries or burns, phimosis, retention of urine, foreign bodies in the ear or nose, and in older children, according to Stevens, insufficiency of the ocular muscles.

The acute infectious diseases, as scarlet fever, measles, influenza, mumps, and typhoid, may be ushered in by convulsions, and it is asserted by some that high fever, whatever its cause, is sufficient to produce convulsions in children predisposed to them. The various toxic agents which produce convulsions in adults may also cause them in children. Rickets is a common cause among city infants but rare in the country, where rickets is seldom met with; and organic diseases of the brain, as tumor or meningitis, either tuberculous or not, may cause them. Acute cerebral and spinal palsy are occasional causes, and enlargement of the thymus gland is mentioned by Holt as a cause. And there are undoubtedly some cases which occur without assignable cause, unless we call them idiopathic epilepsy, but such cases are very uncommon. Other rare causes are also mentioned by authors, but we can disregard them as of little practical importance clinically, and their treatment differs in no way from those here mentioned.

The first indication to be met in a case of infantile convulsions, whatever their cause, is to relieve the muscular spasms and afterward to prevent their recurrence. To do this the child should be placed on a hard bed and left undisturbed as much as possible. Chloroform should be administered by inhalation and chloral by rectal injection. Cold should be applied to the head and heat to the body. It is hardly advisable to place the child in a hot bath on account of the disturbance it produces, but it is well to substitute a mustard pack for it. As soon as the immediate indications are met we should try to ascertain the cause of the convulsion, and if possible remove it. If due to intestinal irritation calomel should be given and an injection administered to empty the colon. Difficult dentition calls for lancing of the gums; high fever should be reduced by the cold bath or pack, and rickets treated with the usual remedies. In uræmic convulsions from kidney disease free sweating should be induced by the hot pack or vapor bath, and pilocarpine given combined with alcoholic stimulants to counteract its depressing effects. Saline cathartics should be given and hot poultices applied over the kidneys. As nephritis in children is almost always acute, stimulating diuretics should be avoided as tending to increase the congestion and inflammation of the kidneys; but in older children the free drinking of plain or feebly alkaline water should be encouraged to flush out the system without causing irritation to the diseased organs. Complications, such as pneumonia, pleurisy, endocarditis, and dropsy of serous cavities, should be watched for and treated, but most cases of uræmia in children result fatally.

In adults it is hardly proper to institute treatment before making a diagnosis as to the cause of the convulsions or at least deciding that they are not due to hysteria or fraud. Of course no particular harm would come from giving chloroform in these cases, but it is unnecessary, as they tend to spontaneous recovery and are not attended with danger to life. Uræmic convulsions and those due to strychnine or other drugs should have chloroform, and efforts should be made to eliminate the poison. Stimulating diuretics may be employed, as the Bright's disease of adults is usually chronic in nature from the outset, and hence there is little danger of increasing the inflammation of the kidneys. Atropine may be given hypodermically as a spinal depressant in strychnine poisoning and those other cases due to irritation of the spinal centres. Hysteria calls for nervines and offers a promising field for the use of hypnotism or suggestion. Idiopathic epilepsy rarely requires treatment during the stage of convulsions, but should have large doses of bromide of potassium, or better the combined bromides of sodium, potassium, and strontium, in the intervals, with arsenic added to prevent cutaneous symptoms, as they must be continued for a long time. Cardiac epilepsy calls for stimulants and the lowering of the head, and syphilitic convulsions require iodide of potassium.

Convulsions which can be traced to tumor or former injury of the head should usually be treated by operation. Trephining of the skull and the removal of thickened dura, spicula of bone, blood clots, or foreign growths have added lustre to modern surgery and cured many otherwise hopeless cases of convulsions. And in all cases of head injuries, even if apparently trivial, we should remember the great danger of convulsions as a late sequela.

Abortive Pneumonitis.—G. Pieraccini gives this name to the variety of pneumonia which lasts less than four days, its symptoms being otherwise the same as those of the usual fibrinous pneumonia. He reports a case. Jaccoud believes that these cases are not rare. The trouble may easily be overlooked because of its rapid course, and because it is often circumscribed. Leube saw two cases that lasted only one day. In the author's case, the finding of capsulated lanceolate diplococci in the sputum and in the blood, the injection of which in a guinea-pig caused its death from septicæmia, settled the diagnosis.—*Lo Sperimentale*, No. 2, 1900.

On Some Diagnostic Difficulties Associated with Dilatation of the Right Ventricle.—J. Stacey Wilson draws attention to the following signs of diagnostic value: (*a*) The character of the murmur: it is apt to be softer and more blowing in tricuspid regurgitation. (*b*) The nature of the vessel up which the murmur is conducted. The character of the pulsation is often a useful guide, being weaker and more fluttering in the veins, stronger and more even in the arteries. Also the pulsating parts of the vessel can often be felt to come to an end suddenly in the case of a vein. (*c*) The relative loudness of the murmur in the neck as compared with its loudness in the second right interspace may prove of service for diagnosis. In the case of the aorta, the loudness in the neck is always equal or nearly equal to its loudness over the second rib or interspace. In the case of murmur of tricuspid origin, if there is free regurgitation up the veins, the murmur may be as well conducted as the aortic, but as a rule it is not, and the conduction is not loud. (*d*) Another important sign is the relationship between the loudness of the first sound, and the murmur as heard in the arteries of the neck. If the first sound of the heart can be heard over the arteries of the neck, while the murmur is heard faintly or not at all, it is strong evidence against the murmur being of aortic origin.—*The Birmingham Medical Review*, June, 1900.

The Formation of a Circumscribed Intra-Dural Abscess at the Site of the Saccus Endolymphaticus.—Jobson Horne says that when pus is pent up in the labyrinth, it follows the line of least resistance in endeavoring to escape into the cranial cavity. One route is along the aqueductus vestibuli to a fissure on the posterior aspect of the petrous bone. Through this fissure the prolongation of the membranous labyrinth originally passes. This process, known as the saccus endolymphaticus, may remain in adult life sufficiently patent to allow the passage of pus. Horne

describes two cases of circumscribed abscesses at this point. Such abscesses he regards as within the reach of surgery, and this gives a practical bearing to the recognition of their possible occurrence in cases with symptoms pointing to intra-labyrinthine suppuration. As a point of interest, Horne states his belief that the pus is not contained within the saccus itself, but between the two layers of dura mater which originally contained the sac.—*Journal of Laryngology*, June, 1900.

Carbonic Acid Gas in Nasal Affection.—Joal highly indorses this agent and figures a special apparatus which renders its application easy. The most beneficial results have been attained in hyperæsthetic rhinitis. The ordinary carbonic siphon offers an easy means of applying the gas.—*Revue Hebdomadaire de Laryngologie, etc.*, May 12, 1900.

Persistent Adenoids in a Woman Aged Forty-Seven Years.—E. F. Potter reports the case, the symptoms in which were impaired hearing and difficulty of breathing through the nose. Examination showed the post-nasal space to be occupied by a considerable mass which obscured the upper half of the septum and extended across the vault from tube to tube. The growths were removed with forceps under an anæsthetic, and proved to be adenoid tissue which had undergone inflammatory changes. Nothing of a sarcomatous nature appeared under the microscope. The patient's hearing improved greatly within two weeks after the operation.—*Journal of Laryngology*, June, 1900.

Cystic Degeneration of Both Kidneys. — Fin Holmsen reports a case of this sort observed in an infant delivered at term by craniotomy. Both kidneys were found enlarged and filled with numerous small cysts separated by thick layers of connective tissue. No normal renal tissue could be found by either macroscopical or microscopical examination. Most of the glomeruli were in a state of arrested development. The connective tissue was most abundant near the hilum around the calices, which were partially obliterated. The mucous membrane of the calices and of the renal pelvis was atrophied. The ureters were contracted, but were not obliterated.—*Norsk Magazin for Lægevidenskaben*, April, 1900.

The Thyroid Gland in Infective Diseases.—Odoacre Torri, from the result of experimentation, concludes that there is hypersecretion of colloid substances in the gland, in acute or chronic infective diseases, as well as marked epithelial proliferation and an abundant neoformation of glandular tissue. Interstitial inflammatory processes, such as abscesses and tubercles, are rarely met with in the gland. The colloid substance has the property of destroying micro-organisms. The epithelial proliferation and the hypersecretion of colloid substances are due to a toxic product of the infective process, perhaps caused by destruction of the micro-organisms by colloid substance, or brought to the gland by the circulating blood.—*Il Policlinico*, May 15, 1900.

The Koplik Sign in Measles.—K. Manasse states that in three cases in which he could determine the presence of the peculiar eruption described by Koplik, measles followed in the course of twenty-four hours; in one case in which it was present, no exanthem followed, while two cases of undoubted measles did not present the sign at all. The sign in the latter cases was as typical in appearance as in the first group. Manasse is therefore of the opinion that, while the Koplik spots are frequently valuable as a forerunner of measles, they cannot always be depended upon nor are they pathognomonic.—*Münchener medicinische Wochenschrift*, June 5, 1900.

A Case of Cured Tuberculous Cerebro-Spinal Meningitis.—M. Henkel reports the case of a child aged ten years (male), who presented the symptoms of this affection. Some of the spinal fluid was withdrawn by puncture and gave positive evidence of the presence of tubercle bacilli. The case ran a long course, but finally recovery took place. The only remedy given internally was calomel. In addition, daily baths at 28° R. were given for ten minutes, the water cooling to 24° R.—*Münchener medicinische Wochenschrift*, June 5, 1900.

An Overlooked Cause of Pulmonary Lesion Suggesting at the Outset Tuberculosis.—P. de Champeaux records the case of man who came under observation with all the symptoms of initial pulmonary tuberculosis. After he had been watched for some time, the presence of a small laryngeal polyp was made out. Removal was somewhat difficult, but after the tumor was finally disposed of all the pulmonary symptoms abated and the patient made a good recovery.—*Revue Hebdomadaire de Laryngologie, etc.*, No. 14, 1900.

The Surgical Treatment of Primary Renal Tuberculosis, with a Consideration of the Results Obtained by Operation.—Otto G. Ramsay has collected the majority of the reported cases of operation and tabulated them. The following conclusions seem justified from the study, both of the individual cases and from the statistics which were gathered: (1) That in renal tuberculosis some form of surgical treatment is always indicated; (2) that this surgical treatment may have a palliative or curative effect in view, depending upon the condition of the patient and the extent of the disease; (3) that nephrotomy as a palliative operation for the immediate relief of dangerous symptoms is most valuable, and that it does not preclude a later nephrectomy; (4) that resection of the diseased part of the kidney is contraindicated in every case of renal tuberculosis; (5) that nephrectomy or nephroureterectomy is indicated in every case in which tuberculosis has not developed in other organs, or when there is no fatal disease of other organs; (6) that tuberculosis of the bladder or a small focus of tuberculosis in one lung are not considered contraindications to nephrectomy; (7) that primary nephrectomy or nephroureterectomy, when performed in suitable cases, has been followed by final cure in fifty-six per cent. of the cases operated on; (8) that with the present advances in the methods of examination and in the technique of operations, the percentage of final cures should be materially increased.—*Annals of Gynæcology and Pediatry*, June, 1900.

Pelvic Pain from Impacted Ureteral Calculi.—Septimus Sunderland believes that many cases of persistent pelvic pain are caused by a stone in one or the other ureter, although the pain is assigned to uterine or ovarian trouble or perhaps to some neurosis or hysteria. If the pain is on the right side, the appendix may be suspected. Diagnosis may be made by *x*-ray, palpation of abdominal parietes, palpation of the ureters, and the inspection of the orifices of the ureters through the cystoscope. Finally the ureters may be sounded through the bladder. The medical treatment is the same as for renal stone. As to surgical measures, if the stone projects into the bladder from the orifice of the ureter it must be removed through the bladder. Fenwick teaches that a stone lodged in the lower part of the ureter within the last two inches will sometimes set up symptoms precisely like those of stone in the bladder, that is to say, bladder irritation and spasm. If the stone can be detected by bimanual vaginal examination in the lower three inches of the ureter, but does not project into the bladder, it can be

safely extracted by incising the roof of the vagina in the female. If the stone is located at or about the pelvic brim, Fenwick recommends the abdominal incision used for ligature of the common iliac artery. The peritoneum having been raised, the lower end of the ureter is reached extra-peritoneally. For stone in the upper third of the ureter, the ordinary lumbar renal incision is indicated.—*Medical Press and Circular*, May 30, 1900.

Concealed Tuberculosis of the Tonsils.—F. Baup has repeated the experiments so frequently made by various observers during the last few years, finding tuberculosis present only once in forty-eight cases. He believes that we may distinguish three forms of this condition—a common form described by most authors, characterized in a general way by isolated or grouped tubercles more or less caseous and surrounded by a zone of lymphoid tissue which is but little changed; an indefinite infiltration but one showing without question the presence of the bacillus; and possibly a sclerotic form which represents a step toward repair. Baup discusses also the relation of this form of tuberculosis to adenopathy, to pulmonary tuberculosis, and to tuberculous meningitis.—*Annales des Maladies de l'Oreille, du Larynx, etc.*, May, 1900.

Splenic Hypermegaly with Hepatic Cirrhosis.—Professor Cardarelli reports the case of a man aged thirty-three years, suffering from anæmia and weakness. The abdomen was ascitic and tense, without œdema of the lower limbs. The spleen was notably enlarged, the liver markedly reduced. The urine was scanty, saffron colored, rich in uro-erythrin. The author holds that the affection should come under the head of hepatitis of splenic origin. He also believes that in cases of chronic and incurable splenic tumors, when the spleen not only does not perform its functions properly but threatens infection to other organs, we should not hesitate to perform splenectomy.—*Revista Critica di Clinica Medica*, May 5, 1900.

Hay Fever; its Preventive Treatment.—W. C. Hollopeter is a firm believer in the local origin of this disease. He removes polyps, hypertrophied turbinates, etc., straightens deviated septa, and thoroughly irrigates the nose and naso-pharynx with a warm Dobell solution. The whole mucosa is then brushed with cotton carrying a saturated solution of boric acid. Suprarenal extract may be added to a boric-acid solution and the whole used in spray. Immediately after the foregoing, an oily covering is applied. The one preferred by the author has for its base liquid petroleum, and contains in solution camphor, menthol, and palmetto oil. Finally, after the treatment is finished, the patient is made to wait quietly a few minutes before going out into the air.—*International Medical Magazine*, June, 1900.

Primary Epithelioma of the Tonsil.—The patient of J. M. Ingersoll was an Irishman aged forty-two years, whose right tonsil began to enlarge slowly without apparent cause. Twice the enlargement was amputated with a tonsillotome before Dr. Ingersoll saw the case, which was thirteen weeks after the swelling first became apparent. Pain had now become very severe. The tonsil was covered by a fairly firm, irregular, fungoid mass, projecting out about 2 cm. beyond the anterior pillar. The whole surface presented an uneven, cauliflower-like appearance and was covered by a muco-purulent secretion. The mass extended upward on to the soft palate, involving both the anterior and posterior pillars; it also followed the anterior pillar downward and extended on to the tongue; posteriorly the growth extended along the posterior pillar downward to its attachment to the pharyngeal wall, but the wall itself was not involved. The surrounding tissue was inflamed and infiltrated. The lymphatic glands at the angle of the jaw, on the right side, were involved. Operation was refused, and death followed in a short time.—*The Laryngoscope*, June, 1900.

When to Operate in Appendicitis, and Why.—John B. Murphy believes with most surgeons that we are unable to state in the first twenty-four hours what the course of a case is going to be. He believes that every honest man admits that the mortality of appendicitis is greater than ten per cent. He believes that every competent surgeon thinks that he can operate on a case of appendicitis, when the disease is still confined to the wall of the appendix, with a mortality of two per cent. or less. Therefore he concludes that we are not justified in holding a single case of appendicitis beyond the first twenty-four hours after the diagnosis is made, and that in an enormous percentage of cases the diagnosis can be made as absolutely in the first twenty-four hours as it can at any other time.—*International Journal of Surgery*, June, 1900.

Surgical Treatment of Chronic Empyema.—Francis Reder says that an empyema should never be allowed to become old if it can be avoided; after an expiration of six weeks an accumulation of pus in the pleural cavity may be looked upon as chronic. The pathological conditions of chronic empyemata require heroic measures on the part of the surgeon to stay their progress. Even weak patients bear well an extensive resection of the ribs when skilfully and dexterously performed. The author describes in detail the operation for a total empyema. The convalescence is slow and protracted. It is during this period that great good can be accomplished by the various forms of graduated exercise and respiratory gymnastics intelligently practised.—*International Journal of Surgery*, June, 1900.

Enteroptosis with Factitious Urticaria.—G. Gordon Campbell relates a case in which, though there was marked enteroptosis, the patient sought relief only for red blotches which followed any slight stimulation of the skin. Itching had begun three years before, after childbirth. It is relieved by the warmth of the bed. Stinging and burning accompany the outbreak of red blotches upon washing the face, etc. Emotional blushing comes out in similar scattered patches. Factitious urticaria is brought out by drawing a blunt pointed instrument over the back. This is shown in a photograph. In a second picture is illustrated the enteroptosis. There is deformity at the waist from tight lacing. A rounded prominence is seen in the lower abdomen resembling pregnancy in the fourth or fifth month. The right kidney can be felt an inch below the level of the umbilicus and midway between it and the crest of the ilium, while what is presumably the left kidney can be felt at about the level of the umbilicus. An abdominal supporter gives a feeling of strength and relief. It is believed that the enteroptosis bears a causal relation to the erythema and factitious urticaria.—*Montreal Medical Journal*, June, 1900.

Some Cases of Relapse in Diphtheria.—Carlo Comba considers that the causes of relapses are twofold. In the first place there may be a loss of the immunity acquired in the first attack. The exact nature of the immunity is not yet known, but Escherich and Klemensiewicz have shown that the blood serum of persons who had just had a diphtheritic attack has the power of attenuating and even of neutralizing the diphtheritic toxin. How this natural or acquired immunity is lost is not yet understood; probably, however, by the intervention of other infective diseases. In the second place, certain local conditions are favor-

able to the occurrence of diphtheria and its relapses—such, for instance, as repeated inflammations of the pharyngeal mucosa, hypertrophy of the tonsil, etc., which would tend to reduce the power of resistance against infective germs.—*Rivista Critica di Clinica Medica*, June 2, 1900.

A Case of Acquired Stenosis of the Pulmonary Artery.—A. Kasem-Beck is led by the great rarity of a stenosis of the pulmonary artery coming on in the later years of life, and the marked difficulties of an exact diagnosis, to publish a case. The patient was a laborer fifty years old, who showed compensatory disturbances of the heart, œdema, ascites, cyanosis, and expiratory dyspnœa. There were bilateral hydrothorax, hydropericardium, and dilatation of the right ventricle. The physical signs are given and the few undoubted cases in literature are referred to. The result of the autopsy is appended.—*Centralblatt für innere Medicin*, June 9, 1900.

Mucous Disease.—Philip F. Farbour defines this disease as being characterized by an irregularly occurring profuse discharge of mucus from the intestinal tract, accompanied by more or less marked nutritional disorder. In its treatment the inherited gouty or uric-acid tendencies must be counteracted. Food should be simple and easily digested; fats and carbohydrates should not be taken. Hygienic surroundings should be of the best. Cold sponging with brisk rubbing is of value. Bitter tonics are used to relieve the patient of the accumulations of mucus. Bismuth has a sedative and mildly astringent action. A combination of hydrastis and sanguinaria will be found to have a decidedly curative influence. Copper arsenite has a decidedly antiseptic action.—*Virginia Medical Semi-Monthly*, June 8, 1900.

Hysteria in the Child.—Ruggiero Lambranzi reports two cases. The first was that of a boy aged nine years, who at times had a spasm of the hand which would close the fingers so tightly that they could be opened only by force. The symptoms did not point to organic lesion. The author placed a bit of money in the child's hand, and told him that if he succeeded in extending his fingers without the aid of his other hand, he might keep the pennies. The treatment, which the author calls a new kind of metallotherapy, was successful. The second case was one of blepharospasm in a little girl aged eleven years, the attacks lasting about three days, and being accompanied by amblyopia and headache. A visit to the clinic and the manœuvres of the objective examination caused a cessation of the trouble.—*La Riforma Medica*, May 30 and 31, 1900.

The Medical Treatment of Gall Stones.—Edward S. Stevens believes that it is frequently difficult and often impossible to make a positive diagnosis of gall stones. He says that there is no known medicine by means of which a solution of gall stones can be effected by any of the ordinary means of administration. The introduction of a cannula into the gall bladder for the purpose of sounding for stones, introducing solvent remedies, or withdrawing fluids, is dangerous when compared with the amount of good likely to be accomplished, and should not be practised. The practice of attempting to empty the gall bladder by massage is dangerous. There is but one safe and radical cure for gall stones, and that is by cholecystotomy or some similar surgical operation.—*Virginia Medical Semi-Monthly*, June 8, 1900.

Symptomatic Diagnosis of Valvular Obstipation.—Thomas C. Martin says that valvular obstruction below the recto-sigmoidal juncture is characterized by straining at stool for the passage of solid fæces. Obstruction at the recto-sigmoidal juncture is characterized by long intervals between the acts of defecation, by an occasional passage of a quantity of fæces without much straining, and by tenderness and a sense of fulness in the left iliac fossa and lower abdominal regions. Valves sometimes interlock and form an almost impassable barrier to the descent of the fæces. Hypertrophy of the rectal valve is characterized by the almost sudden establishment of obstipation. The condition is initiated by a sense of gentle aching and moderate heat in the sacral region, by aching down the thighs, and by discharges of a small amount of viscid mucus. Fibrosis of the rectal valve is characterized by a very gradual development of the obstipation. Valvotomy cures.—*Virginia Medical Semi-Monthly*, June 8, 1900.

Acute Osteomyelitis.—E. Koch says that within the past ten years we have come to look upon the etiology, frequency, etc., of acute osteomyelitis in a new light. Many former confusing instances of joint affection would now be referred to this condition. Small nodes on the ribs can cause severe empyema of the pleural cavity, and acuted intracranial abscesses by the severity of their symptoms mask a primary osteomyelitis of the skull. An instance of osteomyelitis of the sternum in a man thirty years old is recorded, in which the symptoms suggested actinomycosis of the lungs or tuberculous bone disease. There was here present, as in the five recorded instances in literature, a pure primary osteomyelitis of the sternum, but the other patients were nearer the typical age. The patient was successfully operated upon. In view of the possibility of mediastinitis a primary free trepanning of the sternum and early removal of the entire diseased bone would be the most rational form of treatment.—*Münchener medicinische Wochenschrift*, June 19, 1900.

Infantile Amaurotic Family Idiocy.—J. H. Claiborne, Jr., gives the report of a case and its autopsy, reviewing the original observations of Waren Tay upon changes at the macula lutea, and subsequent descriptions of the same ophthalmoscopic picture by other observers. The writer has had five cases under his notice. His observations agree with those of Sachs, who in 1898 reviewed the subject and tabulated twenty-nine instances. The case in question was that of a female infant of eleven months. There was double ophthalmoplegia; the left eye was farther out and the left lid lower than the right. The father had phthisis. Great somnolence developed, and the child could not hold up its head or sit up straight. At the macular region in each eye there was a marked white area with the macula lutea in the centre like a cherry-red point. At the autopsy there was found a tuberculous tumor of the corpora quadrigemina the size of a hickory nut, with tuberculous deposits in the lungs, bronchial and mesenteric glands, liver, spleen, and kidneys. These children are born apparently healthy and remain so for several months; there are then sluggishness and somnolence, with irregular movements. The eye picture resembles that seen in embolism of the central retinal artery. The optic disc is at first normal and later shows complete atrophy. Death is invariable, usually before the end of the second year. The majority of the parents have Hebraic blood, a large number being of Polish-Hebraic origin. It seems reasonable to regard the changes in the nervous system as due to arrest of development. Tuberculosis may be a probable general cause. The question is raised whether the symptoms are not those of a disease not yet recognized, rather than constituting a definite entity.—*Pediatrics*, July 1, 1900.

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YELLOW FEVER IN MEXICO AND IN CENTRAL AND SOUTH AMERICA.

AN exhaustive account was published in "Public Health Reports," June 15th, of the sanitary condition of Central American and Colombian towns with special reference to their geographical position and the possible routes by which yellow fever is conveyed from one to another, and the dangerous lines of communication with the United States. The fact is pointed out that the history of yellow fever can be traced back to many years before the invasion by Cortez, and that since the first settlement by the Spanish the fever situation has apparently undergone no improvement. Vera Cruz—which has been since its foundation a hot-bed of the disease, and which last year had a mortality rate of six hundred and seventy out of a population of thirty thousand—is undoubtedly the Mexican port most to be dreaded by the United States as a source of infection. Fortunately the quarantine regulations are strict, and all freight and passenger traffic, with the exception of a few steamers which trade between Vera Cruz and Pascagoula, Miss., and New Orleans, has been deflected to the northern ports. The bulk of the passenger traffic goes to or through Havana, and, as the writer of the report remarks, the danger of infection of Havana from this source is a problem that can be solved only by an absolute quarantine or the hearty co-operation of the Mexican health authorities. The railroads are a source of dangerous communication, and it is only by constant vigilance on the part of the Marine-Hospital service inspectors on the border that yellow fever is kept out of the United States so successfully as is at present the case.

"Public Health Reports" reviews at length the situation in the Central and South American towns, which by reason of their location and on account of the intercourse between them and this country are ever a probable means of disseminating yellow fever through parts of the North American continent. The author of the report says that the prevalence of Chagres and yellow fever on the isthmus of Panama during the construction of the canal by the French should be borne in mind, should the United States Government undertake to build this canal. There is an infected territory from ocean to ocean, and the importation of a number of non-immune workmen would be the signal for an outbreak of an epidemic of yellow fever. The yellow-fever infection is there, and the Chagres will come when the excavations commence. The whole isthmus should be disinfected before any workmen are imported, and a thoroughly equipped, strictly enforced maritime quarantine maintained at Panama and Colon. This should be done not only for the protection of the army of workmen that will be necessary for such an undertaking, but for the protection of the infectable States that will be in direct communication with the isthmus just as soon as timber and supplies are needed for the construction of the canal. The route of the Nicaraguan Canal is not infected with yellow fever, and there is no history of any infection having been in the country for many years. There should be suitable quarantine stations maintained at each end of the canal, and they should be the first things constructed. It matters not which route is selected, there will be a rush of people from all over Central and South America coming from infected localities and bringing the infection with them.

Yellow fever is now extremely prevalent in Vera Cruz and along the southern coast line of Mexico and the Central American States. It is therefore fitting that attention should be called to the unsanitary conditions of these towns, and to the importance to the people of this country that measures should be taken to render them healthy, especially with a canal at Panama or Nicaragua in view. No serious attempt has ever been made to extirpate or check yellow fever in any of the South American republics. The towns along the coast and the ports are, as a rule, the most unhealthy localities, and the physicians furnished by the government are, owing to these insalubrious conditions and to poor pay, by no means of a high class. Taking then into consideration the constant menace the existing state of affairs in the South American republics is to the health of the inhabitants of the United States, it is somewhat a matter for wonder that the government does not exert its persuasive powers or even exert some pressure to induce the republican governments to initiate a policy of sanitary reform.

THE SIGNIFICANCE OF TUBERCLE BACILLI AND OTHER BACTERIA IN THE SPUTUM.

IN the presence of symptoms and signs of disease of the lungs the discovery of tubercle bacilli in the sputum may be regarded as indicative of the existence of pulmonary tuberculosis. Failure to find the bacilli, even on repeated examination, cannot, however, be accepted as evidence against pulmonary tuberculosis. The bacilli can appear in the sputum only if breaking down of tubercles has taken place and communication exists between the ulcerated tissues and the air passages. They are thus absent, as a rule, in cases of miliary tuberculosis; and, sometimes, in cases of early or even advanced tuberculosis careful and oft-repeated examination may fail to disclose their presence. On the other hand, the persistent expectoration of large numbers of bacteria is indicative of the presence of a cavity, although sometimes the number varies widely

accordingly as the cavity communicates with the air-passages or not. In an address on the diagnostic and therapeutic significance of tubercle bacilli and other bacteria in the sputum, Brieger (*Berliner klinische Wochenschrift*, No. 13, 1900) points out that a factor of great importance in cases of pulmonary tuberculosis is the matter of mixed infection. There is reason to believe that to this is due principally the violent febrile movement so often observed in cases of advanced tuberculosis. Pure, uncomplicated local tuberculosis of the lungs is, it is thought, almost wholly unattended with fever, and the sputum is, besides, rather scanty.

The micro-organisms principally responsible for secondary infection are streptococci, staphylococci, and pneumococci, singly or in association. The hectic fever, with chills and night sweats, is believed to be due principally to streptococci, while to the staphylococci are attributed the suppurating and softening processes in tuberculous lungs. Influenza bacilli also are not rarely found in the sputum from tuberculous patients, and they are highly capable of aggravating the tuberculous process. The bacillus pyocyaneus and the micrococcus tetragenus are occasionally found in sputum from tuberculous patients. From the evidence the rôle of mixed infection would seem to be the conversion of pulmonary tuberculosis into pulmonary consumption.

In the prophylaxis of mixed infection in cases of pulmonary tuberculosis especial attention should be given to the care of the mouth. Inhalations of aromatic oils, especially peppermint oil, probably exert a useful therapeutic influence in this direction. Fresh air rich in ozone and hydrotherapeutic measures may also be productive of good by neutralizing the evil effects of mixed infection.

INSANITY IN VIRGINIA.

Virginia can lay claim to the proud distinction of having founded the first institution exclusively for the insane upon this continent. According to Dr. Drewry, superintendent of the Central State Hospital, Petersburg, Va., who writes interestingly on the matter, in 1769 the House of Burgesses provided for a building for the insane at Williamsburg, then the capital of the colony. This event preceded by thirty years the revolution in the treatment of the insane introduced by Pinel of France and Tuke of England. In 1802 Virginia provided a second public institution for her insane at Staunton, and in 1870 she organized the first asylum exclusively for the colored insane in the world. Dr. Drewry states that at the present time the population of Virginia is about 1,700,000, two-thirds being white and one-third colored. Of these 3,100 have been adjudged insane, a ratio of one in nearly every 600 of the population. The ratio in the whites is slightly larger than that in the negroes, though in recent years insanity has increased more rapidly among the latter than the former. The following statistics are significant: On October 1, 1887, there were in the State hospitals 1,171 white and 434 colored insane; total 1,605. There are now 1,950 white and 870 negro insane at these institutions, a total of 2,820, showing an increase of 1,215, or an annual net gain of 92 in the hospital population. From the above figures it will be gathered that as in all parts of the world insanity in Virginia seems to show an increase, and in consequence accommodation in the State hospitals for the unfortunates suffering from that disease is altogether inadequate. It is stated that during the past two years 182 colored and many white insane have died in jail or at their homes while waiting for vacancies to occur in the hospitals.

Attention has been drawn in the Medical Record on several occasions to this condition of affairs, which prevails to a greater or less extent throughout the United States. The fact has been demonstrated that, in addition to being an expensive manner of treating lunatics, it is also inhuman to a degree. In the earlier stages of insanity, if the malady is treated intelligently the chances of recovery are favorable, while if an opposite course is pursued the majority of cases will become incurable and chronic. The practice of condemning an insane person to jail like a common criminal is unworthy of a rich, civilized, and Christian land.

THE MIDWIVES BILL IN ENGLAND.

The midwives bill introduced into the English House of Commons early in the session has passed the second reading and been amended by the standard committee on law. It, therefore, seems certain that it is within measurable distance of being put into force. The bill would appear to have divided the medical profession of England into two camps, the larger of which is altogether opposed to the projected licensing of midwives, while the lesser division, appreciating the fact that some such legislation is needed and must come, and recognizing the futiliity of kicking against the pricks, have concluded that the wisest course is to bow to the inevitable and to concentrate their energies on obtaining as perfect a bill as is possible.

Dr. Glover, a prominent member of the British General Medical Council, and who is with Professor Horsley the most conspicuous advocate of the latter mode of dealing with the question, read a paper at the conference on medical organization recently held at Manchester, in which the situation viewed from this standpoint is clearly indicated. He states the facts to be as follows: First, that midwives exist, and that they attend on a low estimate two hundred thousand cases. Secondly, that the title "midwife" exists and is recognized by law, and can be taken by any woman and used for making a living. Thirdly, that any woman, however drunken, or ignorant, or dirty, may without hindrance use this title and under its name may do an incalculable amount of harm. Dr. Glover is of the opinion that either very cheap midwifery must be done by physicians, or midwives must do it; that opposition to all legislation on midwives means the continuance of the old midwife, and finally that public and parliamentary opinion is too decided in favor of legislation for things to remain as they are.

The supporters of the bill further hold that the General Medical Council may be relied upon to do its best in the interests of the medical profession.

The opposition to the bill as it stands is undoubtedly strong among medical men throughout England. This was plainly shown by the fact that out of sixty thousand and three hundred practitioners who responded to a request from *The Lancet* for an expression of their views, four thousand were against the measure, and only thirteen hundred and eleven declared in its favor. The contention is made that a training of but three months is insufficient time to fit a person to undertake the seriously responsible duty of attending upon a parturient woman, even though the midwife be authorized to call in a qualified practitioner in cases of abnormal labor. There are also many other features of the bill to which grave exception is made. There is no doubt, however, that legislation on midwives will in the near future be enacted in England, whether for good or evil time alone can prove. Our opinion on the subject as concerns this State, which we have as yet seen no cause to withdraw, has been already expressed in these pages.

News of the Week.

Enraged Anti-Vaccinationists. — Half a dozen or more members of the American Anti-Vaccination Society met recently in New York, and decided that McKinley and Roosevelt must be defeated at the polls in November unless before that time Governor Roosevelt has exculpated himself of complicity in the recent compulsory vaccination by the public health authorities of one hundred negro laborers in the smallpox-infested brickyards at Stockport, near Hudson, N. Y. This formidable society, which now threatens to enter into politics, is composed largely of what doctors in their case reports are wont to call females.

The Dangerous Fourth.—The Chicago *Tribune* of July 5th contained a partial list of the casualties resulting from the insane method which Americans have of demonstrating their patriotism on the national fête day. According to reports received from one hundred and twenty-five cities, thirty persons were killed and thirteen hundred and twenty-five injured. The toy pistol and the toy cannon are shown to have done as deadly execution as sometimes has been done in war by those loaded with bullets and canister and aimed to kill. Skyrockets, powder explosions, and the premature discharges of cannon help to complete the list of mishaps. Out of this total of thirteen hundred and twenty-five persons hurt in an attempt to be patriotic, four hundred and forty-two can attribute their injuries to firecrackers and dynamite torpedoes. The deadly cannon firecracker did most of this execution. Out of one hundred and fifty-two injured by firearms in sixty-seven cities, the toy pistol caused one hundred and five. Gunpowder explosions caused the injury of one hundred and eighty-seven. Many of the injuries included in the lists were reported as prospectively fatal. In several instances persons were killed through runaway accidents, due directly to fireworks. A fire loss of $123,327 was caused by fireworks, in addition to the injury to human life. To the number of deaths caused directly by these explosive accidents must be added those yet to occur from tetanus due to infected wounds.

Dr. Charles F. Chandler, professor of chemistry at Columbia University, has received the degree of D.Sc. from Oxford.

The Hospital Ship "Maine," equipped by the Anglo-American committee for service in the South African war, has returned a second time with wounded and invalided soldiers to Southampton. The committee has now offered the British government the use of the ship for service in China, and this offer has been accepted. The vessel will sail soon with the same staff she had in South Africa. She will be used as a base hospital ship, but it has not yet been decided at what port she will be located.

The Osteopaths held their third annual meeting in Chattanooga, Tenn., during the first week in July, and devoted much of the time to rejoicing over the fact that the legislatures in several of the States have passed bills legalizing their dealings with the sick. The curious title of one paper was "The Fake Osteopathist and How to Deal with Him." A fake osteopathist must be about on the level of an anti-Eddy Christian Scientist.

A Curious Acquittal.—In the court of assizes in Brussels, a few days ago, Sipido, the youth who attempted to assassinate the Prince of Wales while the latter was passing through the city en route to Copenhagen, and his three accomplices were acquitted on the ground that they were too young to understand the gravity of their acts. The four lads were all between sixteen and seventeen years old. The public prosecutor asked the court to commit Sipido to a reformatory, but the application was refused. It would be interesting to know when, in the opinion of a Belgian judge, the age of reason or of responsibility for criminal acts is reached.

The Health of Manila.—A report of the health conditions in Manila, which has recently been issued by Major G. L. Edie of the army medical department, shows that American sanitary methods are as happy in their results in the Philippines as they are in the West Indies. According to this report, the death rate in Manila from October, 1899, to June, 1900, was 28 per 1,000. The total number of deaths was 8,535, of which 180 were caused by the plague and 1,073 by intestinal disease. The sanitary conditions have been greatly improved in the city since the end of the organized rebellion has permitted the health authorities to give more attention to such matters.

Medical Missionaries in China.—The following are among the American medical missionaries in the disturbed districts of China concerning whose safety grave fears are entertained: Dr. John M. Inglis, of Peking. Dr. Cortlandt Van Rensselaer Hodge, of Pao-Ting-

Fu, a native of Philadelphia and a graduate of the medical department of the University of Pennsylvania in 1897. Dr. Maud A. Mackey, of Pao-Ting-Fu, a native of Evanston, Ill. Dr. G. Yardley Taylor, of Pao-Ting-Fu, a native of Taylorsville, Pa. Dr. Virginia Murdock, of Peking, a native of Zanesville, Ohio, and a graduate of the medical department of the University of Michigan in 1887. She was formerly in practice in Chicago. Dr. James H. Ingram, of Tung-Chow, a native of Mansfield, Ohio, and a graduate of the medical department of the University of Pennsylvania in 1883. He formerly lived in Vineland, N. J. Dr. George D. N. Lowry, of Peking. Dr. Rachel R. Benn, of Tien-Tsin. Dr. Anna D. Gloss, of Peking. Dr. M. S. Barrow, of Tai-Nan. Among those believed to be safe are Drs. Charles Lewis and Edna B. Parks, of Se-Nan-Fu; Dr. W. R. Faries, of Wei-Hien; and Drs. C. F. Johnson and E. E. Fleming, of I-Chow-Fu. Dr. Sylvester G. Hill, United States vice-consul at Tien-Tsin, is a dentist, a graduate of the Philadelphia Dental College. He was born in Muscatine, Ia., in 1856.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending July 7, 1900. June 30th.—Surgeon O. D. Norton detached from the *Monadnock* and ordered to duty with marines at Taku, China. July 2d.—Medical Director G. W. Woods will be detached from naval hospital, New York, and placed on retired list, August 24, 1900, having reached the age of sixty-two years. July 5th.—Passed Assistant Surgeon F. C. Cook detached from the naval hospital, Norfolk, Va., and ordered to the naval hospital, Washington, D. C. Passed Assistant Surgeon J. F. Leys detached from the *Franklin* and ordered home and to wait orders.

Summer Mortality.—The influence of the intense heat of the past week upon the death rate is shown by the fact that for the week ended July 7th there were reported to the Philadelphia bureau of health 544 deaths—47 more than for the preceding week and 109 more than for the corresponding week of the previous year. Of the whole number nearly one-third occurred in children under the age of five years—73 from cholera infantum, 30 from marasmus, 23 from convulsions, 24 from inanition, and 7 from teething. Besides 5 deaths are attributed to sunstroke, 4 to dysentery, 3 to diarrhœa, 9 to old age, and 6 to debility. In New York during the first week in July the daily average of deaths of children of five years of age or under was 52 in the boroughs of Manhattan and the Bronx, and 45 in Brooklyn. This is a high infant death rate for New York.

The Nathan Straus Milk Charity.—This charity, which was organized in 1893, in a little shed on a dock at the foot of East Third Street, now occupies a large two-story building and dispenses during the year from various branches some five hundred and fifty thousand bottles of pasteurized milk. In order to furnish a food better adapted to very young or sick infants, two new modifications have recently been prepared, one intended for sick infants and the other for healthy infants; the former is a dilution of milk with three times its bulk of water and lime-water with sugar added so as to provide a food containing one per cent. fat, five per cent. sugar, and one per cent. proteids; this is dispensed in three-ounce bottles. The second new modification, intended for healthy infants of early age, represents two per cent. fat, five per cent. sugar, and one per cent. proteids, also dispensed in three-ounce bottles. Another modification containing about four per cent. fat, seven per cent. sugar, and two per cent. proteids is dispensed in six-ounce bottles. Whole milk is also dispensed in pint bottles. All this milk is accurately pasteurized in hygienic nursing-bottles at 75° C. (167° F.), is rapidly cooled, and is delivered to the branch depots in refrigerator wagons. With each bottle a sterile nipple is supplied. The milk will be supplied free to any applicant who presents a statement from a physician that she is unable to pay for it. Such applicant must, however, leave a deposit to insure the return of the bottles.

Dr. Karl Lange, of Copenhagen, died recently at the age of sixty-six years. He was professor of pathological anatomy at the University of Copenhagen, and editor of the *Hospitals Tidende*, a weekly medical journal.

The British Army Medical Scandal.—The government has appointed on the committee to investigate the South African hospital charges Dr. Daniel J. Cunningham, of Trinity College, Dublin, Dr. Henry M. Church, of Edinburgh, and Lord Justice Romer.

Compulsory Vaccination Legal in Pennsylvania.—By a decision of court in favor of the defendant in a suit instituted by a citizen of Philadelphia against the principal of a school to compel the admission of a pupil without vaccination, the legality of compulsory vaccination in the schools of Pennsylvania is sustained.

Thermometry in Germany.—An order has been promulgated that after January 1, 1901, the use of the Centigrade thermometer shall displace that of the Réaumur in Germany. In medicine the Centigrade scale has been almost universally used for a long time. The freezing-point on both scales is 0, but the boiling-point is 100 on the Centigrade, while it is 80 on the Réaumur.

The Vienna Society of Obstetrics and Gynæcology is a society of about fifty members. It meets at the call of the president, Dr. Libotzky, in the amphitheatre of the No. 2 (Chrobak) clinic in the General Hospital. This seems a peculiarly fitting place, for not only are there hundreds of cases of obstetrics and gynæcology above, below, and on either side, but frequently during the evening the speaker's voice is drowned by the cries of women in labor.

Infanticide Not a Capital Offence in France.—The law regarding infanticide in France has been amended by the senate, the punishment for the crime being made imprisonment for a term of years instead of death. The reason urged for the change was that

juries would not convict in trials for infanticide, even when guilt was established, so long as the penalty was death.

Obituary Notes.—Dr. Charles P. Judkins, of Cincinnati, died on July 1st, at the age of fifty-seven years. He was a graduate of the Miami Medical College in 1867, and had practised continuously in Cincinnati since that time. He belonged to a family of physicians, his father, two uncles, two brothers, and a cousin all being members of the medical profession.

Dr. Thomas P. Edwards died at his home in Newark, N. J., on July 4th, of heart disease, at the age of thirty-nine years. He was born in Marcy, N. Y., and was graduated from the medical department of the University of New York in 1885.

Dr. Gerald Freeman, surgeon of the Allan Line steamer *Carthagenian*, was lost overboard from the steamer in Halifax harbor on July 6th. The steamer was entering the harbor on her return voyage from Liverpool. Dr. Freeman studied medicine in Dublin.

Dr. J. L. M. Cardeza died at Claymont, Del., on June 28th, in an apoplectic attack, at the age of seventy-nine years. He was a graduate of the medical department of the University of Pennsylvania.

Dr. Franklin Gauntt died at Burlington, N. J., on July 7th, in the seventy-seventh year of his age. He was graduated from the medical department of the University of Pennsylvania in 1847. He was a surgeon in the war of the Rebellion and at the time of his death one of the surgeons to the Pennsylvania Railroad.

Obituary.

ALEXANDER J. C. SKENE, M.D., LL.D.,

BROOKLYN, N. Y.

Dr. Alexander J. C. Skene, of Brooklyn, died on the night of July 4th, at his summer home at Highmount, in the Catskill Mountains. His death was unexpected, for although he had been suffering for some time from an ailment of the heart, nothing was suggested by his condition to cause his family or his friends concern. Dr. Skene was born in 1838 in the Parish of Fyvie, Aberdeenshire, Scotland. He came of a noted Scotch family, many of the members of which had been closely identified with much of the history of Scotland. He came to this country when nineteen years old, and soon after his arrival he entered the University of Michigan. From there he went to the Long Island College Hospital in Brooklyn, from which institution he was graduated in 1863. He offered his services to the government in the Civil War, and went to the front as a surgeon. While with the army he evolved a plan for a hospital corps which is to-day in use in the army and the National Guard.

After the war Dr. Skene returned to Brooklyn and was appointed adjunct professor of medicine at the Long Island College Hospital Medical College. For many years he was professor of gynæcology and dean of the college, but resigned from the faculty about a year ago in order to devote his energies to the establishment of the Skene Hospital for Self-Supporting Women. It was intended to open this hospital in the autumn of the present year.

Dr. Skene was a gynæcologist of great skill and was widely known through his writings on the diseases of women. He was formerly professor of gynæcology in the New York Post-Graduate Medical School, and had been president at different times of the American Gynæcological Society, the New York Obstetrical Society, and the Kings County Medical Society. He was a member of several other medical societies and was also a corresponding member of the Boston, Detroit, British, and Belgian gynæcological societies.

Dr. Skene was a lover of art and was himself a sculptor of fair abilities. He also had literary tastes and had published one novel.

JOHN ASHHURST, JR., M.D., LL.D.,

PHILADELPHIA.

Dr. John Ashhurst, Jr., died at Philadelphia on June 7th, at the age of sixty-one years. He was graduated from the department in art of the University of Pennsylvania in 1853, received the degree of A.B. in 1857, and that of A.M. in 1860, when also he was graduated from the medical department. In 1895 he received the honorary degree of doctor of laws from Lafayette College. Soon after the outbreak of the Civil War, and while still a resident physician in the Pennsylvania Hospital, Dr. Ashhurst was commissioned acting assistant surgeon and placed in charge of Cuyler General Hospital, Germantown, serving here and at the Chester United States Army General Hospital from 1862 to 1865.

Dr. Ashhurst was from 1863 to 1880 surgeon to the Episcopal Hospital. In 1870 he was appointed surgeon to the Children's Hospital, in 1874 consulting surgeon to the Hospital of the Good Shepherd, in 1875 consulting surgeon to St. Christopher's Hospital and to the Pennsylvania Institute for the Blind. In 1877 he was elected clinical professor of surgery in the medical department of the University of Pennsylvania and surgeon to the University Hospital. In 1887 he became surgeon to the Pennsylvania Hospital and in 1888 was appointed John Rhea Barton professor of surgery in the university.

Dr. Ashhurst was an able and voluminous writer, and he was a member and an officer in many medical societies.

Progress of Medical Science.

New York Medical Journal, July 7, 1900.

The Identification of the Blood of Individuals.—W. H. Birchmore has made a series of studies, the general results of which may be summarized as follows: The measurements of the blood of children show variations large in amount and not easily explained; there is no order in the changes, but in practice the result is as follows: Beginning in a child two years old, the variations became distinctly less during the time he was under observation. About twenty satisfactory counts were made, covering about one thousand corpuscles each, and each corpuscle was measured. In a boy of twelve years the variations were very small; as between two boys of this age, there was no question of the identity of any specimen examined. As to the degree of certainty obtainable, it seemed quite certain that a blood stain can be positively identified as belonging to the same blood as another given stain, or as not so belonging. In practice the question will usually take the form of a strictly limited inquiry: "Is the blood of this stain the same as the blood of that one?" or, "To which of these various blood stains does the blood of this stain correspond?" To both of these inquiries positive answers can be given. Within limits, the expert can say positively, "The blood stain A is not the same as that of stain B"; or he can say, "It is my opinion that the blood of stain A is the same as the blood of stain B."

Acute Traumatic Prostatitis of External Origin Involving the Bladder and Seminal Vesicles.—J. M. Thomson reports the case of a man, aged fifty-one years, who, as the result

of a bicycle accident, struck his perineum on the pommel of the saddle. Pain in the perineum and rectum became intense, while he experienced a sense of heat, fulness, and weight in the region of the bladder and along the floor of the urethra. Micturition soon became urgent, frequent, and painful; and defecation also, but to a milder degree. Bodily movement caused an exacerbation of pain, and even the sitting posture proved uncomfortable.

A Case of Typhoid Presenting Some Unusual Features.—The noteworthy points in this case, under care of C. E. Skinner, were: (1) A sudden rise of temperature; (2) persistent and obstinate constipation; (3) absence during the entire illness of bronchial symptoms and headache; (4) atypical color of stools; (5) acute pain in the left iliac fossa; (6) nausea and vomiting; (7) a severely painful myositis; (8) absence of eruption; (9) an excessively high temperature extending over ten weeks; (10) the gratifying effect upon the myositis of heat at a high degree.

Acute Gonorrhœal Arthritis, etc., of the Left Shoulder, which Necessitated Operation and was Followed by Rapid Recovery.—By J. C. Stinson.

Secondary Cataract: A Experimental Study.—By W. H. Bates.

The Unrequited Service of a Physician.—By A. N. Smith.

A Case of Hairpin in the Urethra.—By W. L. Brown.

The Boston Medical and Surgical Journal, July 5, 1900.

The Use of the Angiotribe.—J. H. Davenport describes the clamp first advocated by Doyen for controlling hemorrhage and subsequently modified. The instrument seems especially indicated in vaginal hysterectomy. His mode of employing it is described. There is almost no pain, practically no bleeding, and convalescence is easy and rapid, making the technique an advance in securing complete compression of the interstitial connective tissue with all its lymph spaces. The danger from secondary hemorrhage is slight, as indicated by many cases reported. The author's own experience relates to five operations in which it was employed with great satisfaction.

A Case of Morbid Fear.—J. W. Courtney speaks of the widely varying forms of fear encountered in neurasthenic subjects, and relates an instance in a young woman stenographer of neurotic ancestry who acquired such a pronounced fear of death as to have it dominate her entire existence. She was finally cured by tonic treatment (iron), hypnotic suggestion, tasks of memorizing, etc.

Remarks on the Surgery of Uterine Fibroids, with Special Reference to the Importance of Early Removal in the Young.—By M. H. Richardson.

Colostomy for Obstruction due to Malignant Disease.—By J. B. Blake.

Philadelphia Medical Journal, July 7, 1900.

Total Excision of the Scapula alone, and with the Arm (Interscapulo-thoracic Amputation): Partial Excision of the Scapula for Tumor.—J. J. Buchanan reviews the literature, classifies the cases, gives histories of his own cases, and describes Berger's method, which was followed with slight modification. The essential elements of this method are preliminary ligation of the great vessels and the formation of anterior and posterior flaps.

A Case of Primary Adenocarcinoma of the Gall Bladder with Secondaries in Both Adrenals, Melanosis of the Skin (Addison's Disease?), Vitiligo, and Hypertrophy of the Pancreas.—By Aldred Scott Warthin.

The Action of Reunin upon Milk Digestion.—By I. H. Coriat.

A Case of Myoma of the Bladder.—By Otto G. Ramsay.

Medical News, July 7, 1900.

The Treatment of Tetanus.—Alexander Lambert reviews Thallmann's recent article and reports various experiments and observations. Tetanus wounds should be thoroughly cleansed with iodine trichloride, one per cent., or Gram's or Lugol's solutions, carbolic solutions (one and a half per cent.), cresol (one per cent.), formalin (one to two per cent.). Deep incisions should be made to make sure that no dirt or wads of cartridge are retained, as has been too often the case. We should aim at (1) speedy elimination of the poison; (2) the administration of physiological antidotes; (3) chemical antidotes to render the poison inert. The kidney action must be increased by free use of water. The best physiological antidote is chloral. Bromides, physostigmine, and antimony act in the same way by diminishing the intense reflex excitability of the central nervous system. The prognosis is in direct ratio to the shortness of the incubation period and to the rapidity and intensity of the development of the symptoms. There is no doubt that many cases of human tetanus could be avoided by preventive doses of antitoxic serum (10 c.c.) in cases of wounded persons in localities where tetanus prevails. In the records of fifty-two cases treated by intracerebral injections there was a mortality of over sixty-three per cent.

The Immunizing Cure of Hay Fever.—H. H. Curtis first tried to immunize a hay-fever subject by giving internally the watery extracts of certain flowers and their pollen. He has recently taken up the question anew, and reports some successful trials in this direction by administering solidago odorata and convallaria majalis.

The Hospital Governor and his Staff: Being a Glance at the Personnel of a Modern Hospital and a Plea for a Permanent Resident Staff.—By Thomas J. Hillis.

Significance of the Stool in Infantile Diarrhœas.—By William Edgar Darnall.

Journal of the American Medical Ass'n, July 7, 1900.

The Surgery of Biliary Calculi.—W. D. Haggard, Jr., discusses the surgical aspects of biliary calculi and gives the various operations which have of recent years been devised for their relief, and the bibliography of the subject. He gives a report of a case of colo-cholecystostomy for chronic catarrhal cholangitis with gall stones. He gives Robson's conclusions from experiments on a case of biliary fistula: (1) The bile is probably chiefly excrementitious, and, like the urine, is constantly being formed and cast out. (2) Though the bile probably assists in the absorption of fats, its presence in the intestine is not necessary for the digestion of such an amount of fat as is capable of supporting life and keeping up nutrition. (3) Increase in body weight and good health are quite compatible with the entire absence of bile from the intestines. (4) The antiseptic properties of the bile are unimportant. (5) Whatever little antiseptic quality bile may have is probably derived from its admixture with the gall-bladder fluid. (6) The supposed stimulating effect of the bile on the intestinal walls is not necessary for a regular action of the bowels.

Paroxysmal Tachycardia.—J. M. Patton makes a defence of the name and illustrates by clinical examples the difference between the essential and ordinary forms of symptomatic "heart hurry." He finds the morbid anatomy indefinite, but believes myocardial lesions frequently present. The prognosis is unfavorable and the treatment unsatisfactory. The discussion by members of the Chicago Society of Internal Medicine accompanies the paper.

Experimental and Clinical Notes on the Subarachnoid Space.—Dudley Tait and Guido Caglieri give historical data and methods of reaching the subarachnoid space. They maintain the priority of Dr. Leonard Corning in cocaine analgesia by the spinal route. Experiments relating to the diffusion of the cerebrospinal fluid are given, and also the results in man from the injection by the cervical and lumbar routes.

Common but Generally Unrecognized Symptoms of Eye-Strain.—E. G. Starr speaks of other symptoms besides the headaches which are due to eye-strain. Among them are pain in the back of the neck, mental confusion, confusion of ideas, inability to fix the attention without effort, backwardness in children; irritability in adults as well as in children, vertigo, fluctuating character of the handwriting, disturbances of the digestive apparatus, etc.

Diseases of the Pancreas.—Review of the present status of knowledge concerning them, by Crayke Priestley.

Review of the Present Status of Jonnesco's Operation.—By Marcel Hartwig.

Case of Perforating Gastric Ulcer.—By Allan Jones.

The Lancet, June 30, 1900.

The Excretion of Urinary Water and Urea from the Human Body with Diminished Kidney Weight.—According to J. B. Nash, the following conclusions appear to be justified: (1) If one kidney be removed, then three years subsequently the healthy kidney *in situ* will excrete more than the average quantity of urinary water produced by two normal kidneys. (2) This same kidney will execrete per cubic centimetre of urine and per diem the average amount of urea that would be produced by two healthy kidneys. (3) If one-half of one kidney be removed, then two years afterward the urine voided will be the same in quantity as if two healthy kidneys were present. (4) The loss of the half of one kidney will cause no increase or diminution in the percentage of total amount of urea execreted. (5) If one kidney be removed, then the quantity of urinary water excreted by the other during the seven weeks immediately succeeding the operation will be below the average daily amount. (6) The urea produced by this one kidney will be less than the average proportion usually seen as the result of the work of two healthy kidneys, but probably not below the average excreted by two healthy kidneys from an individual recovering from a serious operation.

On the Use of Mercury in the Treatment of Cardiac Failure due to Arteriosclerosis.—A. Morison gives the history

of a case in which mercury seemed to subserve a useful purpose, and discusses the effect of the addition of some preparation of this remedy to diuretic combinations in general. He shares the opinion of Broadbent that much importance is to be assigned to its effect in lowering vascular tension. How this is brought about—whether by the elimination from the blood of waste material which has a spastic effect upon the arterioles or by direct dilatation of the peripheral vessels in the process of its own elimination—it is not necessary at present to inquire and is very difficult to determine. That the permeability of peripheral vessels by a lessening of their resistance is secured appears to be clinically demonstrable. This being so it is not difficult to imagine, and is indeed permissible to suppose, that the combination of mercury (a peripheral dilatant) with digitalis and squills (which are in part central stimulants as well as peripheral contractors) constitutes it a rationally indicated adjuvant to the action of the latter in cardiac failure due to arteriosclerosis.

The Primary Disorders of Growth.—H. Gilford concludes a lengthy article by stating that the four primary growth diseases—hypoplasia, hypertrophy, degenerative hypoplasia, and degenerative hyperplasia—are all represented in the skeleton. They form two divisions of which the one—hypoplasia and hypertrophy—is distinguished by mere defect or excess of normal growth; while the other, in which are comprised the two degenerative diseases, shows all those broad clinical and anatomical features which in the first part of his article were seen to be characteristic of the degenerative diseases of growth, whatever the tissue may be that they effect. And as degenerative hypoplasia of the skeleton is seen to run into degenerative hyperplasia by imperceptible gradations, each being distinguished from the other by characters imprinted by age alone, so degenerative hyperplasia is subdivided into two diseases according to tissue. If it affects the hard substance of the skeleton especially, it is called osteitis deformans; if the soft substance, it is called osteomalacia.

A Case of Syphilitic Fibro-Spongioid Osteitis.—J. B. Hall describes the case of a boy aged fourteen years, who presented the lesions suggested by the title. As a result of congenital syphilis there had been an osteitis of the clavicles, lower jaw, the right humerus, and both tibiæ. According to Parrot, states the author, the fibro-spongioid or rachitic form of the disease never appears before the fifth month of life. It begins as a subperiosteal growth of yellowish pearly fibroid material over which the periosteum is much thickened and closely adherent to it. It may attain as much as half an inch in thickness and is very vascular. There is always a distinct line of demarcation between the new tissue and the bone beneath. The bones most commonly affected are the humerus at its lower end, the ulna, the femur, and the tibia. Although two distinct forms are thus described by Parrot, both are usually present together in varying degree, the osteoid tissue being covered by a layer of the fibro-spongioid material.

Remarks on the Value of Urotropin and its Practical Application as an Antiseptic.—By H. E. Drake.

The Action of the Water of Llangammarch Wells on Uric Acid.—By W. B. Jones.

The Degeneration of the Neuron.—Second Croonian lecture, by F. W. Mott.

The Commoner Neuroses of Childhood.—Ingleby lecture, by O. J. Kaufmann.

Application of Pathology to Surgery.—Cavendish lecture, by H. T. Butlin.

Differentiation of Diabetes.—By F. W. Pavy.

British Medical Journal, June 30, 1900.

On Lead Encephalopathy and the Use of Diachylon as an Abortifacient.—W. B. Ransom records three cases of cerebral disease due to lead poisoning, two of which were caused by diachylon taken to proeure abortion, and some other cases in which diachylon taken with the same object produced a different set of symptoms. It seems that in England balls of diachylon to sell for a half-penny or penny are kept by druggists, and are commonly purchased for this purpose. The dose represents about 23 gm. of lead. It appears to be a fast-growing evil. The treatment consisted, among other things, of moderate doses of iodide of potassium and Epsom salts.

Note on a Case of Lannelongue's Craniectomy.—Charles Ward relates the case of a presumably syphilitic boy, aged six years, presenting hard, regular, symmetrical thickening of the skull, haziness of the cornea, profound symmetrical deafness, etc., from whose skull strips of bones were removed from either side with marked relief of symptoms. Five months after the operation the boy died suddenly. Down to 1894 Treves reports only thirty-six such operations, with four deaths.

The Cavendish Lecture on the Application of Pathology to Surgery.—By Henry T. Butlin.

Ossified Stylo-Hyoid Ligament Simulating a Foreign Body.—By C. Frank Wightman.

The Croonian Lectures on Degeneration of the Neuron.—By Frederick W. Mott.

Pin Introduced in the Ear Passed per Anum.—By Allan I. Petyt.

Berliner klinische Wochenschrift, June 18, 1900.

The Effect of White and Dark Meat in Chronic Kidney Disease.—A. Pabst has made a series of experiments with these articles of diet, attention being paid to the amount, specific gravity, albuminous contents, casts in the urine, and the general condition of the patient. The results as tabulated are conflicting and variable, but in a general way it may be said that they show that dark meat increases the albumin and diminishes the quantity. In general condition no special change could be noticed. Furthermore it was shown that patients did better on a milk diet than one containing either kind of meat.

The Present State of our Knowledge of the Anatomical Relations of the Cerebellum to the Rest of the Nervous System, and its Significance for the Understanding of the Symptomatology and the Diagnosis of Cerebellar Diseases.—By P. Bruns.

Bacteriological Experimental Contribution to the Question of Gastro-Intestinal Disinfection.—By R. Schutz.

The Methods of Early Diagnosis of Pulmonary Tuberculosis.—By H. Strauss.

Prognosis of Glycosuria and Diabetes.—By F. Hirschfeld.

Deutsche medicinische Wochenschrift, June 21, 1900.

The Value of Courmont's Serum Reaction in the Early Diagnosis of Tuberculosis.—Beck and Rabinowitsch have made a large number of observations on the agglutinating power of the serum of tuberculous subjects on cultures of tubercle bacilli grown under the conditions described by Courmont. The blood of seventy-three individuals was investigated, and as the results of their observations the authors are forced to admit that the new procedure is not likely to be of practical value in diagnosis. On the one hand, in cases of beginning tuberculosis only in comparatively few instances did the serum exhibit its agglutinating properties, while on the other a relatively large number of patients in advanced stages of the disease, and who, according to Courmont, should in general not give the reaction, possessed a very high agglutinating index. In addition it was observed that the blood serum of a large number of non-tuberculous individuals had the property of agglutinating the tubercle bacilli, while others distinctly in the earlier stages of tuberculous disease, some of them responding unmistakably to tuberculin, gave an absolutely negative result. In consequence the inference is made that the Courmont serum reaction is not specific for tuberculosis, occurring in non-tuberculous human beings and animals, and often being absent in true tuberculous cases, and therefore is not to be regarded as of any significance in arriving at a diagnosis.

The Relations of Mosquitos to the Malarial Parasites in Kameroon.—Ziemann has for over a year been collecting evidence bearing on the mosquito theory of the propagation of malaria. After a laborious search which included the investigation and sectioning of hundreds of individuals of thirteen different species of mosquitos, a variety of Anopheles was finally found which gave positive results. Thirty per cent. of the mosquitos of this species caught in a certain malaria-infected locality contained in their stomachs malaria coccidia of various degrees of development and corresponding closely to those described by the Italian investigators. Experiment with insects cultivated from larvæ gave negative results, but the same insects, after sucking blood containing malarial crescents, became infected. Anopheles which had not imbibed any of the crescent forms, but had obtained only the blood, never developed the coccidia. Although the author's material is still small, he considers it of importance to have shown that in Kameroon, as elsewhere, the parasite of febris tropica is metamorphosed into a coccidia-like body in whose interior the so-called sporozoites subsequently develop, and which takes the mosquito as host.

The New Carbonic Acid Spring in Nauheim.—By Lepsius and Schott.

Observations on Some Rhinological Instruments.—By Jaenicke.

Fourth Report of the Malaria Expedition.—By R. Koch.

American Journal of the Medical Sciences, July, 1900.

Notes on Diabetes.—J. B. Herrick speaks of casts found in large numbers in the urine during or just preceding diabetic coma. If urine obtained as coma approaches be

allowed to stand for a few hours, a light, hazy, grayish or slightly yellowish sediment will be seen at the bottom, consisting almost entirely of short, broad, light-colored, finely granular casts. There is no relation between the amount of albumin and the number of casts found. The casts may occur twenty-four hours in advance of the coma, and thus give warning. He next speaks of the occasional low specific gravity of saccharine diabetic urine, being lowered below the average of saccharine urine or even that of normal urine. The only safe plan is to examine for sugar, no matter what the specific gravity. This is of importance to life-insurance examiners.

A Case of Dermoid Cyst of the Mediastinum.—F. S. Mandlebaum gives a pathological account and history of a case of dermoid cyst seen at the Mt. Sinai Hospital in 1898. Cysts of the mediastinum are rare. Eleven of Hare's five hundred and twenty cases of mediastinal tumors were dermoid cysts. Hoffman found but fourteen cases recorded. He divides them into true dermoids, those containing cartilage and cylindrical cells, and those combined with lymphoid tumor. The author's collected cases, including his own, brings the number up to thirty-seven. He thinks certain tumors should be classed with the teratomata, and suggests the following division: (1) True dermoids containing only ectodermal structures; (2) teratoma or those with structures from the entoderm and mesoderm; (3) teratomata with the addition of tumor formation.

Pneumonic Complications in Pulmonary Phthisis.—W. Ophüls has examined the lungs of fifty-six phthisical patients with regard to pneumonic complications, and among thirty-seven successive cases he found them in twenty-five instances. He is able to confirm the statement first made by Orth that there is one form of pneumonic process met with in tuberculous lungs which seems to be produced by a simple infection with tubercle bacilli. Among sixteen cases of mixed infection there were nine of acute bronchopneumonia without caseation; four with apparently rapid and extensive caseation, and four with carnification. There is much to be attributed to mixed and secondary infections in the development of the destructive process in phthisical lungs.

Carbolic Gangrene.—F. B. Harrington reports eighteen cases of gangrene of the fingers resulting from weak carbolic dressings. These added to those found recorded in various countries make a total of one hundred and thirty-two cases, and it is assumed that many hundreds have never been made public. Carbolic acid in any strength as a moist dressing is dangerous and ought never to be used. This needless destruction of fingers should be stopped by including carbolic acid in the list of drugs obtainable only on physician's prescription, and having it always labelled as dangerous.

Clinical Study of Ocular Symptoms Found in So-called Posterior Spinal Sclerosis.—C. A. Oliver says that according to the newest teachings so-called posterior spinal sclerosis is a disease dependent upon an atrophy or degeneration of the sensory neurons, followed by sclerosis, though most probably antedated by varying degrees of low-grade inflammation. He makes broad generalizations of the ocular symptomatology of this affection from studies extending over more than five years.

Report of the Committee of the American Surgical Association on the Medico-Legal Relations of the X-Rays.

Report of a Case of Acute Ascending Paralysis, Showing Hæmatoporphyrinuria.—By C. G. Stockton.

A Critical Summary of the Literature of the Serum Diagnosis of Tuberculosis.—By D. L. Edsall.

Excision of the Lacrymal Sac and Gland.—By C. A. Veasey.

A Case of Brown-Sequard's Paralysis.—By R. F. Woods.

Monatsschrift f. Geburtshülfe u. Gynäkologie, June, 1900.

Irritable Bladder in Women.—Richard Knorr calls attention to the fact that more modern methods of examination have done much to clear up the etiology of the various bladder symptoms so common in women, and that especially the diagnosis of "neurosis" of the bladder is to be made with the greatest caution. The careful use of the cystoscope will in nearly every instance reveal the presence of some organic lesion, and also make possible local applications to the seat of the trouble. Thus, out of sixty-three cases studied by him, in only seven were the indications present in the urine itself such as to point toward disease of the uropoetic mucous membrane, and without a local examination the trouble would doubtless have been ascribed to hysteria. The most common cause is chronic cystitis of the vesical neck, which was present in nearly one-half of the above-mentioned series. Complicating this, or as distinct etiological factors, are ulcerations or papillomatous growths of the bladder wall, chronic urethritis, pericystitis, and, dependent on this latter, distortions or displacements of the bladder due to peritoneal adhesions. Fissure of the internal sphincter, hyperæmia, or phlebectasis of the trigonum, malignant disease, subacute catarrhal cystitis, thickenings and sacculations of the bladder wall are all lesions readily seen with the cystoscope and capable of producing severe vesical symptoms. Aside from the purely operative measures required, from the gynæcological standpoint the treatment is simple. Cystitis colli is treated with one-quarter to one-per-cent. silver-nitrate injections; urotropin, oil of sandal, and boric acid internally clear up the cloudy urine; pericystitis yields to repeated dilatations of the bladder with boric-acid solution.

The Origin of Placental Cysts.—De Jong gives a résumé of the literature on this subject and cites the following conclusions: The cysts may be situated (1) in the amnion; (2) in the omphalo-mesenteric duct; (3) in the chorion on its fœtal surface or in the membrana intermedia of Hunter. They may be due to: (1) Malformations of the amniotic folds; (2) persistence of the omphalo-mesenteric duct; (3) stagnation of its contents; (4) malformation of the chorionic villi; (5) local myxomatous formations; (6) infarcts or hemorrhages. His own observations lead him to conclude that: (1) placental cysts occur either singly or in groups and varying in size from microscopic dimensions to a diameter of from 9 to 10 cm. (2) They are situated on the fœtal side of the placenta and are most often found in the basal portion of the chorion. (3) They are due to malformations of parts of the chorionic villi which become adherent through the fibrin secreted by the cells of Langhans. (4) Their inner surface is lined with the cells of Langhans, which may show overgrowth or degeneration. (5) Their contents consist of detritus from the cells of Langhans, the secretion of the same cells, and also blood fibrin and coagula. (6) They are not the results of a local or general disease, and themselves do not occasion any disturbances of clinical interest.

Massage in the Treatment of Tubal Diseases.—Richard Palm enters a vigorous protest against hasty operative interference in every case of tubal disease, and strongly recommends massage as a most valuable conservative measure. Properly and carefully carried out it is free from danger and may be practised even during pregnancy without causing any mischief. Tumors known to be formed by a hydrosalpinx may be very advantageously treated in this way; the effort should be made to cause the fluid to empty itself into the uterus, from which it drains without risk of sequelæ; care should be taken not to exert pressure near the fimbriated extremity of the tube, though even expression of the contents of a hydrosalpinx into the abdominal cavity need not occasion alarm. In cases in which the fluid is known to be purulent an interval of three months is sufficient to insure its sterility. The author reports a case of cyst of doubtful location and nature which, after prolonged massage treatment, was purposely ruptured. No bad results followed, and under continued massage the fluid was completely absorbed and a cure was effected.

Revue de Chirurgie, June, 1900.

Intermittent Fibrous Polyps of the Rectum.—Maurice Péraire says that although rectal polyps and polypoid growths are frequent enough in children, in adults tumors of this sort are comparatively rare, and furthermore differ from the former in being hard and fibrous, instead of soft and mucous as is the case in younger patients. After an exhaustive résumé of the literature on the subject he divides the tumors pathologically into: (1) mucous polyps; (2) fleshy, sarcomatous, or vascular polyps; (3) polyps due to hypertrophy of the intestinal follicles; (4) fibrous polyps —(*a*) the true fibrous polyp growing from the submucous tissue, (*b*) the fibroid of the rectum. This is analogous to the uterine fibroid and develops in the recto-vaginal septum or in the thickness of the intestinal wall itself. A peculiarity of the symptomatology is that the patients usually do not seek professional advice until the tumor has attained considerable size, though close questioning reveals the fact that for several years they have been suffering from a sensation of weight in the rectum, obstinate constipation, tenesmus, and bloody defecations. Characteristic symptoms are the grooving of the fecal masses in their passage over the tumor, and if it be placed low enough down in the rectum the intermittent appearance of the growth after defecation and requiring manual reposition. Of the complications the most important is the general debility which often results from the repeated hemorrhages; strangulation is not common, though prolapse of the rectal mucous membrane is not infrequent, especially in children. The treatment in all cases consists in extirpation. When the growth is accessible from the anus, the most satisfactory method consists in exposing the pedicle of the tumor by a V-shaped incision, and then ablating it after ligating it either *en masse* or in sections. In those cases in which the tumor is out of reach or involves the

entire rectal wall, and invasion of the perirectal tissues is necessary, accordingly as the tumor is anterior or posterior laparotomy or resection of the sacrum after Kraske is indicated.

Chronic Proliferating Osteomyelitis.—Kozlovsky, under this title, considers a form of bone affection often diagnosticated and treated as sarcoma. The clinical picture does not vary essentially from that of a malignant new growth, but on aspiration the fluid obtained is found to be rich in staphylococci, especially the staphylococcus pyogenes aureus. The reason why the same organism should sometimes produce a typical acute osteomyelitis and sometimes under apparently similar conditions cause this puzzling sarcoma-like new growth, is hard to find; the most logical explanation seems to be that of Kocher, who refers it to variations in bacterial virulence and tissue reaction. If the conditions are unfavorable for the growth of the staphylococcus, and its vitality is not great, there will be produced an obscure symptom complex commonly classed among the manifestations of "subacute rheumatism"; if the activity of the germs, however, is somewhat greater and phagocytosis in consequence more energetic, there will result foci of necrosis surrounded by areas of reactionary inflammation, vascular and actively proliferating, and giving the physical signs of a sarcoma from which also the diagnosis can be made only when the microscopical examination is supplemented by a bacteriological investigation.

Endotheliomata of the Bones.—Thévenot has collected from the literature fifteen cases of endothelioma of the bones, and discusses their morphological and clinical features. Most of these had been diagnosticated as sarcomata or aneurisms of bone, and even microscopically the distinction is a difficult one to make. Characteristic points are the disposition of the cellular elements about the vessels either directly in contact with the blood or separated from it by an endothelial layer; the regular form of the cells without budding nuclei, and the absence of cells having multiple nuclei. The new growth is found in patients of all ages; sex apparently is also without influence. No cause can be assigned, though trauma seems to act by producing a locus minoris resistentiæ which undergoes a secondary degeneration. The history of the growths is essentially that of malignancy. Left to themselves they conquer the patient as quickly as sarcomata. The clinical diagnosis is extremely difficult, and the treatment is that for all malignant growths, though in suitable cases a tentative conservative operation is permissible.

Compression of the Pedicle of a Movable Kidney by a Distended Gall Bladder.—By E. Reymond.

Cancer of the Large Intestine Excepting the Rectum.—By R. De Bovis.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE REBELLION OF THE ROYAL COLLEGES—BRIBERY IN ASYLUMS FOR LUNATICS—THE WORLD'S TEMPERANCE CONGRESS—HOSPITAL SUNDAY FUND—MISMANAGEMENT AT THE HOSPITAL FOR PARALYSIS AND EPILEPSY—TYPHOID INOCULATION—JENNER INSTITUTE.

LONDON, June 22, 1900.

THE two London colleges have adhered to their determination to defy the Medical Council, and now proceed to deny the existence of any sovereignty. The diplomatic document announcing this was presented at the last meeting of the Council, when it could not be considered, and so active hostilities are postponed until the next session. The document is not easy of access, being marked "confidential," as too many of the Council's printed matters are. But a glimpse at the one in question shows that the colleges are cognizant of the possibility of the course I indicated, for they assert that the Council's action is "outside its powers," and then proceed to declare that the attempt to enforce its decision by "refusing registration to students of those schools" it has not approved "would have no justification." If the colleges mean that they would not consider this course justifiable, they are welcome to their opinion. But that the course would be legal is clear enough, and that all unprejudiced persons would consider it justifiable is certainly the general conviction. But the rebellious colleges are determined, if possible, to obtain complete independence. They declare that "the whole of the structure of regulations and requirements which the Council has erected on the same groundless assumption of authority are invalid as such, and can only be received for what they are worth as recommendations."

Often have I smiled at the Council *recommending* what it should have *required*, and this is the reward of its weakness. But the colleges had better beware. It is a very simple procedure to refuse to register any student who has not complied with the requirements, and let the colleges make good their boasting by an appeal to the law. It would be something strange to see the Royal College of Physicians and the Royal College of Surgeons join hands in an attempt to set back the educational clock. To many it would be a revelation of the innate selfishness of these colleges. But they will not dare—for though they might defy the Council if it were the interest of the other corporations to do so, just the opposite is the case. These two colleges want to steal a march on the others for their own profit. It is hardly in corporate nature to help to transfer the corporation profits to the coffers of a rival.

Great indignation is being expressed at a system of bribery which has just been exposed by a committee of the St. Pancras Guardians. A report of this committee shows that the relieving officers received money from licensed lunatic asylums for giving them the preference. These asylums charged the board two guineas a week for a patient, while other parishes only paid 19*s.* 3*d.*, so there was ample room for bribery. This system of bribery of officials seems to have secured nearly all the pauper lunatics of St. Pancras—the amount paid to the two asylums reaching over £12,000 a year. It is the old story of improper commissions defrauding the public, and seems to have been going on for many years with the St. Pancras relieving-officers. It is well that the fraud has at last been detected, for St. Pancras is not the only parish in which it has flourished. A few months ago there was an allegation against Bethnal Green, and I heard that a local government board inquiry was made, but the result has not been made public. Perhaps now the board may awake from its sleep.

I regret to say that some doctors have been weak enough to connive at the commission system by giving the odd shilling of their guinea for certifying a lunacy case to the officer who brought it—some indeed outbid their neighbors and gave half-a-crown or five shillings. Of course the doctors who stood on their dignity and refused to give presents seldom had a case brought for certification. It is to be hoped the exposure of the system will prove effectual to prevent its recurrence.

The World's Temperance Congress has been held at the Examination Hall of the Royal Colleges. A thousand delegates assembled from various countries, and about half of them attended a preliminary meeting to welcome the veterans who were present at the convention of 1846. The Archbishop of Canterbury was president of the Congress and delivered a spirited address. The only country that sent delegates in 1846 was America, and those who took part in that meeting scarcely could have anticipated the world-wide character of its successor. The scientific and medical aspects of the question were well represented.

In connection with this may be named the Medical Temperance Association's annual meeting on the 12th inst., when the president, Dr. Sims Woodhead, gave a reception to the medical and scientific delegates to the congress. A demonstration with the electric lantern was given in the lecture theatre by Dr. Ridge, showing that minute quantities of alcohol interfered with the growth of both vegetable and animal cells and delayed oxidation. The removal of waste products was thereby hindered and other functions were interfered with.

On Sunday sermons were preached on the temperance question in most of the London places of worship and in many of those in the provinces.

This reminds me that next Sunday is the metropolitan Hospital Sunday, when sermons will be preached on behalf of the hospitals and collections made. *The Lancet* has again distributed a special supplement teeming with facts which will be useful to ministers preparing their appeals. There is naturally some misgiving lest the demands on public generosity made by the war funds should cause a diminution in the collection for hospitals. And yet this should not be, for the hospital donations should be regarded as regular annual subscriptions, for the poor and sick are always with us; while the war contributions may happily be looked upon as exceptional calls on the patriotism and generosity of the nation.

Last year the Hospital Sunday Fund amounted to above £53,000, but some £15,000 of this came from donations leaving £38,000 only to represent the collection of small amounts. This is less than 2½ pence per head of the population—a fact which ought to stimulate the working-classes to rush in with their pence to make up for the class above which gives fewer shillings than might be expected.

The National Hospital for the Paralyzed and Epileptic is so identified with good work that you may fancy its management is a model. This, however, is not the case. The good work is that of the medical staff. But the board of managers seem unconscious of their own insignificance, and trouble has for some time been brewing. The staff

have at last been goaded into stating that the administration of the hospital is "unsatisfactory." This is a very serious step, and unless the board takes the advice of the staff the success of the hospital will be imperilled. I have for some time been aware of blots on the management, and now the staff has moved hope for reform. The sooner the board makes peace with the staff the better will it be for the institution.

The large number of typhoid cases among our troops in South Africa is naturally a cause of anxiety lest the hope of success for antityphoid inoculation should end in disappointment. A great number of officers and men submitted to inoculation in hope of preventing attacks of the disease, but so far as can be gathered no case for immunity has been made out. In fact the figures rather point the other way. It may be that when the statistics are more complete a more favorable result will appear, but for the present we can only hope it may be so, and the hope grows fainter.

The Jenner Institute has been unsuccessful in its attempt to escape paying rates as an institution for the promotion of science. The judge regarded its object as the preparation and sale of medicines. This seems rather hard lines on its effort to supply the profession with reliable serum, which it does at a loss instead of a profit.

NEGROES IN THE MEXICAN REPUBLIC.

To the Editor of the Medical Record.

Sir: An article on the American negro in a recent issue of the Medical Record led me to examine into the condition of the Mexican negro, and I send you herewith the results of my inquiries. Bishop Bartolomé de las Casas, seeing the pitiable treatment the Mexican Indian was subjected to by the Spaniards, and moved to compassion, brought about the introduction of the African negro, whom he considered an inferior being and better fitted for hard work in the mines. Slavery, not only of the negro but of the Indian likewise, existed in Mexico until 1813, when the first national congress, at Chilpancingo, on a motion made by the Priest-General Morelos, abolished slavery forever.

In no one of the Spanish-American countries was there ever to be found proportionally so large a number of negroes as in the southern States of the United States. It is to be noted that the negro is much less reproductive than the Mexican Indian. It is utterly impossible to give even an approximate estimate of the number of black people in Mexico. According to a census taken in 1835 there were then six thousand negroes in the republic. I have not found in any other census any data with regard to the number of inhabitants of African descent. In fact, any black man, if asked his race, will hardly call himself a negro, but will hold himself to be of dark complexion. Yet in an old book by an Englishman, who travelled in Mexico some one hundred and twenty years ago, I have read that then in the City of Mexico there was such a great number of negroes (over forty thousand) that they were considered a dangerous factor.

I estimate, however, that in this country there live over ten thousand negroes and numberless individuals in whose veins some African blood flows. Those negroes live mostly in the state of Vera Cruz, in the south of the state of Morelos, and in Guerrero. They enjoy perfectly equal rights with the white man and the Indian, not only by law, but practically. No man is slighted because his skin is black; every career is open to him. We have seen black generals (that does not mean much), black lawyers, congressmen, professional musicians. I confess never to have met with a negro doctor or priest. Yet there is no doubt that a black boy would be admitted to either profession if he wished.

The negro in Mexico lived in general under a milder rule than in the North, and after the abolition of slavery he was not treated or regarded as an outcast and an inferior being. All the negroes in this country are farmers, many of them well off. One hardly ever sees a negro girl serving as a domestic, or a negro craftsman in a workshop. Their number increases, though more slowly than that of the Indians, as they are less prolific. They are somewhat industrious and not remarkably immoral. No case of fetishism or cannibalism among them has been known. Their social condition improves visibly.

When slavery was abolished in Mexico, the negro was certainly not better prepared for freedom than he was in the southern States. Consequently, if we try to find a reason for the difference in their development and for the different use they made of their liberty, we must look for it elsewhere than in the sudden transition from slavery to liberty and their unpreparedness for freedom. There must be some other cause for the different development of the same element in two different countries and under much the same circumstances. May it not have been of the greatest moral effect that in this country the negro, from the day he was freed, was held to be a man and a citizen and anybody's equal?

Sir Spenser St. John, who had lived as British minister in Hayti and later on in Mexico, in his book on Hayti gives a most pitiable description of the blacks of that island, who fell back into all the horrors of savagery of their native Africa, into a condition toward which, according to some American authorities, the North American negro is drifting.

It might be used as an argument against the black race, that in Hayti nobody interfered with the development of the negroes, and that their actual condition in Hayti is only their natural one. But I wish the friendly reader to consider that the negro of Hayti obtained his liberty only after a cruel and bloody struggle which quickened all his atavistic instincts, and that the civilizing influence and example of the white man were completely withdrawn from him.

F. Semeleder, M.D.

Cordoba, V. C., Mexico.

THE ALLEGED BREEDING OF TAILLESS MICE THROUGH THE INHERITANCE OF MUTILATIONS.

To the Editor of the Medical Record.

Sir: There is not a more important question in theoretical medicine than the one which at present absorbs so much of the time of our biologists, whether modifications acquired by an organism, and not inherited as a normal variation, can be transmitted to its offspring. Physicians, as a class, are so thoroughly convinced that acquired modifications are transmitted in family lines, that to ask them to give up their belief is almost as futile as to ask them to renounce their faith in a future existence. Nevertheless Weismann has shown that there is not a single unchallenged instance of the transmission of an acquired modification, and his teachings are apparently being accepted by the younger generation of biologists, just as Darwin's theories were accepted by the younger men of a generation ago. It is interesting to note that all the facts of organic evolution, though first explained by Lamarck on the theory that certain individuals became modified by their environment and thus originated new species by transmitting these modifications to offspring, are now wholly explained by the survival of congenital variations making the possessors better fitted to the environment than were the parents. Darwin believed in both processes, yet as he grew older he confessed that he saw less and less evidence of the transmission of certain alleged acquired modifications. The common mistake among physicians is the failure to recognize that their instances are not the transmission of acquired modifications, but are really variations in development which are strictly transmissible in varying degrees. The character which the child possesses in an excessive form may not have been acquired by the parents at all, but have existed from birth.

Telegony, or the influence of one father upon subsequent pregnancies by other males, has always been a stumbling-block. But now comes the almost certain proof[1] that there are absolutely no instances of this alleged fact, and in hundreds of experiments of breeding an animal to a male of a different variety, and in subsequent years breeding her to a male of her own variety, these later offspring are always pure. Weismann also shows that there are no reliable instances of telegony.

Mutilations were long ago resorted to for proof of the transmission of acquired modifications, and although mutilations are not the modifications usually thought of as better fitting an organism to its environment, yet it was seen that if such gross changes could be transmitted, surely the more subtle ones could be. In only one case has there been a report of the successful transmission of mutilations,[2] and it has been so extensively quoted that I have taken the trouble to trace the fake down, thought it has taken nearly three years to do so. It was alleged that tailless mice had been bred by cutting off the tails of the young as soon as they were born, and in six or eight generations tailless litters were born.

Dr. Charles E. Lockwood, of New York, is generally referred to as the experimenter, but he writes me that he had nothing to do with it except as below mentioned. In discussing the subject of the transmission of mutilations with Col. S. D. Bruce, editor of *Turf, Field, and Farm*, the latter referred to a Mr. A. S. Shiddell, of Lexington, Ky., who had thus bred tailless mice. They wrote to Mr. Shiddell, who kindly detailed the experiments, and his letter was given to Prof. H. F. Osborn, who quoted the follow-

[1] Popular Science Monthly, June, 1900.

[2] Medical Record, May 14, 1892.

ing extract in his Cartwright lecture: "I selected a pair of white mice on account of their rapid breeding. I bred them in and in for ninety-six generations, as they breed every thirty days, and when they are thirty days old they are able to reproduce themselves. I destroyed all sickly and defective ones by breeding only the fittest. I bred all disease out of them, and had a pure-blooded animal, larger and finer every way than the original pair. In breeding their tails off, I selected a pair and put them in a cage by themselves, and when they had young I took the young and clipped their tails off. When old enough to breed I selected a pair from the young and bred them together, and when they had young I clipped their tails. I continued this breeding in and in, clipping each generation, and selecting a pair of the last young each time. In seven generations some of the young came without tails until I got a perfect breed of tailless mice. I then took one with a tail and one without a tail and bred them together, and by changing the sexes each time—a male without a tail and a male with a tail—I was finally rewarded with all-tail mice." Professor Osborn said: "There is such general scepticism now in regard to the inheritance of mutilations that it will be necessary to repeat these experiments in some well-known physiological laboratory. As told above, they seem to be perfectly trustworthy, but facts which go against a theory must be doubly attested."

Mr. Shiddell, in a letter to me, says that he was ten years at this work, yet by his own statement not more than six generations can be obtained in one year, so that his ninety-six generations would take sixteen years alone for the preliminary experiments before he began the tail clipping. It is absurd to suppose that a man would take such a long time for the preliminary work. In another letter he states that it was only ninety generations, but as the handwriting is not that of an old man but rather that of a young woman, we presume that there is an error in copying. I have been unable to find the length of gestation in white mice, but as they are merely albinos of the common house mouse, we presume that they have the same period—twenty-seven days, and are not developed until three months old. This would limit them to three generations a year, and for the whole length of Shiddell's experiments a period of thirty-three years is necessary. It is not likely that in-and-in breeding for ninety-six generations will result in finer specimens than the original, nor will it breed all disease out of them. We are taught to believe the reverse.

He states that he got some tailless ones in seven generations, but does not state how much longer it took to get them all tailless. In a letter to me, he says that in the sixth generation some came tailless, and "in the seventh generation all came without tails and they continued coming without tails." In a letter to Dr. Lockwood he states that he had no time to make other experiments, yet the above letter claims to have reversed the process.

It is interesting to note that while Shiddell succeeded in seven generations, Weismann failed in identical experiments after nineteen generations, that Retzema Bos and Rosenthal failed both with rats and mice,[1] and that Dr. S. M. Worthington[2] calls attention to the utter failure of such mutilations to be transmitted in the dehorning of cattle, and clipping the ears of hogs and the tails of lambs.

Shiddell gives the following as his reasons for attempting the experiments: "Quite a number of years ago, I wished to carry out a theory of mine, which was that each particular part of the animal organization furnished the substance to reproduce that part, this being entirely original with me, never having heard of any experiments being made"—(Darwin's pangenesis).

The cause of this remarkable publication of imaginary experiments is found in Mr. Shiddell's mental equipment. He is evidently well known locally, as shown by the following extract from a letter sent to me by the editor of *The Kentucky Gazette*, of Lexington: "He is a gentleman who for a long time conducted a small grocery, and was known as a sort of amateur with flowers, white rabbits, etc. He must be about seventy years of age, always bore a good reputation, and as far as we know bore a name unsullied by falsehood. We know nothing of his raising white mice, but it is like him to do so, and if he undertook such a vocation he would watch it closely."

As Mr. Shiddell claims to have been personally known for over forty years to Colonel Bruce, we can well believe his reputation for eminent respectability. His real personality was not known to either of the above gentlemen. I learn from Dr. S. M. Worthington, of Versailles, Ky., that some of his friends who have seen Shiddell have informed him that Shiddell is not reliable. He is evidently a gentle, dear old soul, of visionary nature, full of strange conceits, who had thought so much of his theory of pangenesis that he finally brought himself to believe that he had actually made the experiments which he describes with so much irreconcilable detail. Deliberate falsehood or practical joking is quite out of the question in such a case.

It is highly important that the real facts be known, for the alleged experiments have been published far and wide as attested scientific facts. Dr. R. Harcourt Anderson refers to them in the MEDICAL RECORD of October 2, 1897; Dr. E. S. Talbot quotes them in his book on "Degeneracy"; an editorial in the *Journal of the American Medical Association*, November 18, 1899, accepts as a fact that mutilations are transmissible, and Dr. Lockwood informs me that he has received so many letters of inquiry on the subject that it is evident that the original 1892 report has been universally accepted. It is remarkable that scientists should have been so taken in, and almost amusing that Dr. Talbot, in his work on people of nervous instability, should have been the victim of one of these subjects.

We can rest assured that the only way to breed tailless mice is to select those with the shortest tails and continue the process for untold generations, imitating nature's method of natural selection. The process will be a gradual diminution of the tails to their ultimate extinction; but to suppose for a moment that the tails will suddenly disappear in a whole litter, except as a teratological freak due to causes we know nothing about, is the height of absurdity.

CHARLES E. WOODRUFF, M.D., U.S.A.
FORT RILEY, KANSAS.

P. S.—Since the above was written the following telegram has appeared in the daily papers: "Lexington, Ky., June 30th.—B. N. Shiddell, aged eighty-three years, died here to-day. He was a man of eccentric habits, and was known throughout Kentucky as a man who bred the tails off white mice. He labored for nine years to accomplish this result, during which time he bred ninety-six generations of the prolific animals. He swore that he would not shave until Henry Clay was elected President, and he wore his long beard several feet in length, knotted and massed under his vest to keep it out of the way. Shiddell was born in the house in which he died."

[1] "The Germ Plasm," p. 397.
[2] MEDICAL RECORD, Feb. 20, 1897.

WOMEN MEDICAL GRADUATES IN SWEDEN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I beg to correct the heading of your notice on page 1087, vol. lvii.: "A Woman Medical Graduate in Sweden." There are at least a dozen women medical graduates or practitioners in Sweden, but Miss Stecksen is the first to receive the degree of M.D. Upon the completion of the medical course in Sweden, the graduate receives the degree of medical licentiate, which entitles him to practise. To receive the degree of M.D. an original thesis must be written and publicly defended; if this work is satisfactory to the faculty, the author receives the degree of M.D. Miss Stecksen is the first woman medical graduate to do this, and receives and deserves much praise for her thesis: "A Study in the Etiology of Tumors." The heading of your notice conveys the impression that Miss Stecksen was the first and only woman medical graduate in Sweden, which I beg to correct.

C. FRITHIOF LARSON, M.D.
CRYSTAL FALLS, MICH.

Salicylate of Methyl applied on cotton compress with two parts of oil rapidly diminishes pain in epididymitis.—BETTMANN.

Threatened Abortion.—To decrease irritability of the uterine mucous membrane give iodide of potassium, gr. v. three times a day.—MONTGOMERY.

Ataxia should be treated by compensatory movements. Since innervation of the antagonistic force is at fault, resisting movements should be carried out. It is not the degree of inco-ordination, but the character of the case which should determine prognosis.—BUMM, in Gesell. der Aerzte, Vienna, January 13, 1900.

Thinness.—Physical and cerebral rest, country air, hydrotherapy; fatty meats and fatty food; bread crust, pastry, beans, peas, nuts, sugars, honey; Fowler's solution up to gtt. xv.-xx., graduated. Condiments should be avoided excepting salt, acids, sour fruits, salads, cabbage, coffee, turnips, tea, hot drinks, sour wines, tobacco.—LE ROY, *Gaz. des Hôp.*, February 22d.

Clinical Department.

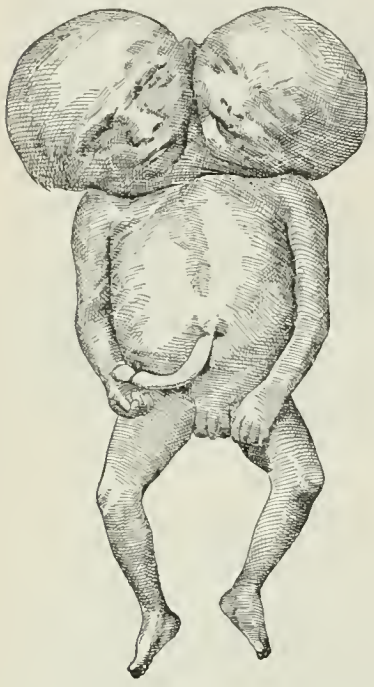
A DIPROSOPUS.

By J. E. CAVEY, M.D.,

WEST ALEXANDRIA, OHIO.

My first case of obstetrics in the new year was of such unusual occurrence that I believe a report of it would be of interest to the profession. It was the spontaneous delivery of a diprosopus.

On January 8th I was called to attend Mrs. H. S——, white, aged thirty-eight years, mother of four children born singly. Her mother had given birth to twins. The child was born dead at about the seventh month of pregnancy and weighed six pounds. I was unable to procure the specimen, but obtained a photograph.



Both heads were of uniform size, the bones of each head being well developed. The features were markedly alike. The body was very well formed. The generative organs resembled those of both sexes, a small but well-defined penis springing from the upper portion of the vulva. Labor was tedious but uncomplicated. The right head rested against the ilium, while the left head escaped from the vulva. The recovery of the woman was uneventful.

A CASE OF EPILEPSY CURED BY OPERATION ON THE NOSE.

By J. J. RICHARDSON, M.D.,

WASHINGTON, D. C.,

DEMONSTRATOR OF RHINOLOGY AND LARYNGOLOGY, GEORGETOWN UNIVERSITY MEDICAL SCHOOL.

Epilepsy is one of the neurotic diseases which we cannot associate with any constant pathological lesion. The exciting cause in individual cases differs widely, and there is no definite or uniform etiological factor demonstrable. The clinical phenomena are usually the same, regardless of the etiology. The nose has many sins to answer for, and among them is epilepsy, as shown by the following case which has come under my care:

Boy, aged twelve years, of neurotic temperament and son of healthy parents with good family history. The boy had been having epileptic seizures very frequently for eighteen months, but much oftener the six months preceding the time he came under my care. Scarcely a day would pass without a paroxysm, and sometimes several would occur in twenty-four hours. The seizures usually were abrupt in their onset, without any apparent aura. There were loss of consciousness, frothing at the mouth, and at times bleeding of the tongue. The symptoms usually quickly subsided, and were followed by a short period of confusion of thought. A rhinoscopic examination revealed a hyperæsthetic nasal passage and a marked hypertrophy of the middle and inferior turbinated bodies of the right nasal cavity. The breathing was obstructed and there was considerable pressure on the septum from the hypertrophied tissue. Under cocaine with the electro-cautery I destroyed the thickened tissue by two operations, one week apart. The month preceding the first operation the boy had not missed a single day without having a "spell," and the week following the first operation he had only three. After the second operation he did not have another paroxysm. He has been under observation eight months and is enjoying perfect health. No other treatment was administered, but he had been taking bromides before the nasal treatment with no apparent effect.

MUMPS IN PNEUMONIA.

By CHARLES W. DULLES, M.D.,

PHILADELPHIA.

It is a curious but well-known fact that at certain times there occurs almost simultaneously a considerable number of cases of forms of disease or injury which are in general quite rare. This has been recently illustrated by the publication by several observers of reports of the development of mumps in the course of pneumonia. The articles in which these cases have been recorded indicate that insufficient mention of this complication, in the text-books, has led to the impression that it is more rare than it actually is. As a matter of fact the occurrence of inflammatory swelling of the salivary glands in the course of pneumonia has been described in really comprehensive works like that of Wilson Fox on "Diseases of the Lungs and Pleura." Still, the publication of recent observations is more likely to put the members of the profession on their guard than its mention in the books. For this reason—and for another—I think it worth while to make public an observation of my own occurring during the past winter, when the other cases were noted. My patient was a woman over eighty years of age, living in the Presbyterian Home for Widows and Single Women, in this city, a person of great neatness and careful habits, who contracted a cold which passed at once into a croupous pneumonia affecting the left lung. She became very ill, but after the crisis she began to improve, and eventually she fully recovered. Just after the crisis I found that she had marked swelling of the right parotid gland, which presented all the characteristics of mumps, and afterward the left parotid gland went through precisely the same stages. In this case there was no question of a second infection from without: it was a plain case of auto-infection.

The second motive for this publication, referred to above, is to describe the treatment adopted. On each side successively I applied a fairly thick compress of surgical gauze saturated with boroglyceride and covered with a layer of paraffin paper and just enough bandage to keep it in place. The relief of pain and the subsidence of swelling which promptly followed the application I am disposed to attribute to the boroglyceride. This is an application of the greatest utility in a variety of inflammatory swellings, and especially in the case of incipient boils and carbuncles. In my hands it has wholly replaced the poultice; and since some years ago, when I began to use it where poultices used to be employed, I have not had to apply the knife to either boil or carbuncle. I have also found it useful in inflammatory swellings below but near to the true skin, and I have observed recently the

extensive advertisement of a nostrum recommended for use in similar cases, which I am informed consists of a mixture of glycerin and talcum powder. If this nostrum proved of value, I believe that it was through the depleting influence of the glycerin; and boro-glyceride—of a strength not greater than fifty per cent.—I presume would be a more rational and equally useful application.

FECUNDITY.

By WILLIAM P. BURKE, M.D.,
NEW HAVEN, CONN.

On the evening of May 23d I was called to attend Mrs. H—— in her fourth labor. After a tedious and rather severe labor I delivered her on the morning of the 24th of triplets, two boys and one girl. The boys weighed eight and nine pounds respectively, and the girl seven pounds, making twenty-four pounds of children in all. There was but one placenta, which was attached in three places, arranged very much like a clover-leaf with membranous connections between the patches of placental tissue.

One of the children, the second, a boy, presented by the feet and died in about fifteen minutes after birth. The others were vertex presentations. On May 1, 1898, I delivered this woman of twins, a boy and girl. She also had previously had two other labors with one child at each birth. Ten months before she gave birth to the twins and about the same time before giving birth to the triplets she miscarried at five months. All of this occurred within six years and one month. Of the seven full-term children but three are living.

Her mother gave birth to eight children in all, and her grandmother to eleven.

A CASE OF SUDDEN AND UNEXPECTED DELIVERY OF TWINS.

By W. C. HANDS, M.D.,
NEW YORK.

Mrs. E. C——, aged twenty-four years, who had previously after a lingering labor given birth to one child, some time ago sent her husband for me. His remarks to me were: "Doctor, mother would like you to stop at the house some time this morning. Emmie [his wife] is not feeling well; there is no hurry, any time will do." By chance I responded at once. Upon arrival at their apartments, I found every one in great excitement, standing about in the most ridiculous attitudes. On the bed, in the knee-hand position, was the patient, naked from the shoulders down. As I entered the room my view of things was a rear-end one, and I saw extending through and from the vulva what proved to be an umbilical cord, dangling from the end of which was a small baby boy. I think my smile was excusable. The patient had been in that position for fifteen or twenty minutes, not daring to move, and no one present had the temerity to render her any assistance. After making her comfortable and delivering the placenta I was surprised to find two cords attached. I mentioned the fact that there must be another child around somewhere, and hunted about the bed without success. Upon questioning the patient as to what room she was in before going to her bedroom, she replied, "The dining-room, but stopped in the bath-room, where the waters broke, and I hurried right in here."

I went into the bath-room, and, sure enough, there in the hopper was the other child, a boy, doing his best to wriggle into a comfortable position. Fortunately, the mother had not pulled the handle, or the child would have gone down, it being an ordinary pan-closet. The patient afterward told me she had pain while in the bath-room and a gush of water, but did not have the slightest idea that anything but the water had passed from her, and when she reached the bed and was about to lie down in it a child dropped from her, and she was afraid to move or lie down. There was absolutely no pain with the delivery of the second child, only the tug when it reached the end of the cord, which did not break as the first one had done. There had been a miscalculation of two months in this case of the probable date of parturition, and the mother had no idea of the cause of the pain, even when the waters broke, until the second child fell from her while stepping on to the bed. Neither child received any injury, and together with the mother both are in fine feather. The parents were intending to name one of the boys William Cornelius, but when they thought of the initials, W. C., it occurred to them that it might be too suggestive of the place where the doctor found him.

205 West One Hundred and Thirtieth Street.

A CASE OF MYXŒDEMA, WITH TREATMENT.

By ETHAN E. GRAY, M.D.,
CHICAGO, ILL.

Mrs. H——, aged fifty-nine years, came to me for treatment of a general "dropsy," which, she stated, had existed for thirteen years, at the beginning of which time the feet began to swell. The œdema, or, rather, swelling, gradually extended upward, and in the fourth year of the disease swelling of the face became apparent. The arms and hands also swelled, and the latter became useless for finer work. The hair, eyebrows, and eyelashes began to fall out, and depilation continued until there were, in January of this year, but a few wisps of dry, split hair left on the scalp.

The headaches became more and more frequent, the mind became obtunded, and reading was abandoned on account of the difficulty of concentration of the mind. The patient became moody, desired to live alone, refusing society, and leading a drowsy existence. She became so somnolent that she slept while engaged in the lighter tasks of housework. The tongue was thick, making speech somewhat indistinct at times. As her thoughts were slow, so was her speech. Her voice became deep, almost masculine in character, and rough. She stated that a sister, near her age, was affected similarly, though in a lesser degree.

The appearance of the patient at the time of my first examination was in thorough accord with the accepted description of Gull's disease: The head was greatly bloated, the scalp nearly hairless; the cheeks were heavy, pendulous, and pale. The ears were thickened, the eyes almost concealed by overhanging water-bags, the lips as thick as a negro's, and the nose was broad and thick. Here and there were patches of rosy color, but the skin as a rule presented a shiny, pale appearance.

The abdomen was enormous, its walls being very thick and imparting a brawny feel to the fingers. The legs were enormously swollen, as were the feet. The thyroid gland was not palpable, the trachea being felt well down toward the base of the neck, through the thickened tissues. Examination of the abdominal organs elicited nothing of note. The spleen and liver were of normal size, but it was impossible to locate the kidneys. The heart was normal.

Uranalysis revealed no albumin, no sugar, no casts.

Urea was excreted in fair quantity; specific gravity, 1.020–1.025. The bowels were constipated.

The patient was at once placed on desiccated thyroids, a hæmatic, and occasional eliminants in the form of the mild chloride. The dose of the thyroids was gr. iii. four times daily at first, later reduced to three times a day. At the end of the third week of thyroid feeding the swelling in the abdomen and in the legs had begun to disappear. In six weeks the patient had taken an interest in household affairs, beginning sewing, reading, and brightening up mentally. The hair began to grow all over the scalp, the eyebrows and eyelashes reappeared. The voice became higher pitched and more feminine in character. The eyelids had become normal in size, while wrinkles appeared over the face. At this date, May 25th, the patient is in a normal condition mentally, and, barring a thick crop of short, dark hair on the scalp, is in no way different from other women of her age.

This case, I think, presents as typical a history of adults' myxœdema as can be desired; and yet, during the thirteen years she has been afflicted, she has undergone much treatment for nephritis and cirrhosis of the liver.

The salient features of the case should not be forgotten, viz., (*a*) the general swelling of the features and of the body; (*b*) the mental condition of the patient, *i.e.*, the disinclination to effort; (*c*) the slow speech and dragging of words. With these points in mind, it should be a simple matter to differentiate between the myxœdematous condition and the dropsies due to renal, hepatic, or cardiac disease.

158 Evanston Avenue.

A CASE OF TUBERCULOUS INTRAPERITONEAL EFFUSION CURED BY INCISION AND PERMANENT DRAINAGE.[1]

By GEORGE I. MILLER, M.D.,

NEW YORK,

LATE HOUSE SURGEON TO BETH ISRAEL HOSPITAL.

O. F——, forty-six years of age, a Hebrew woman, was admitted into the Beth Israel Hospital on August 31, 1897. The family history was negative. She had had the usual diseases of childhood. She began to menstruate when fifteen years of age, and the period was always regular, lasting three to four days, moderate in quantity and painless. She married at the age of twenty-one years; she gave birth to twelve healthy children—her last child being born when she was thirty-five years old. She never aborted. At the age of forty-three, or three years ago, her menstruation ceased.

She always felt strong and healthy up to six months ago, when she was suddenly seized with pains in the stomach and had alternate chills and hot flushes. This condition lasted about a week. Later on she began to notice swelling of the hands and feet. On admission her feet were found to be swollen, and her abdomen was greatly distended with fluid. The heart, lungs, liver, and spleen were examined and found to be normal. The temperature was 99° F. and the pulse 72. Urinary examination was negative; specific gravity, 1.016; no albumin, a trace of phosphates.

Operation: The woman was operated on by Dr. A. Brothers on September 3, 1897, after the usual preparations. An incision three inches in length was made in the linea alba midway between the umbilicus and symphysis pubis. The peritoneum was opened and about three gallons of liquid evacuated. The abdominal and pelvic organs seemed to be normal. The peritoneum was found to be thickened, hyperæmic, and studded with tuberculous nodules. There were slight adhesions in places. The effusion was general, occupying the whole peritoneal cavity. The liquid was slightly turbid, containing some flocculi of lymph. The abdominal cavity was drained with a rubber tube passed deep down into the pelvis and loosely packed with iodoform gauze. This drain was allowed to remain for two months, after which, on October 30, 1897, the patient was discharged from the hospital as improved.

During her stay in the hospital, her highest temperature was 102.6° F., pulse 138; but most of the time her condition in this respect was normal. The wound was dressed every other day. The treatment otherwise was symptomatic.

On May 3, 1900, nearly three years later, the patient presented herself at Dr. Brothers' office. She said that after leaving the hospital she visited relatives in the country with whom she remained a long time. The fluid did not reaccumulate, and she gradually recovered her health and strength so that at present she is perfectly well. No medical or surgical treatment was followed after she left the hospital.

Nearly fifteen years ago the method of draining the peritoneal cavity with tubes after laparotomy was in general vogue, and it is still in use among certain operators, notably W. Gill Wylie and Tuffier. Many years ago Caillé, of this city, published a series of observations in which permanent drainage of the peritoneal cavity in cases of persistent or recurrent effusions (as after cirrhosis of the liver) was resorted to. The method, however, was never apparently generally adopted, the profession preferring to make repeated tappings with trocar and cannula. This case, however, would seem to justify the more extensive employment of this method of permanent drainage in a selected class of cases.

257 East Broadway.

[1] Presented at a meeting of the Eastern Medical Society, held on May 11, 1900.

REPORT OF A CASE OF CARBOLIC-ACID POISONING SUCCESSFULLY TREATED WITH ALCOHOL.[1]

By H. RODMAN, M.D.,

NEW YORK.

As this case admits of no possible doubt in the saving of life by the employment of alcohol in carbolic-acid poisoning, I feel it my duty to report it, and state all details as they occurred.

Although I thought at the time that the particular method I employed was original with me, I have since learned that several other patients had been treated, and successfully too, in like manner. It had been fully demonstrated by Drs. Powell and Phelps that alcohol was a direct antidote to carbolic acid. Powell himself, in front of his class, filled his mouth with pure carbolic acid and allowed it to remain thirty seconds; he then filled his mouth with pure alcohol, and suffered no bad results whatever. We all know its efficacy in the treatment of sinuses, and various experiments have been made proving the direct action of alcohol on the escharotic and destructive action of carbolic acid. It was then suggested that alcohol could and should be employed when carbolic acid has been taken into the stomach. It may seem heroic treatment to pour pure alcohol into the stomach and then wash out the organ, but we know that carbolic acid is one of the most deadly poisons, particularly when large quantities have been swallowed, and that almost every such case terminates fatally.

The treatment of carbolic-acid poisoning up to the present time has been most unsatisfactory, and when

[1] Read at the regular meeting of the Harlem Medical Association on March 12, 1900.

one considers how common a poison it is, and how readily obtained by a layman, we can congratulate ourselves on the discovery of so valuable an antidote. When carbolic acid has been allowed to remain for any considerable time, and when the destruction of tissue has been extensive, alcohol cannot exert much influence on the tissues, but it should, nevertheless, be employed.

My case is as follows: On December 17, 1899, I was called to attend a woman, Mrs. M——, of this city, who had taken poison by mistake. When I arrived in a very short time, I found the patient, sixty years of age, lying prostrate in bed, with a two-ounce bottle of pure carbolic acid on the dresser, and entirely empty. The fact of it being pure carbolic acid was evident, both from the label and after testing it personally, and from the patient's own statement subsequently. I had been told by her son that his mother had been suffering with neuralgia, and had been in the habit of taking medicines; that she had bought pure carbolic acid the night previous for disinfecting purposes, and had placed it on the dresser with the other bottles; that, being seized with severe pains, she poured out the contents of this bottle into a wine-glass and drank it. She soon realized her mistake, calling to her son, who ran around for me. By the time I reached her she was completely unconscious; her pulse was thready and scarcely perceptible; there was extreme dyspnœa, the face was congested, the lips were cyanotic, and the conjunctival and pupillary reflexes were absent. Her extremities were limp and cold. The temperature per rectum was 96.2° F. The patient was in an extreme condition of collapse. An eschar had already formed on her lips and tongue. I gave a very bad prognosis, expecting that the patient would surely die. Of course she could not swallow, so I introduced a stomach tube carefully into the pharynx, not into the stomach, and poured down four ounces of pure alcohol, which I had in my satchel. I allowed this to remain two or three minutes, considering that sufficient time first to exert its antidotal action, and then introduced the tube into the stomach, and washed out the contents with warm water. I then washed out the stomach again with diluted alcohol which I had ordered, and then withdrew my stomach tube. Nothing else had been done up to this point. A second physician, who had been called, pronounced the case hopeless, and criticised my treatment. An ambulance surgeon, who was also summoned, said the patient would surely die, and that it was useless to take her to the hospital. I had noticed some improvement already, and considered the patient strong enough to be removed to the hospital, not knowing what complications would ensue, and that even should the patient rally, I did not think that she could be treated properly at home under the circumstances. The family refused to do this, and I left the house, the other physician remaining in charge. In twenty minutes I was recalled, my colleague having left after telling the people that the patient would not recover. When I returned, I found the patient with consciousness returning, her eyes wide open, begging for cold water. Her pulse had improved considerably, her breathing had become less frequent, and her appearance less cyanotic. She vomited a little and her bowels moved twice, but no blood passed. I then administered strychnine hypodermically and other cardiac stimulants, and employed the usual methods for combating shock. I must not neglect to say that I injected whiskey hypodermically at frequent intervals. Whether alcohol introduced this way combines chemically with the carbolic acid already absorbed, or not, has not been sufficiently demonstrated. Within an hour and a half I had the pleasure of seeing my patient in a cheerful mood, with some mental excitement, probably as a result of the alcohol absorbed. No epigastric pain or abdominal tenderness was present, either at that time or at any subsequent period. With the exception of pain in the naso-pharynx, which I had neglected to spray with alcohol, she was free not only from pain but also from any discomfort whatever. The patient rallied completely, and made an uneventful recovery. On the evening of the same day her temperature was 102° F., pulse 110, but of good quality. She swallowed with slight difficulty. Her urine, which had to be drawn off with a catheter, was brownish-black, of sufficient quantity, and contained no albumin. I ordered Epsom salts to be given regularly every four hours and mucilaginous drinks constantly. She passed a comfortable night. Next day the temperature was 101° F., pulse 100; the urine still much discolored; there was slight pain in swallowing, obviated by cocaine spray. On the third day the temperature and pulse were normal, and the urine was also normal. On the fifth day the patient required no further attention, and I discharged her as perfectly cured. She has had no bad symptoms whatever since. Three weeks after she called at my office, and said she was in excellent health and never felt better. Two months later she suffered from a severe attack of lobar pneumonia following influenza, from which she has fully recovered.

I believe from the foregoing history there is only one conclusion possible. Here was a patient who had swallowed a large quantity of pure carbolic acid, about which there is no doubt whatever. Nothing had been given to the patient previous to my arrival, and she was nigh moribund when I saw her. The carbolic acid had already produced its destructive action, and simply washing out the stomach would have been of little value. We know at least that even if such patients should recover from the shock, the after-effects are most serious, such as gastric and intestinal ulceration, with severe epigastric and abdominal cramps, purging, with bloody stools, vomiting, etc. All of these symptoms were absent, no complications whatever resulting. We had been taught that soluble sulphates were an antidote to carbolic acid, but it has been proven that carbolic acid by mere contact with soluble sulphates cannot unite chemically to form sulpho-carbolates. The scope of this paper will not allow me to go into full details on the complete action of sodium sulphate, but I am sure any physician can demonstrate it to his own satisfaction. That they do combine with carbolic acid to form sulpho-carbolates we know by the examination of the urine, but this formation takes place after absorption in the body. Sodium sulphate certainly would be of little value in saving the œsophagus, stomach, etc., from the rapid destructive action of carbolic acid, which alcohol certainly does. I did employ soluble sulphate, but after the patient had rallied, and to combine with carbolic acid already absorbed, as I considered that rational.

The advantages of this method of employing alcohol are many. The disadvantages are few. One possible disadvantage may be the introduction of a stomach tube, but this is more than balanced by the fatality of the drug when the patient is left alone, and most authorities of the present day advise washing out the stomach in all poison cases. If the tube is introduced carefully and intelligently the danger is very slight. The steps should be in the following order: (1) Introduction of alcohol; (2) washing out the stomach; (3) use of soluble sulphates.

In conclusion, I must say that although my personal experience is limited to this one case, the evidence is so strong as to the efficacy of alcohol in the saving of life in carbolic-acid poisoning when thus employed, and in the prevention of complications subsequently, that I would not hesitate to employ it in every case.

If I may be permitted to do so, I would also suggest that every ambulance surgeon be provided with pure alcohol to be used in just such an emergency as mentioned here, and which occurs so frequently in this city. Future experiences will, I hope, strengthen the facts related here.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Fifty-sixth Regular Meeting, Held on Friday, May 11, 1900.

A. Alexander Smith, M.D., President, in the Chair.

A Case of Venous Obstruction Complicating Cardiac Disease.—This was presented by Dr. A. Alexander Smith. The patient was a young man aged twenty-three years, a chemist by profession. Seven years ago, while a student and bugler at a military school, he began to suffer from attacks of palpitation of the heart, and a physician whom he consulted advised him to remain quiet. He went home, and soon afterward developed an attack of chorea, from which he recovered after several weeks. A few weeks ago, while engaged at his work, he noticed for the first time that there was a difference in the color and size of his two upper extremities: the left hand and arm were cyanotic in appearance, and the arm was œdematous. Varicosities were also noticed in the left pectoral region. Examination of the heart showed a mitral obstructive murmur. The patient had never suffered from pain or other symptoms than those mentioned. Dr. Smith said he had been induced to present this case on account of the paper which Dr. Welch, of Baltimore, read at the recent meeting of the Association of American Physicians, at Washington. In that paper, which was entitled "Venous Thrombosis as a Complication of Cardiac Disease," Dr. Welch reported three cases of this unusual complication, and stated that the literature on the subject was rather meagre. In one of Dr. Welch's cases the thrombosis complicated mitral stenosis, in another mitral insufficiency, and in the third aortic and mitral insufficiency. In all of the cases the venous obstruction was on the left side. In the discussion following Dr. Welch's paper, several of the gentlemen present reported similar cases, and Dr. Cary, of Buffalo, suggested that enlargement of the left auricle might produce sufficient pressure to cause a slowing of the circulation and thus allow the formation of a thrombus. Dr. Smith said that in the case he had shown he suspected the presence of an endophlebitis.

Dr. Peabody said he thought the case shown by Dr. Smith was a good illustration of the condition which Dr. Welch had described in his recent paper. The swelling of the arm in Dr. Smith's case was an example of the so-called hard œdema, and was probably the result of a partial thrombosis or a phlebitis without thrombosis.

In reply to a question, Dr. Peabody said he thought it possible that there might be a condition of partial occlusion of a vein by a thrombus. A phlebitis might cause a swelling of the vessel, with partial occlusion, and the same result might follow upon a thrombosis.

Dr. Charles S. Bull said that not infrequently a partial thrombosis of the retinal veins was found.

Dr. Janeway said that while a peripheral thrombosis might be partial, a thrombosis of the large veins was usually complete, although it might be partial.

Dr. Andrew H. Smith said that anything which interfered with the perfect smoothness or polish of the intima might cause a collection of fibrin, and in the vein thus produce a partial or complete thrombosis.

Dr. Robert F. Weir said that in those veins in which the blood current was slow, like the varicose veins, there was a possibility of a partial thrombosis which very frequently developed into complete obstruction. It was rare to find such obstructions in the large veins, as they were usually washed away by the force of the circulation. In former days, when the Esmarch bandage was resorted to in the treatment of aneurism, it was not uncommon to see a thrombosis which filled the sac become dissipated twenty-four or forty-eight hours after the blood current was re-established, and it very seldom gave rise to any trouble in the peripheral vessels.

Dr. Joseph D. Bryant said that whenever a vessel like the external jugular was ligated with sufficient force to cause a thrombosis, the latter was very apt to become complete.

Dr. Robert Abbe said that in the jugular vein he had observed a thrombosis, apparently of the septic type, involving only one-half of the vessel wall, the rest of it being healthy. He said he had seen a number of cases of unilateral œdema of the leg, usually the right leg, in patients who gave a vague history of appendicitis. In these cases, the œdema was probably due to pressure rather than to inflammation of the vein; there was no reason to suspect septic venous obstruction. In the case shown by Dr. Smith, the œdema also seemed to indicate a venous obstruction resulting from pressure rather than from a septic process, as the latter type would be apt to give rise to more severe symptoms. Dr. Abbe expressed the opinion that, in the majority of cases, when a vein was once sealed it was permanently sealed.

Dr. Weir said that the effect of pressure on the vein as a factor in the production of œdema reminded him of the cases of extensive œdema of the arm after breast operation. In former years, when the axilla was only imperfectly cleaned out after removal of the breast, the subsequent œdema of the arm was attributed, and in many cases justly, to the pressure of the enlarged glands upon the veins, but to-day, after the most radical operation, which included the removal of all the glands in the axillary region, this œdema of the arm was even more apt to occur and to be more or less permanent. Dr. Weir said he was inclined to attribute it to the pressure of the cicatricial tissue upon the veins, thus interfering with the return circulation. Another possible explanation was that this very thorough removal of the glands interfered with the return of the lymphatic circulation.

A Consideration of Endocardial Murmurs of Organic Origin, Localized in the Pulmonary Area of the Heart: Illustrated by Two Cases.—Dr. J. W. Brannan read this paper (see page 48).

Dr. Walter B. James reported the case of a boy who had two attacks of rheumatism, both mild in character. During his second attack he developed a systolic murmur in the second left interspace, very similar to the one in the case presented by Dr. Brannan, but somewhat more distinct over the great vessels of the neck. There was no cyanosis or other cardiac symptom, and no enlargement of the left or right heart. Dr. James said he was disposed to regard the case as one of mitral regurgitation.

Dr. George L. Peabody said he thought the colored boy who had been presented by Dr. Brannan at the previous meeting of the society, and again at this meeting, had a mitral systolic murmur. It was heard very distinctly over the usual site of such murmurs. In addition to this, there was possibly some adventitious thickening in the pericardium over the apex, which interfered somewhat with the sound reaching the ear.

That would not, however, explain the intensity of the sound farther up.

Dr. E. G. Janeway said he could recall a number of cases of loud systolic murmur over the pulmonary area of the heart in which the murmur was apparently independent of a mitral lesion, and was produced by pressure on the pulmonary artery. It was possible, for example, that such a murmur might be due to pressure symptoms produced during the movements of respiration, and in such a case no explanation of the murmur could be found at autopsy. Another possible explanation of such murmurs could be found in anatomical abnormalities which could not be made out during life.

Dr. Beverley Robinson said he thought the simplest and most rational explanation of a murmur like the one heard in Dr. Brannan's case was that it was the result of pressure on the pulmonary artery, due to thickening and adhesions of the left pleura.

A Case of Pneumonia Ending Fatally with a Convulsion of Uræmic (?) Origin.—This case was reported by Dr. Beverley Robinson. This patient was seen by him in consultation with Dr. J. E. Traub, who furnished the following history of the case: Man, fifty-one years old, single; a native of Ireland, and a dry-goods merchant by occupation. He used alcohol to a considerable extent. Fifteen years ago, when he first came under Dr. Traub's observation, he complained of neuralgic pains, chiefly occipital, with headache, dizziness, dimness of vision, and insomnia. The urine at that time showed the characteristic signs of chronic diffuse nephritis: its specific gravity ranged from 1.010 to 1.015, with varying amounts of albumin and some granular casts. In 1885 the diagnosis of Bright's disease was confirmed by Dr. F. Delafield. The urine gradually cleared up, and during the past eight or nine years it was normal. On February 9, 1900, the patient had an attack of grippe, complicated by gastritis and pleurisy, with marked prostration. On February 15th he was seen by Dr. Delafield in consultation, and a favorable prognosis was given. At this time the specific gravity of the urine was 1.020, and it contained no albumin, sugar, or casts; it was acid and but slightly diminished in quantity; there was some diminution in the quantity of urates. On February 18th a pneumonia developed on the left side posteriorly. The urine was repeatedly examined with negative results. On February 23d the patient had two attacks of syncope, from which he rallied. Later in the day he had a general uræmic (?) convulsion, and died in less than a minute and a half. At the time death occurred he was perfectly conscious, and his mind was clear. Dr. Robinson said that his main reason for reporting the above case was to emphasize the importance of ascertaining the amount of the daily excretions of urea in cases of suspected nephritis, independent of the specific gravity, and the presence or absence of albumin or casts. Bearing upon this joint, he read the following letter from Dr. Frederic E. Sondern:

"In connection with cases of chronic diffuse nephritis, I take the liberty of making the following comments: After a chronic diffuse nephritis has become well established the evidences found in the urine are in the large majority of cases always characteristic, even at times when the lesion is most quiescent—polyuria, lowered specific gravity, decreased daily excretion of urea, usually small amounts of albumin and a small number of hyaline and occasionally granular casts. During the most quiescent periods the albumin, the casts, or both may entirely disappear, and at such times the only characteristic feature is the diminution in the daily excretion of urea. In my opinion this latter point is the most important and is the one which is not given sufficient attention by most observers. I will go further and say, that during these entirely quiescent periods, which may extend over a considerable time, even the polyuria may decrease to such an extent that the normal daily excretion is approached, and then these specimens very closely resemble normal ones, excepting the fact that the daily amount of urea is considerably below the normal minimum. As the normal daily excretion of urea is no constant factor, and varies between extremely wide limits, and the fact that so many other circumstances in the body metabolism affect this daily excretion of urea, it can easily be understood how some of these cases may be overlooked, and others declared cured when such is by no means the case. In following these cases, it is, I believe, extremely important to keep track of this daily excretion of urea, for it is a far better guide to the functional impairment of the kidney than is the amount of albumin or the number of casts, of which accurate record is usually kept. Of all the cases of this kind that I have followed, while the polyuria usually persists throughout, it sometimes disappears for longer or shorter periods; albumin and casts may, one or both, occasionally disappear entirely for a time, but a very critical examination usually reveals very faint traces of the former, and a thorough microscopic examination of sediments obtained by centrifuge usually shows a few hyaline casts at least. As these cases go from bad to worse, the only change sometimes observed is the continually diminishing daily excretion of urea. As the result of comparatively slight causes, acute exacerbations of this chronic condition may break out at any time, and then usually we have a picture of acute nephritis. On the other hand, a sudden uræmia may develop, quickly followed by death, without changes in the condition of the urine excepting what might be accounted for by the ante-mortem stasis. If these patients withstand the uræmic attack, subsequent specimens of urine present the picture of a renal congestion or of an acute exacerbation of the chronic lesion."

Dr. Peabody said he could not agree with Dr. Robinson as to the value of a knowledge of the amount of urea excreted in the prognosis of kidney disease. If any one fact had been established with regard to uræmia, it was that urea had usually nothing to do with it. Urea could be injected into the veins of animals in very large doses without producing any effect excepting to increase the amount of urine. Urea was given therapeutically in considerable doses. What did produce the convulsive seizure in uræmia was still uncertain. The most recent theory was in favor of the extractives, such as creatin and creatinin. The urea in the urine simply indicated the amount of nitrogenous material excreted, and must be considered in comparison with the amount taken in.

Dr. Charles L. Dana said it was not at all certain that the convulsion in the case reported by Dr. Robinson was uræmic, as no post-mortem examination was made. It might possibly have been due to an embolism or a cerebral hemorrhage or sudden heart failure. The speaker said that in his experience a sudden general eclampsic seizure in adults was very rarely due to uræmia. Uræmic convulsions, while they were sometimes general, were usually preceded by twitching and prodromata that gave us an indication of what was going to happen.

Dr. Brannan said it was generally taught that a good deal of importance should be attached to the specific gravity of the urine, and that urea was probably the chief factor in influencing the specific gravity. In advanced chronic nephritis we found, as a rule, a low specific gravity, and this generally went with a grave condition of the patient. On the other hand, if the specific gravity was high, there was usually less danger to the patient, as it indicated that the excre-

tory functions of the kidney were being performed. Of course the quantity of food taken, the presence or absence of fever, etc., must all be taken into account in the individual case.

Dr. Peabody said that while we were prone to attach considerable importance to the specific gravity of the urine, a low specific gravity did not necessarily indicate a grave condition if the patient was passing a large quantity of urine.

Dr. Andrew H. Smith said that in Dr. Robinson's case the possible influence of the pneumonic intoxication should not be overlooked Such convulsions were not infrequently observed in the course of a pneumonia in children.

Dr. E. G. Janeway said he agreed with Dr. Dana that the convulsion in Dr. Robinson's case might have been due to another cause than uræmia. There might have been a hemorrhage in the medulla or brain. In a case which recently came under his observation the patient had a convulsion which was regarded as uræmic, as it was known that the urine had long contained albumin and casts. Upon his recovering consciousness, however, one side of the patient was found to be paralyzed, showing that the convulsion was due to a hemorrhage of the brain. As regards the urine in kidney disease, the quantity and specific gravity were the important points, according to the recent experiments made by Dr. C. A. Herter. The excretion of urea was not so important. Dr. Janeway said he did not think Dr. Robinson's patient would have died so quickly from a uræmic convulsion.

Dr. Robinson, in closing, said he was well aware that the question as to the causative factor of uræmia was still unsettled. While it might not be caused by urea, still an estimation of the daily quantity of urea excreted gave us an idea of the amount of urinary solids eliminated, which was a very important factor in the prognosis of chronic nephritis.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 21, 1900.

Frederick Holme Wiggin, M.D., President.

Two Cases of Sarcoma Cutis.—Dr. William S. Gottheil presented these cases. The first was that of a man on whom purplish nodules appeared on various parts of the skin about six years ago. At present the condition was typical of that variety known as the multiple pigment sarcomata of Kaposi. The man had been treated for a long time with arsenic injections, and under this a number of the nodules had disappeared completely. The second case also occurred in a man who, for fifteen years or more, had had a nævus of some kind. This had given him no trouble for many years. At present, there were sarcomatous nodules at the site of the excision of the first growth. The prognosis in such a case was much better than in sarcomata of the internal organs—indeed, a few cases of cure had been reported.

Symposium on Organo-Therapy.—The evening was devoted to this discussion.

The Therapeutics of the Suprarenal Capsule.—Dr. William H. Bates opened the discussion with a paper on the suprarenal extract. He first exhibited an aqueous solution of the suprarenal gland made by him in 1894, and sterilized. With the exception of having become darker it had remained practically unchanged, and had retained its therapeutic properties. From long experience with this extract he was convinced that sterile preparations of it were harmless, their chief action being as a muscle tonic. The suprarenal extract was unique in that while one-tenth of a grain had produced the maximum physiological effect, two ounces had produced no further action. Experiment had shown that when an excess was used, the additional quantity was stored in the system.

Preparation: One part of the dried extract should be boiled in ten parts of a saturated solution of boric acid, filtered, and again boiled in the permanent receptacle. No matter how carefully prepared, the solution should not be sprayed into the nose and left there in any quantity, because under such circumstances, though sterile at the time of its introduction, it soon became putrid, and would then sometimes give rise to severe sepsis.

Therapeutic uses: In some cases of acute conjunctivitis he had been able to effect a cure by one treatment with the suprarenal extract. Excellent results followed this treatment in gonorrhœal ophthalmia. Some cases of deafness which had not been benefited by the usual treatment had resulted in a cure by the use of this extract. Operations on the nose and throat could be performed almost bloodlessly with its aid. Chronic rhinitis was temporarily benefited by its use. Dr. H. Holbrook Curtis had found it very useful in laryngeal phthisis, relieving the painful deglutition more effectively than even cocaine. The suprarenal extract Dr. Bates looked upon as a specific for hay fever. Three cases of œdema of the glottis had been reported in which the use of suprarenal extract had acted admirably. It had been found decidedly beneficial in apparently opposite states of the heart.

The Therapeutics of the Pituitary Body.—Dr. William M. Leszynsky read this paper (see page 1122, vol. lvii.).

The Therapeutics of the Thyroid Gland.—Dr. Herman M. Biggs discussed this subject. He said the whole question of thyroid therapy was still in an unsettled condition. In cretinism the influence of this treatment was most remarkable, but the remedy must be employed throughout the remainder of the person's life. The conditions in which this remedy had been chiefly used were classified as follows: (1) Exophthalmic goitre; (2) psoriasis, eczema, alopecia, lupus, and certain other diseases of the skin; (3) goitre; (4) various forms of insanity; (5) obesity; (6) retarded development in children; (7) tetany; (8) in a number of conditions, such as chlorosis, anæmia, syphilis, and arteriosclerosis, in which the remedy had been used empirically. In two instances he had used thyroid preparations in Graves' disease, and in both instances it had resulted in an aggravation of the symptoms. There seemed to be no means at present by which one could determine in what class of cases of chronic eczema or of psoriasis the thyroid preparations would be of service, for in some the results were good, while in others they were absolutely *nil*. In lupus the results following thyroid treatment were not unlike those observed after the use of tuberculin. The lupus nodules had never been completely removed by it. In leprosy there seemed to be no rational ground for the use of this remedy, yet certainly results had been secured which might at least be characterized as encouraging. Fairly favorable results had been secured in some cases of stuporous insanity, and in mental derangements occurring about the time of the menopause. In the treatment of goitre there was usually improvement, the goitre being reduced in size. In fibroid goitres there was naturally but little benefit observed. In some cases of obesity a very rapid loss of weight had followed the administration of thyroid preparations, and without any harmful effects. In these cases the dosage should be at first small, being gradually increased, while the case was kept under constant observation in order to note the first symptoms of thyroidism. A few striking results had been reported from

the use of thyroid preparations in children in whom development had been retarded without any evidence of cretinism. The chemistry of the thyroid gland was still obscure. Thyroidin had been long ago isolated. It was the proteid portion of the gland. The activity of the preparation depended largely upon the careful selection of glands from young animals, and the use of them in the fresh state for making the thyroid extract employed for therapeutic purposes.

The Therapeutics of the Thymus Gland.—Dr. S. Solis-Cohen, of Philadelphia, spoke on this topic. He said that it had long been known that in cases of so-called thymic asthma children died through some mysterious influence exerted by the thymus gland, and while many authors had written learnedly on the subject, he personally felt that they had shed very little light on it. One reason for contradictory statements from different competent observers was to be found in the varying qualities of different preparations. He had addressed a letter of inquiry to the principal manufacturers of these products, and from their replies he had learned that no two of the American products were alike. Mr. David Owen's supposed cure of a case of exophthalmic goitre by the administration of thyroid extract turned out, on further investigation, to be a case in which, without his knowledge, the butcher had substituted thymus gland. This had naturally led to the deliberate use of thymus gland from the calf. In one of his cases that showed no improvement, it was discovered that the thymus gland from the sheep had been used instead. In a case of severe exophthalmic goitre, reported by Mr. Todd, of England, recovery ensued after the use of the thymus gland from the calf, although previously it had proved most obstinate under all the approved methods of medication. Dr. Cohen said that he had personally seen many good results from the use of this gland, but he had recently abandoned it in favor of suprarenal gland extract, which acted still better. Some cases presented symptoms which were best controlled by the suprarenal extract; others yielded better to the thymus extract. On the whole, a combination of the two had seemed to work better than either one alone. Physiologists had not given us much light on this matter. We were told that the active principle of the thymus gland when injected into the veins caused extensive vascular clotting, and hence this remedy had been used as a styptic, and had been recommended in cases of hæmophilia. This extract had also been used and recommended in leukæmia, rickets, and rheumatoid arthritis. Kinnicutt and others had claimed good results from it in pulmonary tuberculosis. Chittenden had shown that the thymus gland contained an exceedingly large proportion of phosphorus, which might possibly explain some of the good results claimed for it.

The Therapeutics of the Mammary and Parotid Glands.—Dr. John B. Shober, of Philadelphia, read this paper. He said that he made use of tablets, each of which represented twenty grains of the fresh mammary gland of the sheep. The dose was from three to six tablets daily. It acted very much like ergot, though more efficiently. The bleeding from uterine fibroids could often be most satisfactorily controlled by this remedy. The tumors themselves were inhibited in their growth, and diminished in size up to a certain point. It was possible that the continued use of this remedy might indefinitely postpone operation in many such cases. He had used the mammary-gland extract in many cases of subinvolution of the uterus, and with marked success. In regard to the parotid gland, he said that this gland was taken from the sheep and prepared in the same way as the extract of the mammary gland. Its principal action was as a powerful sedative to ovarian pain, and he had employed it with entire satisfaction in those cases of ovarian neuralgia unaccompanied by marked pelvic disease. In these cases vaginal examination would show great sensitiveness, with tender and prolapsed ovaries, the latter becoming swollen just before the menstrual period. In such cases he had had very astonishing results, having cured within a few weeks patients who had suffered for many years. The treatment should be begun some time before the expected menstrual period. When there was also inflammatory disease of the tubes and ovaries he did not think anything was to be gained by temporizing with the parotid medication, as they were really operative cases; nevertheless this remedy had a very pronounced influence in relieving the pain. He recommended the parotid gland only in cases of uncomplicated ovaritis, and he found such cases rather infrequent, as he made it a rule to examine carefully the patients under ether in order to be sure of the true condition present.

Prof. Oliver T. Osborne, of Yale, opened the general discussion with a few remarks on the physiology of the subject. He said that extirpation of the thyroid, pancreas, suprarenals, and the pituitary body caused death. He believed exophthalmic goitre was the result of hypersecretion of the thyroid, as the symptoms of the two were almost identical. In his opinion, the size of the gland had been given too much prominence in discussions on this subject. There seemed to be no reason why there might not be all stages of secretion, even though the gland was not enlarged sufficiently to be easily palpated. After the age of forty years the gland began to atrophy—in other words, just at the time that persons normally put on flesh. Women constituted eighty per cent. of all cases of Graves' thyroid disease, and the same was true of myxœdema. The thyroid hypersecreted during each menstruation and each pregnancy, and these two facts taken together should afford food for thought and speculation. Those who became obese while young, from hereditary or other causes not easily ascertainable, were not usually benefited so much by thyroid treatment as persons between the ages of forty and fifty years. He was of the opinion that it was the custom to give altogether too large doses of thyroid, and he made this statement because of the very small quantity of thyroid secretion distributed through the system daily. It seemed to him rational to employ thyroid preparations in eczema, particularly in that form found in old age. Thymus, being very rich in nuclein, should do good whenever a nuclein seemed to be indicated. In regard to hypersecretion of the pituitary, Dr. Osborne said that two or three years ago he had suggested that giantism was due to this cause, and that acromegaly was the result of a perverted secretion of the pituitary. He believed that cases of giantism, if the patients lived long enough, would become acromegalic. The pituitary body consisted of two parts, the hypophysis and the infundibulum. The latter was capable of raising the blood pressure; the hypophysis gave results quite similar to the thyroid. He was now using pituitary body in two cases of acromegaly, and the results seemed to indicate its influence on acromegaly to be distinct and definite. The laboratory experiments at Yale showed that the blood pressure could not be raised by giving suprarenal extract hypodermically or by the mouth, although the pressure rose rapidly if the extract was injected into the veins.

Dr. Francis J. Quinlan said that he personally believed that suprarenal extract was second only to cocaine as an addition to our armamentarium. Acute and passive hyperæmias of the nose were promptly relieved by the use of this extract, and its action in acute colds was most salutary. It was entirely different

in this respect from the transient effect observed from the use of cocaine, and so far had not been known to give rise to any habit, or indeed to any deleterious effects.

Dr. Bates, in closing, said that it was to Dr. S. Solis-Cohen that the profession owed the knowledge, in the first instance, that the internal administration of suprarenal extract would cause a rise of the blood pressure. This was not observed in patients having a normal heart, but was very evident when there was disease of the heart.

Dr. Cohen said he had no doubt regarding the accuracy of the physiological experiments referred to by Dr. Osborne, any more than he had of the clinical observations referred to by Dr. Bates. A possible explanation of the failure of adrenal substance to produce a rise of blood pressure in normal animals was the fact that throughout the body there was a system of checks and balances—thyroid secretion, thymus secretion, and adrenal secretion—balancing one another, and preventing any excess of one or the other in the normal individual. However, in an abnormal individual, having a low blood pressure, there was no call upon these checks, and the result of the administration of the substance in question was a rise in the blood pressure.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, May 24, 1900.

J. Riddle Goffe, M.D., Chairman.

Nephrectomy.—Dr. J. Riddle Goffe presented a young woman who had been seen by him in October, 1894, for an ovarian cyst. He had removed this without difficulty. After the operation the urine had been found loaded with pus, and examination had revealed the presence of a greatly enlarged right kidney. With the assistance of Dr. Brooks H. Wells there had been no difficulty in catheterizing the left ureter, and withdrawing perfectly normal urine. He had, therefore, subjected her to a nephrectomy, removing the right kidney. He had used the usual oblique incision. After the removal of the kidney he had opened it and found it riddled with abscesses, varying in size from that of a pea to a hen's egg. He had followed the ureter down as far as possible, and put a double silk ligature upon it. With the exception of a sinus which had continued for two months she had made a very smooth recovery. The sinus had closed after the removal of a silk ligature. The pathologist had reported the kidney to be tuberculous, and that the tuberculous process extended down the whole length of the ureter that had been left attached to the kidney. He had then placed the woman on beechwood creosote and cod-liver oil for six months or more. She had completely recovered, and examination at the present time showed no evidence of disease. The patient was now a nurse on active duty. In another case of this kind he thought he would remove the entire ureter, cutting it off close to the bladder, and suturing the opening.

Nephrorrhaphy.—Dr. Goffe also presented a woman whose kidneys he had anchored last February. She had come to him with all sorts of nervous symptoms. Physical examination had revealed nothing but two floating kidneys. He had performed double nephrorrhaphy. On the right kidney he had made the incision through the capsule on the convex surface, and dissected back two flaps. Then turning them back, he had inserted three sutures. On the other kidney, for purposes of comparison he had adopted the method suggested to him recently by Dr. Robert T. Morris. He dissected off a saddle-shaped flap, and then passed the flap itself through the fibres of the muscle, and stitched it there. She had left the hospital at the end of six weeks, and since then her general health had improved decidedly.

Dr. A. Rose said that in cases in which this operation was undesirable, or consent was withheld, he had made use of plaster. Rubber adhesive plaster was applied so as to fasten the kidney. In cases in which he had used it the many dyspeptic symptoms that had been present had disappeared almost as if by magic. The rubber plaster had been very well borne, but he had found subsequently that it was desirable to protect the skin with Unna's zinc-rubber plaster before applying ordinary rubber plaster. He had had sixty or more such cases, and they had done very well. The plaster was more satisfactory than bandages on these thin persons.

Dr. R. H. Greene said that Dr. Goffe's second patient had come to him about six months after having been subjected to two operations at the City Hospital for some adhesions around the uterus. She complained of a general and vague abdominal pain, and his diagnosis at the time had been neurasthenia. Finding no pelvic disease he had referred the girl to Dr. Goffe, fully expecting that the neurasthenia would be aggravated by the proposed operation. It was evident, however, that he had been mistaken on that point. She was still quite neurasthenic, but better than at the time of the operation. He was not yet convinced, however, that this operation was a useful one.

Dr. S. Marx took much the same view as the last speaker regarding the real value of this operation. The improvement noted in this case, he said, could be easily explained by the better care and diet the patient had received while at the hospital. In these poorly nourished individuals the diminution in the amount of the fat around the kidney would naturally increase the normal mobility of this organ. He had treated such cases by overfeeding with equally good results. A recent laparotomy for another condition had afforded him the opportunity to see the condition of a kidney that had been anchored by an eminent surgeon one year previously. It was instructive to note that the "anchor" was six inches long, and the organ was displaced.

Dr. G. H. Balleray said he believed the kidney would soon become displaced again in this patient unless certain precautions were taken. These patients should be especially forbidden to wear corsets and to make sudden and violent motions. The skirts should be supported from the shoulders. It was also important to maintain a proper state of nutrition. These individuals were almost invariably very thin and poorly nourished. He had just examined this woman, and had found both kidneys in a normal position. Regarding the case of tuberculous kidney it was well that Dr. Goffe had not been content with simply draining the organ.

Dr. P. A. Harris said that the examination left little doubt about the operation having effected an anatomical cure in this case.

An Aseptic Gynæcological Emergency Instrument Case.—Dr. Augustin H. Goelet exhibited such a case. Packed in a convenient leather case were two trays of instruments and two enamelled trays. The latter enclosed the instruments and in this way could be utilized as a sterilizer. Curettes, clamps, and irrigators were provided, and there was room in the outer leather case for a fountain syringe and a rubber air-cushion.

Carbonic Acid Gas to Relieve Labor Pains.—Dr. A. Rose exhibited an apparatus for applying carbonic acid gas to the vagina or uterus with the idea of facili-

tating the dilatation of the cervix and rendering labor comparatively painless. In one case in which he had tested it the relief was as great as if chloroform had been administered. The mode of giving the gas by means of a simple and portable apparatus was demonstrated.

Cases Simulating Pregnancy.—Dr. S. Marx presented two specimens. The first case was that of a young woman in perfect health up to two months ago, when she skipped her menstrual period, and about one month later gave the classical signs of a ruptured extra-uterine pregnancy. On opening the abdomen he had found instead of an ectopic pregnancy two ovarian abscesses. The second case was that of a woman whose abdomen had presented the configuration of a woman pregnant at about the eighth month. She denied having been exposed, but stated that she had menstruated very scantily for a number of months past. Local examination was almost out of the question because of a nearly imperforate hymen, but a mass was felt that resembled the head of a small fœtus. No fœtal heart could be heard, but there was a very distinct and typical placental souffle. On opening the abdomen he had found a typical parasitic fibroid. Corresponding to the situation of the bruit were enormous vessels spread out in the shape of a fan. Through these vessels the main tumor, weighing twelve pounds, had derived its blood supply. The entire tumor was attached to the fundus of the uterus by a very small pedicle.

Dr. John O. Polak advised in every doubtful case of this kind to make a posterior section through the vagina. This would enable one to make the diagnosis, and it was surprising how well cases of ectopic pregnancy and pus cases could be treated by this route.

Hysterectomy for Procidentia; Ovariotomy for Ovarian Pain.—Dr. G. H. Balleray presented an ovarian cyst which he had removed from a woman supposed to have a fibroid until the abdominal section had revealed its true nature. It had a very large, broad pedicle. He also reported a case of procidentia which he had treated by hysterectomy. A third specimen was an ovary and tube removed because of severe menstrual and intermenstrual pain occurring in a working-woman. He had operated on this case because he had seen several in which there had been immediate improvement following this establishment of an artificial menopause.

Dr. P. A. Harris cautioned against doing ovariotomy for the relief of pain until the history had been most carefully considered, including the probability of the existence of salpingitis. It was only exceptionally that a good result could be expected.

Dr. Polak expressed the belief that there were very few cases of procidentia that demanded hysterectomy. This operation removed the keystone of the arch, so to speak, and unless the abdominal wall could be attached to the vagina there would be prolapse of the vaginal wall, and the woman would complain of an unpleasant sensation of pelvic weight and pain. Plastic procedures seemed to him far better.

Dr. Goffe thought the question of performing hysterectomy for procidentia depended largely upon the age and condition of the patient. In a woman nearing the menopause, who had borne her modicum of children, he favored hysterectomy, and found it simple and efficient. Ovariotomy for ovarian neuralgia was, in his opinion, rarely indicated, though it might be proper in exceptional cases that had been under careful observation for a long time.

Dr. Balleray replied that in a young woman the plastic operations should certainly be tried, but in a woman of the age of his patient he considered hysterectomy the better method.

New Instruments.

MODIFICATIONS OF BOTTINI'S INSTRUMENT FOR THE TREATMENT OF HYPERTROPHY OF THE PROSTATE BY GALVANO-CAUTERY.

By ROBERT NEWMAN, M.D.,
NEW YORK.

This instrument, suggested in former papers, is a modification of the Bottini instrument altered by Freudenberg. The reasons for the alterations have been stated in the author's paper read at the last meeting of the American Electro-Therapeutic Association, held in Washington.

Fig. 1 shows the instrument in perspective, with platinum burner shown in dotted lines slightly exposed. Fig. 2 is the end of the instrument with the platinum knife fully exposed. The instrument consists of a hollow metal shaft *B*, terminating in Thompson's curve with tunnelled end *C*. The platinum knife *D* is propelled backward and forward by means of a rack and pinion *E*. Two insulated copper wires pass through the shaft and carry the electric current to the platinum burner. The conducting cords of the battery or Edison's street current are adjusted to the instrument at staples *G* and *H*. The current may instantly be thrown on or off by means of the switch *F*. A scale and indicator *J* shows at a glance the extent to which the knife is exposed. Freudenberg's improvements on the original Bottini are very good, and were needed. On this improved instrument, the writer has made the following modifications, as shown in the cut:

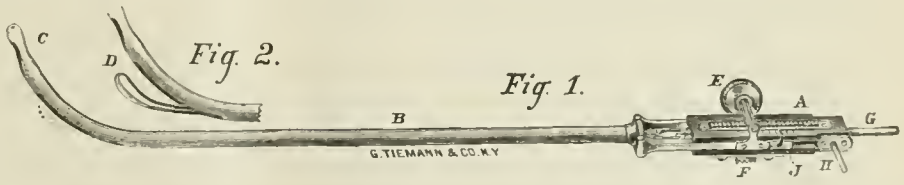


Fig. 2. Fig. 1.

(1) Omitting the water-cooler, in order to make the mechanism of the instrument simpler. The water-cooler is an impediment, takes up space, and needs for its proper management a special assistant. As the burner is smaller than in the original instrument, it does not need so much heat, and this can be controlled more easily. It has been questioned whether it is better to dilate the bladder with water or air. Each method has its own advantages and objections. But it is better to do away with the heat of the instrument which is accomplished by (2) the two conducting wires conveying the heat, attached one to either end of the burner and each running separately, being insulated. This arrangement will heat the burner immediately, and prevent the heating of any other part of the instrument. The shaft remains cool.

(3) The end of the instrument is conical and of a smaller size in order to pass any obstruction and enter the bladder more easily. Thus the operation can be performed in cases in which the larger-sized portion of the instrument could not be introduced.

(4) There is a tunnel at the conical end for a filiform guide, over which the instrument passes, to be used at the option of the operator.

(5) The burner of platino-iridium is thinner and stationary, and thereby cannot get out of shape and place, and besides the greater heat is avoided.

(6) The protector of the burner, when moved, acts at the same time as a meter, the operator thereby knowing the exact place of the burner. This burner or knife can cut to any depth, as the operator desires, and by rotating can cut in different directions. The instrument can be taken apart for cleaning and sterilization.

(7) This instrument is cheaper and costs about one-half as much as the Bottini original or the one modified by Freudenberg.

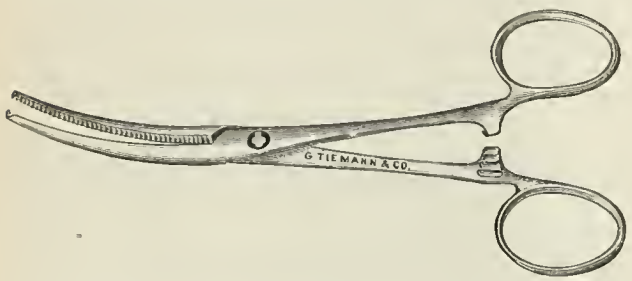
148 West Sixty-third Street, April, 1900

A MODIFIED ARTERY CLAMP.

By RUSSELL BELLAMY, M.D.,

NEW YORK.

About two years ago I had the pleasure of presenting to the Society of the Alumni of Bellevue Hospital a clamp designed and used extensively by Professor Theodor Kocher. After a long sojourn in Professor Kocher's clinic in Berne, I many times realized the great advantages of this forceps, and purchased a number from the original instrument-maker. These



clamps have proven very satisfactory, but the absence of the French lock has made it very difficult to cleanse them thoroughly, and the extreme straightness of the long blades has at times proven awkward. To overcome these disadvantages Messrs. George Tiemann & Co. have constructed for me a new clamp which has the French or detachable lock and a graceful, easy curve of the blades (see cut, two-thirds original size). The curve in the new clamp adapts itself well to angles and allows the passage of ligatures with the greatest ease.

Through the kindness of my confrère, Dr. Fielding Lewis Taylor, I have used the new clamp with the greatest satisfaction, in the clinic at the House of Relief, Hudson Street, this city.

The Detection of "Bacillus Typhosus" in Water and Other Substances.—Hankin, employing a modification of the well-known method of Parietti, claims that he has repeatedly been able to demonstrate the presence of bacillus typhosus in the water of piped supplies in Agra in which sand filtration had been employed, and also in some earth six inches from the surface of the foreshore of a village on the banks of the Jumna. Until, however, some additional confirmation is obtained Hankin's interpretation of his results must be accepted with some reserve. The facility with which the organism appears to have been isolated is strangely at variance with the experience of most able bacteriologists, who, using practically similar methods for many years, have experienced the greatest possible difficulty in attempting the identification of this bacillus in contaminated water supplies.—*Centralblatt für Bacteriologie*, 1899, Bd. 26, Nos. 18 and 19.

Medical Items.

A New Army Stretcher. — Dr. Chavernac, of Aix (France), has just designed a new army stretcher. It is a rigid contrivance made in two halves, and its advantage over the existing French ambulance is that the wounded man can be lifted off the ground without experiencing any shock or pain. The halves of the stretcher are placed on each side of the sufferer and by pressure they hold together under the body of the patient, who is not touched with hands at all in the operation. When loaded, the stretcher is mounted on a light bicycle carriage. Under the existing conditions of ambulance work in France, four men are required to lift the wounded man, but by the aid of the new stretcher only two attendants are needed.—*Scientific American.*

Treatment of Pulmonary Tuberculosis with Subcutaneous Injections of Ol. Camphor (German Pharmacopœia).—Dr. B. Alexander (*Münchener medicinische Wochenschrift*, February 27, 1900, p. 29) advocates this treatment, from which he has obtained the most satisfactory results. He refers to equally satisfactory reports of similar treatment by Professor Huchard and Dr. Faure Müller, and gives particulars of two recent cases of his own. His method consists in subcutaneous injection of 0.01 to 0.02 (1 to 2 cgm.) daily of the officinal oil of camphor, German Pharmacopœia, for febrile cases, continued for several weeks or months. For non-febrile cases he uses a much larger amount (1 dcgm.) injected daily for four days and repeated at intervals of not less than eight days. As camphor has a cumulative effect, the smaller doses will generally produce satisfactory results.—*Treatment*, April.

The Ideal Ration for an Army in the Tropics.—In the *Journal of the Military Service Institution* for May appears the thesis on "The Ideal Ration for the Army in the Tropics" which won for its writer, Captain E. L. Munson, assistant surgeon U.S.A., the prize offered in 1899 by Dr. Louis A. Seaman. Dr. Munson in the course of his essay says: "Prolonged heat exerts an unfavorable influence upon the digestive and assimilative functions. Hence work should not be imposed upon the alimentary tract in excess of its powers, and the diet should be restricted as compared with that of temperate climates, particularly since both diarrhœa and dysentery are known to be favored by the presence of a large amount of undigested food in the intestines, while tropical anæmia may be hastened by malassimilation resulting from overtaxation of the digestive powers. The respiration is much less energetic after arrival in the tropics, and this combined with rarefaction of the atmosphere and other factors results in a much less amount of oxygen being introduced into the blood than is the case in temperate climates. If the reduced quantity of oxygen available finds in the organism an excess of alimentary substances, it is evident that oxidation of the latter will be delayed if even ultimately complete, and metabolic equilibrium is thus disturbed. Further, according to Foster, the amount of heat evolved by the internal organs depends largely upon their stimulation. In the case of the salivary gland the temperature of the saliva during irritation of the chorda has been found to be 1° to 1.5° higher than that of the blood in the carotid artery at the same time; and the same author states that in all probability the investigation of other secreting glandular organs would yield similar results. Particularly is this true of the liver, an organ in which a large amount of heat is produced, as is shown by the fact that a temperature of 40.73° C. has been observed in the hepatic vein, while that

of the right heart was 37.70° C. Hence the excitation of the liver, either through the improper selection of foods or an excess of nutritive material requiring disposal, is to be avoided in hot climates. It is obvious that the consumption of any considerable amount of food for the production of internal heat is here as unnecessary as it is undesirable, while the nutritive needs of the organism require a smaller amount of material to repair the systemic losses resulting from the decreased oxidation and normally less active life of the tropics."—*American Review of Reviews.*

"Maine" Hospital Ship.—The American male nurses who served on the hospital ship *Maine* are very much dissatisfied with the manner in which they were treated on their voyage in her to South Africa and back. Of those originally engaged, but four have returned with the *Maine* to the Cape, and several of them have come home. Before starting for New York, in an interview with a representative of *Lloyd's Journal*, they gave an account of their grievances. Of the original committee and the London committee those complaining had only good things to say; all the trouble occurred on the vessel. The male nurses and the orderlies, all trained men possessing certificates of competency, and no one of whom has had less than three years' training in a public hospital, were engaged in New York. The majority of them threw up good positions on purpose to go with the *Maine*. They received agreements engaging them for a minimum service of five months, at $30 a month each. The agreements which were signed by Lady Randolph Churchill and Mrs. Blow stipulated that the male nurses should be under the control of the sister superintendent on board, and that they were to perform the nursing-duties for which their training fitted them. They distinctly understood themselves to be engaged for nursing-duties only, and that the rough work of the wards would be performed by hands engaged for the purpose. When the *Maine* had got to sea on her way to the Cape they were ordered to clean the vessel's wards. Before they arrived at the Cape the water had become almost undrinkable owing to the rusty tanks in which it was carried. Much of the food was so bad that it could not be eaten. On reaching the Cape the nurses learned to their astonishment that the *Maine*, instead of becoming a hospital ship on the coast as they were told she would be, was to return to England with a number of convalescents. At whose instance this alteration in the original plans was made they could not say, but all agree that the vessel was entirely unfitted for the conveyance of the sick, though suitable enough for receiving and nursing the worst cases. On the voyage back to England the nurses were treated exactly as they were going out, with the addition that they could obtain nothing to drink on board except ginger ale, which was supplied them at twelve cents per bottle. Their sleeping-accommodation was cramped. In addition to the male nurses there were four female nurses on board, but they were found to be entirely out of place; complaints of their being in the way and interfering with work were continual, and thus it is the vessel returned to Cape Town with male nurses only.

The Boer and his Medical Advisers.—The Boer is not given to "nerves" as a rule, but when his health fails him he loses heart at once. About half the population of the Transvaal suffer from indigestion. This of course is the natural outcome of an unvarying diet of boiled mutton, and bread of the consistency of putty. When a member of a Boer homestead is taken ill the family first of all draw on their old homely remedies, but if these fail they have recourse to the store. The storekeeper is the medical adviser for the district. Every trading-store keeps on hand a large supply of patent medicines. When the patient, if he is able to travel, comes over and describes his symptoms the storekeeper will prescribe for him. The Boers as a rule have not much ready cash, but what little they do possess they cling to, and the first question the patient will ask is, how much does it cost. The storekeeper of course does not recommend the cheapest article in his stock, and the Boer will say: "But that is too much, I am very ill; I may have to take many of those bottles. No; I will buy something cheaper." And he will go over the medicine shelves and will get the trader to tell him what each one is and what the writing on it says. Time is not of much importance in the Transvaal, as trade is never very brisk at the up-country stores; in fact, it is a very rare occurrence to find two customers in a store at the same time. So the trader will light his pipe and go over the stock with his customer. After a time the latter will decide on what he will purchase, and will carry off a supply sufficient to last an ordinary man for a lifetime. Should this not do him any good he will return later on and endeavor to get the storekeeper to exchange the balance of what he has on hand for some other medicine. The number and variety of empty phials and boxes to be found in a Boer house are something alarming. The Boer takes a kind of gloomy pride in his illness, and when he recovers will treasure all these as mementos, and will bring them out and show them to any neighbor who may call on him. "See," he will say, "I took all this medicine when I was ill, and this is the only one that did me good. It is good medicine this. I am always going to take it when I am ill again." And his visitor will sympathize with him and will probably take away an empty bottle so that he may know what to ask for when he gets ill himself. Besides the storekeepers there are others who supply the Boers with cures for all the "ills that flesh is heir to." These are the peddlers who travel from farm to farm selling patent medicines and trinkets. As a rule they give away a trinket with every bottle purchased, and many of them make a good living at the business. The Boer believes anything that is told him where medicine is concerned, and these people take advantage of the fact. It is not so long ago that smallpox broke out in the Transvaal. At that time an ingenious individual amassed a respectable pile by travelling through the country vaccinating people with condensed milk. Besides all these the Boer has a medical adviser in his Hottentot servant. The Boer regards every "nigger" as an animal, but he knows that the Hottentots are really very clever at curing simple ailments with herbs, and he often falls back with satisfactory results on the "Tottle" woman when all else has failed him.—*Indian Lancet.*

Balneotherapy as Practised by the Indians.—Dr. Richard K. Macalester, of Glenwood Springs, Colo., writes that the healing properties of the Glenwood Springs thermal waters were, many years prior to the advent of the first settlers, appreciated by the Ute Indians who populated this district. They called the largest spring, with a flow of seventeen hundred gallons per minute, Yampeh (Little Bear), and utilized its waters for bathing and drinking purposes. Besides this there are numerous other springs of uniform chemical constituency of their sulpho-saline-alkaline waters, and a temperature of 126° F., in which the average person can hold his hand but a few seconds without experiencing great discomfort. The Utes are said to have come from far and near in search of health at this natural sanatorium, and when a patient was pronounced to be a fit subject for balneological administration by his wise medicine-men, the following method was employed: Across two long poles a

blanket was stretched and fastened, on which the victim was laid. His comrades then, grasping the ends of the poles, raised and carried him to the hot pool, in which he was immersed. A cry of agony, or the length of endurance, was the signal for the "bath attendants" to lift him out of the water, and with brief intermissions this procedure was repeated as often as the patient could stand it.

The Indians were also not unfamiliar with the virtues of the unique cave baths, which are small caves in the rocks by the river side, in the floors of which thermal springs boil up, heating and saturating the air with vapor. These baths are very potent in an eliminating sense, exerting a specific sudorific action far in excess of plain water vapor of a much higher temperature.

Twenty Per Cent. cash is offered to physicians sending patients to a certain Thousand-Island Hotel. How pleasantly inclined toward the family physician would the paterfamilias feel some morning after a bad breakfast, if he should pick up one of these left-over tempting circulars and discovered why his doctor was so anxious for him to patronize this particular house!

Utilization of Putrid Meat in France.—*The Medical News* states that putrid meat is utilized in France, where nothing is allowed to go to waste, in a highly ingenious manner. Meat unfit for food and the bodies of animals that have died of disease are extensively used for the manufacture of superphosphates. The meat is placed in a vat containing sulphuric acid, which separates the resulting nitrogenous products from the fat. The dead animals are thrown whole into covered lead-lined vats full of sulphuric acid. If these animals have died from anthrax or glanders they are cut up before being thrown in. In the course of forty-eight hours the fat alone remains and the animalized sulphuric acid, rich in nitrogenous substances, is drawn off and sent through an underground conduit to the superphosphate factory. Thus, instead of the unsanitary method of burying such putrid substances in the ground, they are effectually disposed of, all infectious germs being completely destroyed; and there results a product available in the manufacture of a valuable fertilizer.

Medical Comforts Supplied to the South African Troops.—The term medical comforts embraces a number of articles which fall outside ordinary victualling and are intended for the use of sick men. They are all supplied from Woolwich, and their preparation forms an important department there. They are packed in "panniers" and boxes. The former are intended to be carried by mules—two panniers, weighing ninety-two pounds each, to a mule. The contents of the panniers are as follows: Brandy, one bottle; port, one bottle; whiskey, two bottles; arrowroot one and one-half pounds; sago, one pound; extract of meat, six pounds; bovril, three pounds; condensed milk, sixteen tins; sugar, six pounds; also mustard, pepper, salt, candles, matches, soap, spirits of wine, with knives and forks, canisters, spirit lamp, and other necessary hardware. Two panniers go to each field hospital, two to each bearer company. The contents of the "medical comforts box" are similar, but it holds less and is more portable. The wine and spirits are all bottled at the depot, as is the rum used for rations, and a very considerable business it is. Two pipes of port, about one hundred and twenty dozen, are bottled every day, and a corresponding quantity of whiskey and brandy, but the rum handled there runs to twelve hundred gallons a day. It is not supplied in bottles but in wicker-covered gallon jars, two jars to a case. Rum is the only alcoholic liquor served for rations. Its use appears to be traditional, but it does not strike one as particularly suited to the climate of South Africa. For the purchase of liquor the services of an expert taster are engaged. He periodically makes a selection from a series of numbered samples without knowing their origin, so that no favoritism is possible. Spirits are reduced to twelve and fifteen degrees below proof before bottling, by the addition of distilled water.—*London Times.*

Action of Soil on the Plague Bacillus.—Dr. Z. Yokote (*Centralblatt für Bacteriologie*, Abth. 1, Bd. 23, No. 24) took mice that had died of infection with plague bacilli, placed them in wooden boxes, and buried them in garden soil which was kept from thorough drying. The boxes were exhumed from time to time and the contents examined to ascertain if infective material still existed. The longest time that elapsed between the burying and the demonstration of the still virulent organism was thirty days, and the higher the temperature and the more active the rate of decomposition the shorter the life of the organism. The soil in the immediate vicinity of the boxes was examined for the organisms, but the results were negative.—*American Journal of the Medical Sciences.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended July 7, 1900:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia, Washington	June 23d to 30th	4	
Illinois, Chicago	June 23d to 30th	2	
Indiana, Evansville	June 23d to 30th	2	
Indianapolis	June 23d to 30th	1	
Michigan City	June 24th to July 1st	1	
Kansas, Wichita	June 23d to 30th	6	
Kentucky, Covington	June 23d to 30th	16	
Louisiana, New Orleans	June 23d to 30th	12	3
Maryland, Baltimore	June 23d to 30th	3	
Cumberland	June 16th to 23d	3	
Massachusetts, Fall River	June 23d to 30th	3	
Ohio, Cincinnati	June 19th to 26th	10	
Cleveland	June 23d to 30th	10	
Portsmouth	June 23d to 30th	1	
Youngstown	June 23d to 30th	2	
Pennsylvania, Pittsburg	June 23d to 30th	3	
Smallpox—Foreign.			
Austria, Prague	June 8th to 16th	8	
China, Hong Kong	May 19th to June 2d	1	
Egypt, Cairo	May 20th to June 3d	..	10
England, Liverpool	June 8th to 16th	2	
London	June 8th to 16th	15	
Manchester	June 8th to 16th	1	
France, Lyons	June 8th to 16th	..	7
St. Etienne	June 1st to 13th	3	
Germany, Frankfort on the Main	June 8th to 16th	..	1
Greece, Athens	June 8th to 16th	2	
India, Bombay	May 28th to June 5th	..	13
Calcutta	April 28th to May 5th	..	40
Karachi	May 28th to June 3d	12	7
Japan, Nagasaki	June 1st to 10th	1	
Osaka and Hiogo	June 2d to 9th	1	
Mexico, Chihuahua	June 6th to 16th	..	1
Mexico	April 30th to June 17th	164	100
Vera Cruz	June 17th to 23d	..	7
Russia, Moscow	June 2d to 9th	6	5
Odessa	June 8th to 16th	5	
St. Petersburg	June 8th to 16th	71	18
Warsaw	June 2d to 9th	..	3
Scotland, Glasgow	June 15th to 22d	66	
Spain, Madrid	May 19th to June 2d	..	26
Straits Settlements, Singapore	May 12th to 19th	..	1
Uruguay, Montevideo	May 12th to 26th	1	
Yellow Fever.			
Colombia, Barranquilla	June 8th to 16th	40	18
Cartagena	June 1st to 13th	3	3
Cuba, Havana	June 13th to 20th	8	3
Santa Clara	June 21st to 25th	4	
Mexico, Vera Cruz	June 16th to 23d	..	9
Cholera.			
India, Bombay	May 29th to June 5th	..	51
Calcutta	April 28th to May 5th	..	71
Plague.			
Arabia, Aden	June 2d to 9th	11	7
China, Hong Kong	May 19th to June 2	170	157
Egypt, Port Said	May 28th to June 4th	133	57
India, Bombay	May 28th to June 5th	..	131
Calcutta	April 28th to May 5th	..	216
Karachi	May 27th to June 3d	16	12
Japan, Formosa, Tamsui	May 1st to 31st	379	279
Osaka	June 12th to 15th	1	
Shidzuoka	June 12th to 15th	1	

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Original Articles.

THE EVIDENCES OF PROSTATIC ATROPHY AFTER CASTRATION.

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As in its physical structure a chain has the strength of its weakest link only, so it is in the chain of argument. The glamour of its apparent strong points cannot long hide its inherent weakness. Yet in the latter case each really strong link adds a real value to its weaker brethren and thereby merits prominence and consideration.

Such a link in the chain of pathological evidence which is gradually encircling the claims of castration as a cause of prostatic atrophy is presented in this paper in the entirety of its hard facts, namely:

(1) A large glandular prostate; (2) castration; (3) the lapse of sixteen months; (4) undiminished size of the prostate to rectal touch, undiminished length of the urethra, undiminished persistence of the clinical symptoms; (5) prostatectomy with shelling out of two solid tumors the size of pullet's eggs; (6) failure by an expert to find any evidences, macroscopic or microscopic, of atrophy of the prostate.

Nowhere in surgery are pathology and practice apparently drawing wider apart; nowhere does the microscope seem to give the lie more absolutely to clinical reports of hundreds of observers scattered over two continents than in the matter of castration for hypertrophy of the prostate. Born in the brains of White[1] and Ramm[2] independently and at about the same time; founded upon a theoretical homology between the hypertrophy of the prostate and uterine fibroma, and the results of castration on the latter class of tumors; and fortified by experiments upon animals and a few clinical data, the operation of castration for the cure of hypertrophy of the prostate was formally presented to the world in 1893.

Since then seven years have passed, and this summer the International Congress at Paris purposes to enlighten us upon the present state of the question. It is to be hoped that the discussion then entered into by many of the leading lights of the genito-urinary world will help to determine more accurately than ever before the advantages and limitations of the various methods of treatment. The Bottini *renaissance* is of too recent a date to receive an absolutely impartial verdict; but castration and the allied operations can now be rated at their true worth.

The history of castration as a method of sexual depletion may be divided into three overlapping periods. During the first period, which reached its highest expression in White's essay of 1895,[3] enthusiasm ran riot, and asexualization was hailed as the prostatic's Utopia. The second period, beginning with Albarrin's report to the French Congress of Surgery in the same year, and reaching its climax in Cabot's[4] report of the year following, and the erudite researches of Albarrin and Motz in 1898,[5] was one of adhesion to the primary principles with a beginning of wholesome doubt and careful investigation, but indefinite conclusions. The third period, one of firm convictions based on pathological findings, was first voiced, as far as I have been able to learn, by Floderius[6] in 1897, and will culminate, we trust, in the coming congress.

In the early days, in spite of the protests of a few men (Keyes and Alexander in this country), the general enthusiasm over a novel and comparatively simple surgical procedure promising such brilliant results dazzled the cautious and emboldened the incompetent, while the accumulation of favorable evidence from all sides soon overbore all but the most sceptical. Comparative anatomy, embryology, pathology, teratology, each contributed its share to round out with scientific fulness the monument of clinical success. There were flaws—here and there a failure to attain the anticipated result, in one report an undue mortality, in another the warning of post-operative dementia; but these availed nothing to check the pendulum of public opinion, and White was able to publish, in 1895, a table of one hundred and eleven cases with twenty deaths, chiefly attributable to uræmia uninfluenced by the operation or induced by the anæsthesia and shock. In the mean while various similar but less radical operations were advocated. Sir Reginald Harrison[13] introduced vasectomy, of which twenty-two cases with seven deaths (all at the hands of a single surgeon) were tabulated by Cabot in 1896.[4] Unilateral castration, angioneurectomy of the cord, and the injection into the testicle of irritating fluids for the purpose of producing atrophy were not slow to follow.

But the success of these latter operations did not bear out their early promise in any large proportion of cases, and although many surgeons continued and still continue to employ them undaunted, the ever-increasing number of failures and relapses encouraged closer scrutiny into the merits of the whole class with a less prejudiced eye and a fuller equipment of pathological facts than had hitherto been available.

This second period of searching investigation but hesitating conclusion is ably expressed in the essay of Albarrin and Motz* (1898).[5] These observers enforce by personal observation the following conclusions:

"I. Atrophy of the prostate occurs after castration in all the animals that have been tested: viz., the horse, the ox, the hog, the dog, and the cat. This atrophy is constant whatever the age of the animal employed.

"II. However incomplete the array of facts we have cited, they seem to prove that double castration in infancy prevents the development of the prostate.

"In the absence of direct evidence it is impossible to say that the same operation performed on an adult or an old man would produce similar effects; but, judging from experiments on animals, it is fair to assume that this atrophy should result" (p. 23).

So far the agreement between science and practice

* This in spite of the fact that their tables of cases, which I have been at pains to verify, are full of inaccuracies. Thus among the cases of double castration, Nos. 4, 93, and 94, are identical. The same is true of Nos. 5 and 43, 6 and 72, 7 and 8.

is complete. But from the series of nine autopsies after castration that they are able to collect from the reports of White,[3] Griffiths,[7] Kelsey,[8] Bryson,[9] Mansell Moullin,[10] Watson,[11] Socin,[12] Colley,[13] and Cabot,[14] they conclude (p. 35) that "all we can say is that no autopsy has shown a real atrophy, and that in four autopsies performed at five, seven, eight, and twelve months after operation respectively, there has been no macroscopic evidence of a diminution in the volume of the prostate. In one of these observations, Bryson's,[9] in which the castration dated back a year, the microscope showed no trace of atrophy."

Yet in the teeth of these facts the authors conclude from clinical data (p. 47), that:

"1. It is rational to admit *a priori* that double castration would diminish the volume of the hypertrophied prostate, especially in the glandular varieties.

"2. Although the anatomo-pathological data are insufficient, clinical experience proves that there is a diminution in the volume of the hypertrophied prostate after castration.

"3. The diminution in the volume of the prostate is due at first to the decongestion of that organ, and later to a real atrophy.

"4. This atrophy may come on slowly, appearing as late as six months or even later after operation and progressing for more than two years. Finally the prostate may be no longer distinguishable by rectal touch.

"5. In certain cases the atrophy may predominate in certain parts of the gland. It may involve lobes jutting into the bladder.

"6. It is impossible to say at the present day that every prostate atrophies after castration, or how much atrophy may be expected in a given case. It is even probable that in certain cases atrophy fails to occur."

These conclusions unfortunately attempt to reconcile the pathological facts with the clinical figures by minimizing the force of the former. But despite this fact the formal array of pathological findings marks an advance from which there is no retreat. The stress laid upon the immediate effect of decongestion forms the central point of later theories, and the critical discussion of the two pathological reports upon which enthusiasts chiefly based their claims is extremely fair. The pith of those reports—White's and Griffiths' —is as follows:

White[3] states briefly, of a prostate removed from a patient who died the second day after castration, that "the stroma of the gland shows beginning proliferation of the connective-tissue cells, but especially of the muscle cells. The acini tubules are also becoming filled with proliferated columnar cells, and here and there some fine granular matter may be seen in the tubules; some of the cells appear to contain fine granules which have not taken the stain, evidently fat. The changes are typical of beginning atrophy."

Griffiths' reports a similar case in which he found in a prostate removed at autopsy eighteen days after castration, (1) proliferation of the epithelium, (2) acute fatty degeneration, disintegration and absorption of the cells cast off into the lumen of the tubules, (3) a shrinking of the tubules with transformation of their usual cylindrical epithelium into cuboidal and pavement cells, and (4) proliferation of the muscular and connective-tissue elements.

Albarrin refuses to accept the proof offered by these authors as conclusive, arguing that the picture of cell proliferation and epithelial degeneration as they present it is not uncommonly the evidence of inflammation in a hypertrophied prostate, and moreover, "in the numerous experiments [of castration] that we have made, we have never seen cell proliferation result" (p. 28). And again on page 30: "We cannot admit this proliferation of the tissues constituting the stroma; it is in direct contradiction to the results obtained in all animals. Apparently there is question in this case [Griffiths'] of simple inflammatory phenomena superimposed upon the classical lesions of prostatic hypertrophy."

A critique of these opposed views would carry us beyond all bounds. Suffice it to say that Kirby's animal experiments bear out White's view; but the trend of recent investigators is all in the other direction. Since Motz's[15] able theses, the "prostatic myoma" of Thompson and others is disappearing from the nomenclature, and hypertrophy of the prostate is recognized to be a hypertrophy of all the normal elements of the gland, but especially the epithelium, an adenoma, in short, in which secondary changes of an inflammatory character—round-celled infiltration going on to sclerosis—are frequent.

Atrophy, on the other hand, begins in the epithelium, not as a result of an overgrowth in the stroma, but with the result that the stroma subsequently fills, in part at least, the space left by the atrophic epithelium. Such a change could scarcely be expected within eighteen days. Subsequent commentators, be it noted, have accepted Albarrin's conclusions either explicitly or implicitly.

We must go back a year to reach the monograph of Floderius,[6] the inauguration of the third period. This author, collecting the previous pathological findings and adding two cases of his own, concludes that there is no pathological evidence to show that castration ever did cause atrophy of the hypertrophied prostate. The evidence unfortunately was scant and is so still, but three years later the verdict is the same. No one since White and Griffiths has (to my knowledge) claimed to possess a case showing microscopical evidence of atrophy after castration.

Before tabulating the authorities I have been able to consult, I add a case which has fallen into my hands. The patient's history is as follows:

H. J——, an Irishman, carpenter by trade; sixty-three years of age; married; presented himself on August 31, 1898, suffering intense dysuria. He denied gonorrhœa or sexual excess in youth. His urinary organs and functions had been entirely normal until the autumn of 1897, when he was seized with an acute complete retention of urine. A physician relieved him by passing a catheter and taught him the use of the instrument. The complete retention lasted a week and then rapidly disappeared, so that the patient was able to dispense with the catheter until June, 1898; at that time he began to suffer some little pain on micturition. In spite of, or perhaps on account of, the use of the catheter the dysuria increased; until a few days before I saw him he had to resort to a woven catheter. This gave him little relief and brought blood every time he used it, every hour or two, day and night.

Physical Examination: The patient is anæmic, feeble, and flabby. Heart and lungs normal. No œdema except a puffiness under the eyes. The urine is drawn at eight and a quarter inches. It is ammonical and so filled with blood and muco-pus as to be unfit for any test. The bladder capacity is three ounces, practically all residual; no atony. The searcher detects no stone. By the rectum the prostate feels large and firm. It contains no nodules, nor is it tender. The vesicles, which can barely be reached, are not distended. The kidneys are not tender and cannot be felt.

By exchanging his woven catheter for a small rubber one (11 F.) his hemorrhages were checked. He was made, as far as possible, to use the catheter but three times a day and to wash daily with boric-acid solution. For six weeks irrigations of silver nitrate, sublimate, and thallin sulphate were tried, while salol, urotropin,

boracic acid, oil of wintergreen, and strychnine were administered internally in various combinations. At the end of this time the urine was but slightly less muddy; the bladder capacity had risen to four ounces. On the other hand, although he had given up his work, he was growing progressively weaker, and urinating in great distress every half-hour. Although having no great faith in the efficacy of castration, I did not think he would survive prostatectomy or endure a permanent catheter.

October 18, 1898, double castration was done through a single incision in the raphé. I neglected to search for stone while the patient was under chloroform.

The patient remained in bed for ten days, but in spite of the rest and systematic medication, general and local, he left the hospital but little improved, urinating hourly, using the catheter nearly every time. A month later he urinated every one and a half to two hours day and night. The urine was clear enough of pus to test for albumin, of which it contained one-half of one per cent. by weight. Specific gravity was 1.012. His pains were no less. I then lost sight of him till October 2, 1899; at that time he was urinating hourly, depending almost entirely upon the catheter. Although he had continued his daily boric-acid wash his pains were unrelieved. He came on account of a profuse hemorrhage of the bladder lasting several days. He brought with him a small, faceted phosphatic stone that he had recently passed. He stated that he was no stronger than at the time of operation, but he looked brighter. The prostate seemed undiminished. The urine was full of blood, the urethral length undiminished. He passed two ounces of urine voluntarily and then six ounces by the catheter. A few days later I touched a stone. He refused operation, and did not return until February, 1900, his local and general condition still unchanged.

On February 22, 1900, epicystotomy was done under chloroform anæsthesia. The bladder wall was thick and congested but fairly smooth. The prostatic obstruction was in the form of a horse-collar, the right and middle lobe constituting the major part of the tumor. Thirty-two phosphatic stones weighing five hundred and eighty grains (37.58 gm.) just filled the *bas fond* to the level of the bar. These were removed, and a median incision made with serrated scissors through the whole thickness of the bar. Through this incision two tumors were easily enucleated from the bar and right lobe, measuring respectively one and seven-eighths by one and three-fourths by one and one-fourth inches, and one and one-half by one and one-half by one and one-fourth inches, and weighing seven hundred and sixty grains (49.24 gm.). The suprapubic wound was partly sutured, with double tube drainage. The operation was performed in forty-five minutes. Convalescence was uneventful save that union was delayed by persistent sloughing of the whole surface of the wound, which could not be controlled until the urotropin (of which a daily dose of 1 gm. was being administered) was withdrawn on March 8th. A month longer was required for the slough to separate and the wound to heal.

April 12th: He urinates without pain every two hours day and night. The urinary distance is seven and three-fourths inches; residuum, one ounce; bladder capacity, six ounces. The urine is still slightly ammoniacal.

May 5th: The urethra is now only seven and one-half inches long. The residuum is down to three drachms. The urine is acid and only slightly hazy. The prostate feels rather smaller than usual; the right lobe is a little larger than the left. Although he still urinates every two to three hours day and night he has no pain whatever, considers himself entirely well, and is trying to get back to work.

The tumors removed from the prostate were forwarded to Dr. H. T. Brooks, whose report is appended:

"New York City, May 11, 1900.

"Microscopic examination of the sections made from the prostate you forwarded, February 23d, shows

Fig. 1.—Leitz 3, ocular 4

a very richly muscular and glandular structure, and a slight amount of fibrous connective tissue. The preparations were stained in hæmatoxylin alone, also in hæmatoxylin and eosin, and in borax-carmine, all parts of the tissue staining deeply and distinctly.

"The muscular structure is arranged in broad and slender bands, some straight, others tortuous, chiefly densely interlaced in a manner closely simulating the distribution of the muscle elements in the uterus.

"The glands are of the tubular variety, lined with a single, sometimes double row of short columnar or

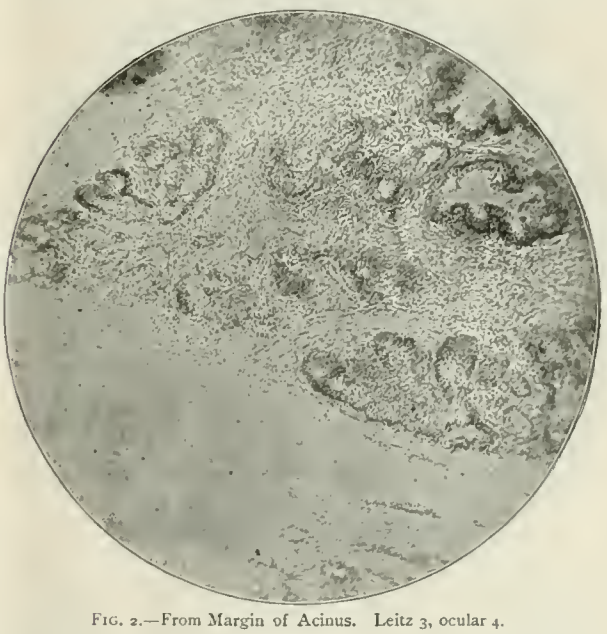

Fig. 2.—From Margin of Acinus. Leitz 3, ocular 4.

cubical epithelial cells which lie upon several layers of smaller and more rounded cells resting against the basement membrane. The great majority of the tubules are grouped closely in a more or less regular manner, presenting collectively the appearance of

lobuli in section (Fig. 1). In some areas, on the other hand, the ducts are widely separated from each other by broad bands of muscular tissue including a small number of fibrous elements (Fig. 2). In many instances the inner surface of the tubules is convoluted

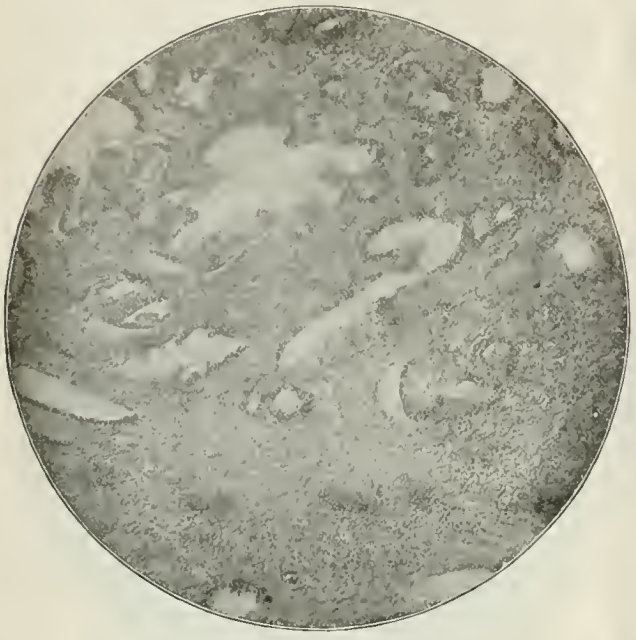

Fig. 3.—Bausch and Lomb ⅔, ocular 1 inch.

or thrown into folds in the form of papillæ (Fig. 1); in the greater number, however, these surfaces are smooth and the tube lumina round or oval in form. Most of the ducts in the groups above mentioned appear to be in every way normal, the muscle structure and epithelium being regularly arranged and perfectly formed, and the lumina free from any deposit (Fig. 3). Pigmentation of the epithelia is rarely noted and when observed is of but slight degree. Occasionally ducts are seen which are filled with a fine granular material staining faintly with eosin; others contain a small number of isolated, partially disintegrated

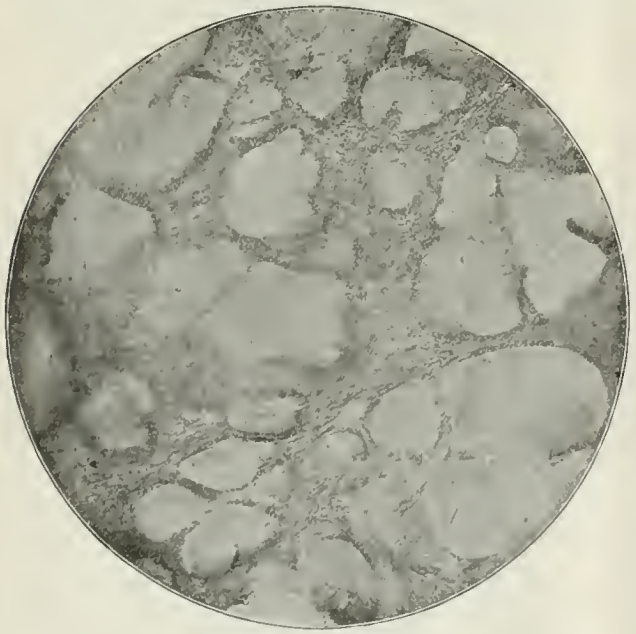

Fig. 4.—Bausch and Lomb ⅔, ocular 1 inch.

cells of epithelioid type apparently derived from the lining epithelium. At wide intervals in the tissues several lobuli are observed in which the tubules are greatly dilated, often of cystic nature, and the internal surfaces of former healthy ducts flattened and free from convolutions, the epithelia, however, retaining their normal columnar or cubical form, and only exceptionally approaching the flat squamous or endothelial type of cells (Fig. 4). Some of these dilated ducts are completely or partially occluded with a coagulated, finely granular, almost homogeneous deposit occasionally enclosing cells (Fig. 5, *A*). Corpora amylacea are rarely met with.

"There is but a small amount of fibrous tissue observed, and this appears to be chiefly confined to those areas immediately surrounding the lobuli, particularly those containing dilated ducts. It is always mixed with muscle elements—never alone. The only evidence of active proliferation in the sections—which measure 3 x 1½ cm., and extend from the external capsule to the centre of the prostatic tissue—is shown by round-celled infiltration between the muscle and connective-tissue fibres encircling the lobuli and surrounding the individual ducts of the latter. This infiltration is met with at wide intervals, being in some places diffuse, in others localized, in more or less nodular form, resembling somewhat the smallest solitary lymph nodes of the intestine or the Malpighian corpuscles of the spleen (Fig. 6).

"The insignificant amount of fibrous change, the comparative infrequency of dilated or cystic degene-

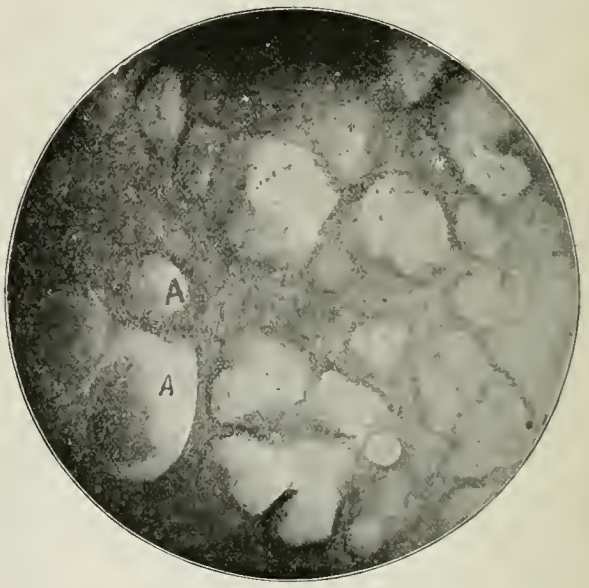

Fig. 5.—Leitz 3, ocular 4

rated tubules, and the very large amount of muscle tissue would, it appears to me, indicate that there had been but very slight development of fibrous connective tissue, *i.e.*, fibroid induration; for it is reasonable to suppose that, had this process (fibroid induration) advanced very far there would have been more decided microscopical evidence of it, and also a greater number of dilated or cystic tubules resulting from the obstructing constrictions on the efferent side of the ducts. This view seems to be supported by the exceptional occurrence of fibrous bands, which, as has already been stated, are, when present, chiefly pronounced throughout the sections in those areas immediately surrounding the gland acini.

"Another interesting feature, to me at least, is the comparative absence of corpora amylacea, which are rarely observed and then only in very minute form with ill-defined concentric lamellæ. If we accept the views of Zahn, Favre, Posner, Hildebrand, Seigert, Stilling, and others, as to the origin of these bodies, namely, that they are derived chiefly from the degenerated epithelial elements and abnormal secretions of the ducts, it would seem that there should be a very much larger number of corpora amylacea present in

this case—provided it is assumed retrogressive changes have occurred in this particular instance.

"In conclusion I may say that, judging from the collective histological appearances, it is my opinion

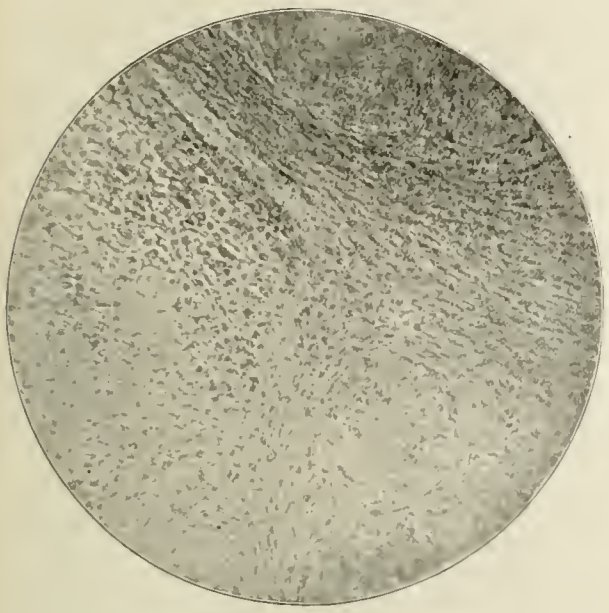

Fig. 6. Leitz 6, ocular 4.

that the changes noted in the preparations made from this prostatic tissue are no more pronounced than are those frequently observed in many so-called normal prostates. H. T. Brooks."

The table below shows briefly the status of all the similar cases I have found in the literature:

Reporter.	Time Elapsed since Castration.	Atrophy claimed.	Pathological Findings.
Kirby[3] (White) ..	2 days.	Yes.	Desquamation and fatty degeneration in the epithelial cells. Proliferation of stroma.
Floderius[6]	8 days.	No.	Gives a detailed description of which I was unable to obtain an accurate translation.
"	11 days.	No.	
Moullin[10]	9 days.	No.	"No histological changes" though the prostate had shrunken.
Cabot[4]	7 days.	No.	Sections resembled those made from the prostate of a non-castrated patient.
Griffiths[7]	18 days.	Yes.	Same findings as Kirby.
Lennander[14]	8 days.	No.	Fatty degeneration of the epithelium "doubtless inflammatory."
De Rouville[15]	35 days.	No.	Fibrous hypertrophy. "Atrophy could not have been expected."
Cabot[4]	49 days.	No.	Glandular elements sparse, muscle tissue increased (?). No considerable diminution in size of gland.
Brooks* (Kelsey).	5½ weeks.	No.	Detailed report showing no degenerative organs.
Bryson[9]	12 months.	No.	No reduction in size; no evidence of degeneration.
Brooks (Keyes) ..	16 months.	No.	No reduction in size; no evidence of degeneration.

Here then are twelve cases in which the condition of the prostrate after castration was tested by the microscope. Only two of the reporters believed they found "beginning atrophy"; and this opinion was based on grounds not acceptable to other authorities, while the time allowed for the occurrence of degeneration, two days and eighteen days respectively, is suspiciously short in view of the negative results obtained after much longer periods, viz., five and seven weeks, twelve and sixteen months.

On the whole, therefore, it is fair to conclude that in no case has atrophy been shown by microscopical examination, while in a number of cases (in the last five of the twelve cases cited, at least) it has been shown not to exist at a time when some evidence of it might have been expected.

So much for the pathology; now for the clinical facts. These may be briefly drawn from the tables of various authors, although the vagueness of statement in most of these statistics has forced me to compile some of the percentages myself, thus:

Reporter.	Number of cases.	Cured.† Per cent.	Improved. Per cent.	Unimproved. Per cent.	Died. Per cent.
White[3]	111	46.4	28.3*	7.3*	18
Albarrin[5]	126	43.7	35.7*	5.5*	15
Wossidlo[16]	154	27.3	47.4	9.2	16

* Estimated.

† Including all those "satisfactorily well," though still suffering from slight cystitis, etc.

A suggestive feature of this table is the contrast between the fluctuations of the "cured" and "improved" columns and the agreement of the mortality and "unimproved" figures. Though figures are notoriously misleading, this suggestion hints at how wide a scope is possible in reporting a case, how easy it is to feel that the prostate has "diminished," to mistake the improvement due to decubitus and systematic local treatment for a result of the operation, and above all things to report the case too soon. If the primary effect is purely a reduced congestion, and the real atrophy is not to be expected for three months or a year (Albarrin), the vast majority of the cases reported at the end of three months or six months as cured are absolutely valueless in the matter of ultimate prognosis. There is the popular phrase, "The operation was a great success, but the patient died."

Cabot's[17] recent article (1899) voices a change of sentiment which must have been felt by others than himself. In 1896 he was able to commend orchidectomy, but three years latter he reports a personal series of nine cases, of which one, probably malignant, may be thrown out. Of the eight remaining, three were unimproved; five improved, but of these three relapsed; two cures against six failures (subsequent prostatectomy cured three out of four of these; the fourth patient died).

This is the kind of statistics we need, and enough time has now elapsed since the earlier operations for

Fig 7.—Tumor of Prostate in Section.

those men who have conscientiously followed their cases to be able to produce clinical information of a quality to command as much respect as the pathological data. Until then the surgeon must regard the statistics on castration—as well as the eminently unsurgical procedure of Bottini—with interest rather than credulity.

To sum up:

1. Experiments, whether on man or the lower animals, relating to the normal prostrate do not of necessity apply to the enlarged prostate.

2. I know of no direct pathological evidence that castration has ever caused atrophy of a hypertrophied prostrate.

3. There is direct pathological evidence that in a few cases castration has failed to cause atrophy of the hypertrophied prostate.

4. The majority of cases reported thus far have been labelled "cured" or "improved" so soon after operation that many of them are doubtless instances of local depletion.

5. Clinical evidence of this is afforded by relapses occurring months after the operation.

6. Of the permanent cures some may well be instances of permanent advantage derived from reduced congestion.

7. The clinical evidence as to the actual atrophy of the prostate after castration lacks, as yet, its scientific confirmation, and has failed thus far to prove its title to the surgeon's credence.

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NEGLECTED CLINICAL OPPORTUNITIES IN AMERICAN MEDICAL CENTRES.[1]

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new york.

Mr. President and Fellows of the American Academy of Medicine: For an ordinary practitioner like myself, not connected with any institution for instruction, to venture to address this distinguished academy on so important a subject as the clinical teaching of medicine may seem temerity to many of you; but, while I lay no claims to any experience as a teacher of medicine, I have spent wellnigh ten years as a regular medical student in this country and abroad, and I believe I have learned something of the needs of such a student in regard to clinical instruction. I do not intend to imitate the critics who are in the habit of depreciating American institutions to eulogize foreign medical schools. There are a good many of the latter which are far from being perfect, and certainly not any better than some of our own.

What I desire to do is to point out to you, many of whom are representative teachers of the leading colleges in this country, that, notwithstanding the vast progress made in the curriculum of many of our medical schools, there is still an utter inadequacy of clinical instruction for the majority of students. I will show at the same time that this inadequacy is not due to the want of clinical material, but to the neglect to utilize it.

Only the few fortunate victors in the competitive examinations for hospital interneship have really the clinical training necessary to make good physicians. These internes constitute a very small minority of that vast army of physicians who annually must take upon themselves the fearful responsibility of treating medically and surgically the various ills human flesh is heir to.

Of every one hundred medical students, about ten receive hospital appointments. You will probably tell me that there are any number of post-graduate schools, and you are right. The majority of these schools are really excellent, but their work and usefulness lie in another direction. They instruct the general practitioner who goes to some great medical centre every two or three years in order to brush up, and they help to educate him in special branches of medicine or surgery.

There is no want of opportunity for post-graduate instruction, and it need not be sought abroad, it can be found in our own country. But what I claim is that there is great want of clinical instruction for the medical student before he becomes a post-graduate. I say this not in criticism of any one school, but of all of them. Yet this state of affairs can be remedied, and to attain this end I beg leave to offer the following suggestions.

There should be, first, a co-operation of all the medical colleges located in one medical centre for the purpose of a general and equal utilization of all the clinical material of their city.

Second, every physician and surgeon attached to a subsidized hospital should be appointed as a clinical teacher, independent of college affiliation, and be paid a reasonable fee for his services as instructor to the students.

Third, only such men should be selected for hospital physicians as are well qualified, and who pledge themselves to perform their duties faithfully as clinical teachers.

Fourth, suppression of all the didactic lectures for second, third, and fourth year students during the morning hours, which should be devoted exclusively to clinical work.

Fifth, the obligatory presence of every second, third, and fourth year student in the capacity of senior or junior externe at the clinic, or at the daily hospital visit of his teacher.

Sixth, a record of attendance should be kept by the clinical teacher and of the work done by his externes, to be transmitted periodically to the respective college to which the student may belong. The reports should be expected to count in the annual and final examinations of the students.

As to the manner of selecting the men for the positions of hospital physicians and clinical teachers, customs vary in different countries, States, and even cities. With some medical boards, the politics; with some, the religion; with some, the social standing; with some, the affiliation or non-affiliation with a certain college; and with some, the medical qualification of the candidate—decide whether or not he shall become one of theirs.

In certain European cities, for example in Paris, the position of visiting hospital physician, surgeon, or obstetrician (médecin, chirurgien ou accoucheur des hôpitaux) can be obtained only by a competitive oral and clinical examination covering those respective branches of medicine. The board of examiners is chosen annually by ballot from among the hospital practi-

[1] Address delivered before the American Academy of Medicine, at its twenty-fifth annual meeting at Atlantic City, N. J., June 4, 1900.

tioners. This system, though excellent, might meet with some opposition in our American cities, at least at the present time. Therefore, I venture to suggest that, as requirements for hospital physician and clinical teacher, the following qualifications should be necessary: (1) Good standing as a regular and practising physician. (2) One year's experience as interne in a general hospital and one year's service as interne in a special hospital or hospitals. Five years' active work in general practice should be accepted as an equivalent to two years' interneship. (3) The approval of the candidate as hospital physician and clinical teacher by the medical board of the hospital in which he desires to work.

Each hospital should have a fixed number of clinical teachers according to the number of beds. These should be at the same time the visiting physicians, surgeons, or obstetricians, with a sufficient number of internes and externes to assure efficient service and good care of the patients.

Wherever there is an important surgical or obstetrical service, there should be an arrangement that one of the visiting surgeons or obstetricians should always be within calling distance to aid the internes in case of serious accidents demanding immediate interference. The reproach so often made, that serious operations are performed by young internes without the aid or consent of the visiting surgeon, could then no longer have foundation.

No hospital should be without the necessary bacteriological and pathological laboratory equipments, where the teachers and pupils may gather to verify clinical observations or engage in special studies.

A change of service as externe from one hospital to another could be made twice during the second, and three times during the third and fourth college years. Thus each student by the time of his graduation would have served for thirty months as externe in six to eight different hospitals; having actually spent half of his time during the last three college years at the bedside, in the operating-room, or in the bacteriological and pathological laboratories of the hospital. Whenever there is a dispensary attached to the hospital, the material it affords could also be advantageously used for clinical work by the appointed clinical teacher.

To obtain the greatest possible good out of the three years' externeship, I would divide the work as follows:

First year as junior externe, five months in the surgical service, five months in the medical service; second year as senior externe, four months in the surgical service, four months in the medical service, and two months in the obstetrical service; third year as past senior externe, three months in the eye and ear service, three months in the nose, throat, and skin service, two months in the hospital for contagious diseases of children, and two months in the service for the treatment of diseases of the mind.

The service in medicine would, of course, have to include diseases of children, with the exception of acute contagious diseases. The instructions in diseases of the eye, ear, nose, throat, and skin might be advantageously taught in the large dispensaries, and the experienced dispensary physician should also become a clinical teacher. The three years' clinical curriculum for the externe, divided in the manner I have suggested, should be obligatory for all medical students. It covers only what every general practitioner ought to know. He may specialize himself in after-years. While at the college he should learn to know how to treat all diseases which he may be called upon to attend as a general practitioner.

After having given the outlines of my plan, which, of course, only represent a rough scheme, let me substantiate what I have said in regard to the abundance of clinical material in large medical centres, and the neglect to utilize it for clinical instruction. I will cite only New York as an example; but the conditions are virtually the same in all the great medical centres of the United States.

Through the very kind and prompt replies to the letters of inquiry addressed to the superintendents of the hospitals and the secretaries of the three medical schools of the city of New York, I am able to present the following statistics: The number of medical students during the college year of 1898 and 1899 was: In the medical department of Columbia University, 801; in the medical department of New York University (former University and Bellevue colleges united) 442; in the medical department of Cornell (including matriculates at Ithaca), 241; this makes a total of 1,484.

The following is a list of the twenty-five general hospitals usually mentioned in the announcements of all three schools as an inducement to medical students to compete in the examinations for internes:

	Daily Average Number of Beds Occupied.	Number of Internes.	Term of Service.	Number of Visiting Physicians and Surgeons.
Bellevue Hospital	760	24	2 years.	32
Beth Israel Hospital	28	4	2 years.	10
City Hospital	750	24	2 years.	32
Colored Home and Hospital	240	2	1 year.	4
Columbus Hospital	80	3	18 months.	8
Fordham Hospital	40	4	16 months.	8
French Hospital	60	3	18 months.	6
German Hospital	180	6	2 years.	24
Gouverneur Hospital	39	4	18 months.	10
Harlem Hospital	40	3	2 years.	10
House of Relief	34	5	20 months.	5
J. Hood Wright Memorial	50	4	2 years.	6
Lebanon Hospital	65	3	12 months.	10
McDonough Memorial Hospital	12	0	.....	7
Mount Sinai Hospital	206	6	18 months.	10
New York Hospital	173	9	18 months.	10
Presbyterian Hospital	188	8	2 years.	7
Roosevelt Hospital	170	15	1 year.	5
St. Francis' Hospital	230	6	1 year.	7
St. Mark's Hospital	65	3	20 months.	10
St. Luke's Hospital	227	10	18 months.	12
St. Mary's Hospital	100	0	.....	2
St. Vincent's Hospital	325	6	18 months.	6
Trinity Hospital	21	0	.....	4
Woman's Hospital	90	6	18 months.	5
	4,173	158		

Thus we see that, to nearly fifteen hundred medical students, the three schools can only offer one hundred and fifty-eight places for internes in general hospitals. Of course there are numerous institutions for the treatment of special diseases, such as cancer hospitals, maternity hospitals, eye and ear hospitals, hospitals for consumptives, and so on; but the interneship in these institutions is not what the graduating student desires and needs. He wants above all the clinical training in a general hospital. He reserves the special hospital for some future date; thus, positions in special hospitals are usually sought by graduates of general hospitals, and I understand these latter are always preferred by the managers and visiting physicians of these institutions to the young men fresh from college. To complete my statistics, I will give a list of special hospitals, and the clinical advantages they offer. (See table on next page.)

The number of beds in general hospitals varies in the different institutions from seven to sixty per interne; thus some internes must certainly be overworked, while others would seem to have hardly enough to do. In special hospitals we find even a greater inequality in regard to the division of work. In some there are

ten patients per interne, in some about fifty, and among the three hospitals for consumptives one institution has three hundred and fifty beds per interne, another one hundred and twenty-eight, and one with thirty beds has no residing medical officer. The New York Foundling Hospital with its seven hundred beds has but two internes. While I am willing to concede that in a hospital for consumptives there may be no need of quite as many internes as in a hospital of equal size devoted to the treatment of general, acute, or surgical diseases, still I maintain that our knowledge in phthisiology might be materially increased if all these great hospitals for consumptives would offer a number of places for internes where the young men could carry on investigations of the most interesting kind. Tuberculosis is certainly a disease which is prevalent and important enough for such a work, and many of the clinical phases in phthisis pulmonalis will still bear some study and observation, leaving aside the vast field for research which phthisio-therapy still offers to physicians old and young alike. Lastly, the poor consumptive patients might also have a better chance for life, if they would be treated instead of being kept.

	Daily Average Number of Beds Occupied.	Number of Internes.	Term of Service.	Number of Visiting Physicians and Surgeons.
Babies' Hospital	35	0	.....	2
General Memorial Hospital	100	4	2 years.	6
Hospital for the New York Society.	184	4	2 years.	3
Loomis Sanatorium for Consumptives (City Branch)	30	0	.....	4
Manhattan Eye and Ear Hospital	48	4	2 years.	9
Mothers and Babies' Hospital	60	3	1 year.	3
New York Eye and Ear Infirmary	50	5	18 months.	23
New York Infirmary for Women and Children	60	4	16 months.	12
New York Orthopædic Dispensary and Hospital	65	2	2 years.	1
New York Skin and Cancer Hospital	45	3	18 months.	5
Nursery and Child's Hospital.	85	3	1 year.	4
Seton Hospital	128	1	Indefinite.	4
Sloane Maternity Hospital	80	4	3 months.	2
St. Joseph's Hospital	350	1	Indefinite.	12
Willard Parker Hospital	60	2	Indefinite.	6
New York Foundling Hospital	700	2	1 year.	12
	2,080	42		

You must pardon me for this little divergence from the real subject, but I consider a proper training for the future physician, in the modern ways of preventing and treating consumption, as one of the most essential factors in the solution of the tuberculosis problem. No matter how many sanatoria and similar institutions we may eventually have, for a good many years to come the majority of tuberculous patients will have to be treated at home by the general practitioner, and the better he has been prepared to do this the greater will be his power to help combat this terrible scourge of the human race.

Why our New York Foundling Hospital, with its seven hundred beds daily occupied by little waifs and homeless mothers, should have only two internes is a matter difficult to understand when we consider how great the morbidity and mortality are among the class of infants left to the public care.

I have said that in a number of general hospitals the internes are overworked, some having as many as sixty beds to look after. They have little time for laboratory work, and still less for medical reading; yet they are happy. They know they are the favored few. By cramming (pardon this expression, but it is the only one which fits the case) a great deal of theoretical knowledge, these young men were successful in a difficult competitive examination. They worked hard, and they deserve their distinction; and by and by they can put behind their names the proud title of hospital graduate. What becomes of those who fail by a few points, of the many more who could not come up, for one reason or another, for hospital examination, the college authorities do not and cannot care. These young men less favored by fortune must start out to practise as best they can with whatever clinical knowledge they may have obtained during the few hours devoted to section teaching.

Through a better utilization of clinical opportunities in all our American medical centres, all the students could receive a sufficient clinical training by serving three years as hospital externe. That there is room for every one of them I believe I am able to demonstrate. For convenience I will again refer to my New York statistics. They show that in our general hospitals each interne has to look after an average of thirty beds constantly occupied. Now, if this number of patients in each interne's care should be reduced to twenty for medical, and to even less for active surgical services, these young men would still have plenty to do; then at least two hundred and ten instead of one hundred and fifty-eight places in general hospitals would be open for competition to the graduating student, even should the present term of service of from eighteen months to two years be continued.

Reducing the term of service in the special hospitals to one year, and adding only one interne for every fifty consumptives and one for about fifty babies in the Foundling Hospital, would give us about ninety additional places. Thus we would have three hundred internes, and if each had for his assistants four externes, two seniors and two juniors, twelve hundred positions as externe would be open every year.

As has been said, the total number of medical students of the three New York medical colleges was last year fourteen hundred and eighty. I venture to say that of these not more than twelve hundred were entitled to hospital privileges; for, as we have said, only the second, third, and fourth year students should be attached to hospital service. But I am inclined to believe that if the system of an obligatory three-years' externeship should come in vogue, in a few years the hospital interne, having had already three years' service as externe, would be glad to content himself with one year's service in a general hospital, and devote his second year as interne rather to the work in a special hospital. Thus, by and by, instead of only two hundred and ten, about four hundred positions as interne in general hospitals will be open to the graduates of our New York medical schools. Besides these there are a few hospitals offering positions to internes, of which I could not report for lack of data.

With an obligatory four years' college course, an increased clinical curriculum, and a likely increase of tuition fees, there will hardly be an increase in the number of medical matriculates, and we will probably never have again four hundred graduates per year from the three New York schools; on the contrary, there are indications that we will have considerably fewer in coming years. I have learned that the graduating classes for 1901 will be a good deal smaller than were those of 1900.

The prospect that it may be possible in the near future to offer a position as interne in a general hospital for one year to every medical graduate is thus rather bright. The same prospect also holds good for the graduates from other large American medical cen-

tres. Wherever the college faculties, the hospital authorities, and the profession can come to an understanding, wherever the interest of the student as the future American physician is placed above all other interests which may concern a faculty or a hospital board, there the medical students will receive the best clinical training. But, in the mean time, let us reorganize our hospital work in all the large centres of medical education by creating a sufficient number of internes and externes, and place over them competent men as clinical teachers.

The duty of the clinical teacher should be, besides the daily talk or conference at the bedside, to give at least one clinical lecture every week, alternating with the other teachers of the same hospital. The attendance to this clinic should be obligatory for all students attached to this particular service and facultative for the pupils of other clinical teachers. The work of the interne would be what it is now, except that each would be aided by the externes, who in turn would be taught by the interne how to keep a record of the cases, how to examine urine, sputum, etc. The internes could also help the clinical teacher in teaching the students physical examination, and thus prepare themselves to be future hospital physicians and clinical teachers. In the surgical services, the externes should attend to dressing and helping the internes in the work of preparing patients for operation, taking care of instruments, and so on.

The interne like the externe should have an obligatory service in medicine or surgery during his first year, but he should have the right to devote his last year to whatever special or other work he should feel the greatest desire or need for.

Before answering the objections which might be raised to my plan, let me call your attention once more to the fact that not only would the externes be benefited thereby, but the interne and clinical teacher as well. The clinical teachers of a hospital could arrange among themselves on what days of the week to lecture, so that all internes and externes might attend.

By teaching the teacher will learn. He will not go unprepared to deliver a clinical lecture before an audience of medical students from different schools. He will be anxious to make his work as interesting as possible. He will be paid for this work, and it should be his duty to do his best. The interne, instead of eighteen months, will get five years of clinical instruction, three years as externe and two years as interne. This experience with a number of different clinical teachers can only be of vast benefit to him.

Lastly, the medical student who formerly had to take his clinical teachings in section classes, who rarely had a chance to watch a patient for several weeks in succession, will have had at the end of his three years' service as externe a wide range of clinical experience certainly equal to if not better than that which the average interne has now. The externe need no longer feel inferior to the hospital graduate. He will feel more confident to start out in life, and his future patients will be better off too. He can tell the world that he has had three years' hospital training, and feels well prepared to take upon himself the responsibilities of physician or surgeon.

Now, as to the objections: as conscientious physicians let us first see how our patients will fare under such a system. How will they like it? I venture to say they will welcome the change and like it better than section teaching. To be constantly cared for by the same two or three young "doctors" will be far less disagreeable to the patient than to be examined once or twice every week by a class of from ten to fifteen strange young men. The patients will not dread the visit and examination of these few young assistants with whom they become acquainted, as I know they often dread the arrival of the class with the teacher, who at times is not even the physician of the patient.

The increased amount of work will, of course, necessitate a four years' course perhaps of even ten months each, instead of eight or nine, and the increased fees for tuition are likely to deter a number of young men from entering upon a medical career, although in reality there should be a State appropriation for medical schools as there is for other educational institutions. Still I feel that you will all agree with me when I say that, in view of the overabundance of physicians at the present time, a decrease in the number of medical students would be rather a gain than a loss to the profession.

Another objection which will certainly be raised would come from the duly appointed clinical professors of the respective colleges; they might fear that their vocation would suffer in prestige; far from it. The importance of the chairs of clinical surgery and clinical medicine would not only not suffer from such a system, but their usefulness would be vastly increased.

All the clinical professors would have, of course, a hospital service. The hours of their clinic could be arranged so as not to conflict with the clinics of other teachers, and they would have the honor of having among their hearers not only the pupils of their own schools, but always a goodly number from other colleges.

The suppression of some of the didactic lectures will not be mourned by any student nor any well-meaning professor. I believe it is now the general opinion of modern medical educators that there are really but very few subjects in medicine which need to be taught didactically.

The last most serious objection which is likely to be raised is that the more or less numerous medical colleges in each of our great medical centres will never unite to do such harmonious work. The objectors will call my plan impracticable. Nevertheless, Paris, Berlin, and Vienna, the greatest centres of medical learning of the world, have each but one faculty of medicine; and Paris has three times as many medical students as New York.

The union of medical schools has very happily begun in some sections of the United States. We were very near reducing the number of our medical colleges in New York by one, but unfortunate inharmonious conditions created a new school alongside of the two which had united. Notwithstanding this discouraging occurrence, I am rather optimistic for the future, and when so much is at stake as the clinical teaching of the future medical men, I think the schools will have to listen not only to the needs of the student and to the demands of the profession at large, but perhaps also to the State boards which examine physicians before granting them a license to practise. These State boards have certainly done a great deal of good in raising the standard of medical education, but their examinations are of necessity all theoretical. They give no guarantee that the candidate has sufficient clinical training. Supposing all State boards should make a demand whereby the evidence of having served three years as hospital externe should be a *sine qua non* for all candidates, it would be a great step toward the clinical training of all men who would hereafter leave our colleges. But I believe that if such a movement as I have endeavored to outline before you should be inaugurated, every one of our important medical schools would be willing to respond to such an essential and useful innovation as a thorough clinical teaching of all their students.

Through an amalgamation of the clinical teaching of all schools in every large city, there may come that

glorious time for which we all so earnestly pray: Fewer and better schools, fewer and better educated physicians; one great university with one great medical faculty in each great medical centre. The standard of medical education in our own country would thus be vastly raised, and not only equal that of Europe, but become ultimately superior to that of any country in the world.

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DOES "CROSS-EYE" AFFECT THE GENERAL HEALTH?

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The relative percentage of the total population that is disfigured by "squint" is hard to estimate. It must confessedly be a large one. This can be easily proved to a careful observer by the inspection of any large gathering. My own leisure moments are frequently employed, while in public conveyances and social entertainments, in counting those whose eyes tend (either constantly or at intervals) to assume positions in one or both orbits that are incompatible with binocular single vision.

To the untrained observer, however, many cases of actual strabismus escape detection. This statement applies as well to medical men as to the laity. It is only when one or both eyes deviate so far from parallelism as to constitute an actual and ever-present deformity, that some medical men (who are keen observers in other lines) detect it and suggest immediate treatment for squint.

Yet it is an established and indisputable fact that eye-strain ceases, and no leakage of nervous force is created, whenever cross-eye becomes an extreme deformity and its correction seems to be the most imperative.

The anxiety of intelligent parents, whenever they bring a hideously cross-eyed child to the oculist to have the eyes straightened, is frequently much greater than the natural dread of an operation would account for; simply because their physician has unfortunately told them that "such extreme cross-eye would eventually injure the health of their child," and that they must get rid of this source of danger.

Nothing could be more ridiculous! The absurdity of such statements and views will be made apparent to the reader by subsequent physiological explanation.

The correction of a marked eye-deformity (in either a child or adult) is unquestionably most desirable. It greatly improves the personal appearance (if properly done), and it may add to the general comfort of the patient in the use of the eyes; but extreme degrees of cross-eye (in which the two eyes cannot be made to hold single images) do not (save in exceptional cases) affect the general health, or justify correction as purely a therapeutical measure.

The serious damage to health occurs only in those patients who want to be cross-eyed but can't. It occurs in those who have two eyes that naturally tend to deviate and perhaps occasionally may deviate for a time from parallelism, but which can still be used together by an unconscious effort and a large expenditure of nerve-force on the part of the patient.

Such subjects have constantly to make this unconscious and unnatural effort simply because they would "see double" if they didn't; they perhaps may or may not be conscious at times that eye-work (such as reading, sewing, shopping, attending public places of amusement, etc.) causes headache, eye-pain, or nervous fatigue; and they too often struggle on (as I personally did for thirty years until I collapsed) with an unnatural load to carry because of eye-strain that is unrecognized to-day by too many medical men, and not understood or suspected, as a rule, by the sufferer.

The eyes themselves are but two cameras. Two pictures of every object are first formed upon the retinæ and are then telegraphed to the brain cells (in the occipital lobe). Under normal conditions they are there fused into a single visual impression of which we are conscious.

In order to admit of this fusion of two visual images into one visual impression, the two eyes have to be most accurately adjusted by four pairs of straight muscles and two pairs of oblique muscles; while the one pair of muscles that controls the upper eyelids acts in unison with the other six pairs whenever the eyes are being adjusted so as to work properly together.

All adjustments of the eyes, to insure the desired effects, have furthermore to be made with marvellous quickness and accuracy.

Every possible combination of the seven pairs of muscles has at times to be specially arranged, then suddenly discarded, then a new one made, then somewhat modified (and so on *ad infinitum*) whenever the eyes are required either to follow or to be steadily directed upon the multitude of objects that are brought sudddenly or slowly to our conscious recognition through our eyes. The human mind can hardly grasp a numerical computation of these combinations of muscular efforts or the lightning changes required in seven pairs of muscles to keep the two eyes in perfect adjustment at all times and under all conditions.

Imagine, for example, one driver (or even a band of drivers) trying to direct simultaneously with seven pairs of reins seven pairs of horses in tandem through a series of most difficult and complicated evolutions at lightning speed. A slight mental conception may thus be formed of the complicated driving of the eyes; with the brain as the driver and the eye-muscles as the reins.

Again, let us take a common event as an illustration from our experiences in every-day life! We buy a new team of horses, and with a new harness (not properly adjusted to them) we start out to drive. One of the horses is soon found to be checked very much higher than the other; and the inside reins may be so short or so long that when tightened they draw the heads of the horses close together or wide apart and as a consequence compel the team to travel sidewise in order to get along under such unnecessary conditions. Every one knows that the best horses would be spoiled in a very short time by such distressing annoyances; and the trainer would be driven sooner or later to utter desperation in his vain attempts to make them work properly as a pair, if at all. The first intuitive step that would be taken (by even the merest novice) in order to remove such sources of endless irritation both to man and beast would be immediately to re-adjust the reins and checks, until the conditions became satisfactory to both the driver and the team.

Now nature often presents the same type of problem to the oculists for correction!

A pair of eyes that are simply checked too high (anatropia or anaphoria) may swing in or out constantly or occasionally as a direct result of that special type of mal-adjustment; an unnatural tension upon one or both of the inside reins (the internal recti) may make one or both eyes turn in (esotropia); a shortness of the outside reins (the external recti) may give constantly or at times a divergent squint (exotropia); the upper eyelid may droop (constantly or at intervals) purely as a result of some mal-adjustment of the eyeballs themselves; and a tendency to turn or actual turning of both of the eyeballs downward (kataphoria or katatropia) may create apparent distortions of the eyes in other directions than the one actually at fault.

Frequently, as a result of some abnormal adjustment of the eye-muscles, certain peculiar attitudes of the head of the patient become a fixed habit; because, by simply altering the position of the head, difficulties experienced in maintaining binocular single vision upon the proper plane may be modified unconsciously and occasionally overcome entirely.

In my recent work, entitled "Eye-Strain in Health and Disease,"[1] I devote some pages to this interesting field in diagnosis. I show in those pages that a marked and constant elevation of the chin means that the eyes are adjusted for too low a plane; and that a marked depression of the chin upon the chest, with a protrusion of the forehead and a persistent stoop of the shoulders, almost always indicates that the eyes are adjusted for a plane higher than the horizon.

These types of patients sometimes have a very marked apparent "squint" either inward or outward; yet an operation performed upon an internal or external rectus in a case of these peculiar types would not cure the squint or rectify the unnatural posture of the head.[2]

The principles involved in the surgical relief of cross-eye are fortunately better understood to-day than they were in the past. It is safe to assert that in no field of surgery has there been a larger percentage of failures in the past than in the treatment of squint. The remarkable improvement in the results now obtained (after surgical attempts to rectify the various types of this deformity) has been due largely to the more careful study of the eye-muscles by the tropometer and the phorometer. Personally I should not deem any one to-day competent to treat scientifically a case of strabismus unless he was well versed in the use of these modern instruments.

Red-Glass Test.—One recognized clinical distinction between actual squint and simple insufficiency of ocular muscles is this: In squint, when a plain red glass is held before either eye of the patient and the patient is instructed to gaze with both eyes open upon a candle-flame at the distance of twenty feet from the eye, two images of the candle are seen (a red and a white image).

The relative position of the double images to each other (when unconquerable diplopia is found to exist) is the guide to the oculist in detecting the type of squint; and the strength of prism required to enable the patient to fuse the double images is an approximate way of determining the amount of the "manifest" tendency of the eyes to cross.

In other words, the presence of diplopia (double vision), when a red glass is held before either eye, is a diagnostic sign of squint.

But do all patients with squint see double images with or without the red-glass test? By no means! In fact, it is very uncommon in testing patients with extreme cross-eye to get them at first to see the double image. The reasons for this difficulty are either that patients of this class have learned to suppress visual perceptions in one eye when the other is fixed upon some object, or that the double image is too far removed from the normal field of vision to be recognized without long-continued practice.

I have known patients who had for years suppressed visual images on account of squint to practise for weeks with a red glass before they could simultaneously see the image of a candle-flame with both eyes. I commonly teach such patients to do this by having them fix one eye upon the candle-flame while the other is shielded with a card and covered with a red glass. I instruct them to look intently at the candle-flame and to endeavor to detect the colored candle image when I remove the card from in front of the eye that has the red glass before it.

After repeated attempts, most cross-eye patients can be made to recognize double images by this method; but occasionally a strong prism has to be used in connection with the red glass to bring the double images within the normal field of vision before the patient can be taught to use both eyes simultaneously while tests are being made.

Exclusion Test.—A second point of great value in the preliminary investigation of cross-eye is the employment of the so-called "exclusion test."

The patient is instructed to look intently with both eyes open at a candle-flame twenty feet at least from the eye, while a card is held as a shield over one eye and shifted from eye to eye alternately so as to exclude either the right or the left visual image. While either eye is shielded the observer notices carefully how that eye deviates from parallelism with its fellow when the card excludes its visual image; and the observer also notes with care in what direction the same eye moves when the card is shifted to cover the opposed eye. If, for example, the right eye deviates upward and outward behind the shield and jumps downward and inward when the card is shifted to cover the left eye, and the left eye deviates downward and outward behind the shield and jumps upward and inward when the opposed eye is covered, the observer knows that right hyperphoria exists with exophoria (or that the right eye tends to assume the highest vertical planes and that both eyes tend to deviate outward). Prisms are now placed before the eyes to correct properly the abnormal jump of the eyes, and the extent of the manifest squint can usually be approximated in this way.

If both eyes jump downward when the card is shifted, both eyes are too high; if both jump upward under like conditions, both eyes are too low; if both simply jump inward, the eyes are in vertical balance but deviate outward; if both eyes jump outward, the case is one of convergent squint.

A third preliminary step in the examination of cross-eye patients is to determine the refraction of each eye with certainty, and if markedly abnormal to correct the refraction with glasses for some weeks before any positive conclusions are formed or advice is given regarding the correction of the squint.

Refractive Tests.—Without thorough tests for abnormalities of refraction, no muscular tests are positive and many are often misleading. A mydriatic ought always to be used.

I recall a case in which a physician lately brought a terribly cross-eyed lady to my office for operation. Her disfigurement was extreme. She was found to have marked astigmatism and unequal refraction. The prescribing of proper glasses for constant wear for one month was advised. At the end of a month all symptoms of cross-eye had totally disappeared, and by careful tests no abnormality of the eye-muscles could be detected by me. An operation on this patient would have been a sad mistake.

Results of Eye-Strain.—The amount of nervous disturbance that may be created by eye-strain in those subjects that are on the border-line of "squint" without actual deformity is sometimes extreme.

There is hardly a nervous disease of the functional type that cannot be induced by this cause. Patients who suffer from headaches, neuralgias, chorea, epilepsy, nervous prostration, and even insanity from this reflex cause are unquestionably encountered. This is no idle dream, nor is the statement made from rash enthusiasm. I might quote from my work on "Eye-Strain" (previously referred to) many cases that

[1] F. A. Davis Co., Publishers, Philadelphia, 1897.

[2] Dr. George T. Stevens considers the conditions known as "kataphoria" or "katatropia" as predisposing causes to lung diseases and chronic inflammatory conditions of the respiratory tract; because depression of the chin tends to compress the larynx, and the stooping shoulders contract the chest and interfere with its proper expansion.

clearly demonstrate the accuracy of my statements to all unprejudiced minds.

I owe personally to this great discovery in medical science my ability to practise my profession the past ten or twelve years; and the gratitude manifested by others who have been restored to perfect health by eye-treatment after all other avenues of escape seemed closed to them, does not exceed my own.

Cases Reported.—The four cases of squint whose clinical histories are given in connection with these preliminary remarks are peculiarly interesting examples of what can be done toward restoration of single vision by modern methods.

Case I. presented one of the most difficult eye-problems to correct that I have ever yet encountered. The combination of 25° of vertical squint with 14° of crossed diplopia (which this patient disclosed at the first examination) is not one from which most oculists would hope to obtain binocular vision and perfect muscular balances.

The extreme nervous disturbances caused by the eye-defects seemed to me, at first, as totally inconsistent with so marked a degree of diplopia. I attribute them now to the fact that this patient must have at times made great efforts to obtain single vision and been partially or completely successful. He always had carried his head on one side to an extreme degree. This tended to aid him in overcoming his vertical defect. Had he suppressed images, he would not have been conscious of transient diplopia or been nervously afflicted. One thing is certain, viz., that the establishment of binocular vision at all points has for the past four years totally arrested his nervous symptoms, which were the cause of great suffering in the past.

Case II. illustrates well the fact that an extreme maladjustment of the ocular muscles combined with unequal refraction can cause no nervous disturbances. A part of the parental eye-defects was, however, transmitted to his children; to a less degree, but sufficient to entail increasing eye-strain and to induce very serious nervous results.

The two sons who developed epilepsy (and who were cured by me through eye-treatment alone) inherited from the father just enough of his eye-defects to make the maintenance of single vision difficult and to entail upon them a constant waste of nerve-force—hence their epilepsy.

The daughter (who for years was a victim to extreme and alarming nervous prostration) recovered her health completely after I rectified the mal-adjustment of her eye-muscles and gave her proper glasses. She also owed the cause of her nervous collapse to the inheritance from her father of only a portion of his extreme eye-defects.

The father had squint, yet no nervous disturbances; the children were practically on the border line of squint, without disfigurement, and were nervously afflicted.

Case III.: This remarkable case of sudden nervous collapse, associated with a total inability to use the eyes or to hold single images, teaches some valuable lessons to those not familiar with the results of eye-strain.

Many victims to congenital eye-strain, who have for their entire life been unconsciously on the verge of diplopia and who have in consequence been making constant and almost superhuman efforts to see single, often lose control of their eye-muscles suddenly and sometimes do not ever regain their ability to overcome their congenital tendency to "cross-eye." It is not necessarily paresis; nor does it usually mean the development of brain-trouble. It is more apt to be the result of simple nervous exhaustion, and a rebellion (as it were) on the part of nature against trying to use a pair of eyes together that are not properly adjusted for single vision.

When the reins that drive such eyes are readjusted properly by the oculist, and when nature feels assured that all former difficulties of adjustment are permanently removed, slowly the ability to use the eyes together is in most instances re-established.

In this particular instance, the first tenotomy (not performed by myself) corrected a part of the muscular mal-adjustment and for a short time re-established single vision. Soon a return of the diplopia occurred, and the patient became alarmed and the oculist doubtful about further operative work.

Because the difficulties to be surmounted and the various steps required were not fully understood by the patient he naturally regarded the first operation as a dismal failure—when, in reality, it constituted but the first step toward a re-establishment of muscular equilibrium in the orbits. He lost confidence in his oculist simply because the oculist himself had not apparently a clear conception of what he had to meet; and because he failed to state in advance to the patient his exact line of procedure, which probably was not very clearly defined even in his own mind.

Had the oculist used the exclusion test, together with phorometer and tropometer records, he would have known early that one eye was much higher than the other and that both eyes diverged; he would have been able to state to the patient before operation that several graduated tenotomies might be demanded to insure permanent relief; he could have explained in advance to the patient just what each proposed step would accomplish toward the desired end; and he would have been able to carry his work along to completion with the full confidence and support of his patient.

The tropometer would have told the oculist that the case was not one of paresis. The history of the case did not justify either the suspicion or diagnosis of brain-disease. The sudden development of diplopia pointed naturally to a high degree of "latent heterophoria." In all human probability such an amount could not be overcome by one graduated tenotomy; and the patient should have been prepared early by intelligent explanation for probable recurrences of his symptoms from time to time until the muscular mal-adjustment was satisfactorily corrected.

The perfect re-establishment of control of the eyes for reading, book-keeping, and business pursuits in fine machine work, and the total disappearance of double vision after three subsequent graduated tenotomies had been performed by myself, demonstrate clearly that the first operation performed upon this patient was not a failure. It simply corrected a small part of the mal-adjustment of the eyes. It enabled the patient to see single images for a time only—but the hyperphoria and exophoria that still remained uncorrected eventually caused a return of the diplopia.

Case IV. illustrates some important clinical points that aided materially in restoring an apparently hopeless condition of the eyes to the normal condition; in spite of the fact that a persistent diplopia had interfered seriously for years with every pleasure and all use of the eyes.

When I first saw her and tested her eyes, this patient presented some eye-problems that were extremely puzzling to me and which for a long interval seemed discouraging both to the sufferer and myself. A perfect recovery, however, followed after two years of travel. Prior to this trip I had by graduated tenotomies placed the eyes where the patient could hold single binocular vision for short periods of time; but it took over six months of travel before any satisfactory use of the eyes became possible, and one full year before the patient could read with ease and comfort.

After a perfect control of the eye-muscles in their

new adjustment had once been acquired by this patient, no return of diplopia either at near or distant objects has ever occurred.

The following table will explain the meaning of certain terms used in the published records of individual cases and also in subsequent pages of this article:

Terms related to the focus of the eye (*refractive terms*).

- HYPERMETROPIA (*far-sightedness*). A *shallow eye* (from the front to the back), causing an imperfect focus of objects.
- MYOPIA (*near-sightedness*). An *elongated eye* (from the front to the back), causing an imperfect focus of objects.
- ASTIGMATISM. An *irregularly-curved cornea* or *lens*, causing distortion of images on retina.
- EMMETROPIA. A *perfectly constructed eye*.

Terms related to the muscles which move the eyes (*muscular terms*).

- ESOPHORIA. A tendency of one or both eyes to deviate toward the nose.
- ESOTROPIA. An actual turning of one or both eyes toward the nose (*convergent squint*).
- EXOPHORIA. A tendency of one or both eyes to deviate toward the temple.
- EXOTROPIA. An actual turning of one or both eyes outward (*divergent squint* or "wall-eye").
- HYPERPHORIA. A tendency of one eye to rise above the level of its fellow.
- HYPERTROPIA. An actual turning of one eye above its fellow (*vertical squint*).
- ANAPHORIA. A tendency of *both eyes* to assume too high a plane.
- KATAPHORIA. A tendency of *both eyes* to assume too low a plane.
- HETEROPHORIA. Abnormal adjustment of the eye-muscles.
- ORTHOPHORIA. Normal adjustment of the eye-muscles.
- ADDUCTION. The power of the internal muscles of the eyeballs. *It varies in health between 25 and 60.*
- ABDUCTION. The power of the external muscles of the eyeballs. *It should be 8 in health.*
- SURSUMDUCTION. The power of the vertical muscles of the eyeballs. *The right and left should be alike.*

Various forms of glasses employed by oculists.

- SPHERICAL. Ground upon a *convex or concave sphere*. Used to correct hypermetropia and myopia.
- CYLINDRICAL. Ground upon a *convex or concave cylinder*. Used to correct astigmatism.
- PRISMATIC. *Two plane surfaces of glass meeting at an angle*. The thick side is termed the base of the prism. Used to relieve mechanically errors of adjustment of the eye-muscles.

CASE I.—Mr. M——, aged thirty-six years, married, lawyer. Referred to me May 10th, 1892, by Dr. H. E. Hayd of Buffalo, N. Y. Family history not known.

History of Case: This patient had always been an intensely nervous man, with many choreic symptoms. For many years he had done a large law business; although suffering extremely from nervousness, irritability of temper, confusion of head (with slight headache occasionally), inability to use his eyes steadily, and at times almost complete nervous collapse.

When he came to me he complained chiefly of his inability to use his eyes or to concentrate his mind on his business without becoming extremely nervous. He was also troubled with burning and watering of his eyes.

He was so nervous that he would nearly jump from his chair if by accident I touched his head or even his hair with my hand while testing his eyes. Sudden noises, such as the ringing of my door-bell, also caused a nervous jump. He had been absolutely unable to play tennis or any similar game, as he could not concentrate his vision on the ball without causing extreme nervousness and distress in his head.

Eye-Defects: On the first examination this patient had $\frac{20}{20}$ vision in each eye with or without the glasses he was then wearing, which were O.D. + 1.00, O.S. + 0.75. He had also a diplopia (with a red glass) corrected by 25° of left hyperphorial prism combined with 14° of exophorial prism.

Under homatropine, he had vision of $\frac{20}{15}$ in each eye with + 0.50 c. axis 90° added to his hypermetropic glasses; but his muscular tests were the same as before.

Treatment and Results: The correction of this extreme heterotropia required a number of tenotomies, extending over a period of two years. The left eye was lowered, the right raised, and both eyes let in by graduated tenotomies performed upon the left superior rectus, the right inferior rectus, and both externi. The full correction was also given for his refraction.

The result of these operations was the establishment of almost absolute orthophoria. I have tested his eyes once or twice a year for the past four years; and he invariably shows no hyperphoria and an exophoria of from $\frac{1}{4}$° to 1°. His adduction is 30°, abduction 6°, right and left sursumduction 4° each. From his tropometer tests, it will be seen that in spite of several graduated tenotomies his rotations are about normal. They are the same in each eye, upward 30°, downward 50°, nasal 50°, temporal 50°. The vision of each eye with his refractive correction is $\frac{20}{15}$. He now uses + 1.25 s. over his distance correction, for reading.

The improvement in the physical and nervous condition of this patient is as great as the remarkable improvement in his eye conditions would lead any one to expect. He has lost all of his nervousness; has gained twenty-five pounds in weight; attends to a constantly increasing law practice with perfect ease; and uses his eyes with absolute comfort under all conditions.

CASE II.—Mr. P——, aged fifty-five years, married, banker.

Family History: Nothing is known of the patient's ancestry. Two of his sons had epilepsy and have been cured by eye-treatment under my hands; one of them having passed over five years and the other over three years without an attack since their eye-muscles were rectified. One daughter of the patient had complete nervous prostration for five years, and was kept in Europe under professional care for that condition without benefit. Subsequently she was also restored to perfect health by me through eye-treatment. The mother of these children had orthophoria; so that all the muscular anomalies found in them were evidently inherited from the father.

History of the Case: This patient had always been a remarkable rifle-shot and had won great distinction during the War of the Rebellion as an officer in the sharpshooting corps. In the performance of feats of marksmanship only one eye is used; hence the extreme strabismus of the patient and the bad refraction of one eye were no disadvantages to him in the use of the rifle. In fact, his extreme devotion to duck-shooting and its out-of-door life had probably prevented many ills which his eye-strain might have brought upon him, had his life been devoted exclusively to indoor occupation. For some years before he placed himself under my care, he had a pair of glasses which he used to amuse himself with at times by reversing them, when he wished to use them at the reading-point; thus bringing the distance glass of the poor eye into use as a reading-glass for the good eye, and throwing the poor eye entirely out of use while reading.

For many years prior to my seeing him he had frequent and unexplainable attacks of aggravated urticaria. These attacks came on when he was nervously run down, and often confined him to the house for several days at a time. They did not seem to be dependent upon any errors of eating or drinking, and were most puzzling to all of the physicians that were consulted about them. Throughout his entire life he was a rather nervous man with an enormous amount of physical and mental energy; but his powers of nervous endurance seemed to be almost unlimited, except when these peculiar conditions of the skin would develop. He placed himself under my care, after I had cured three of his children of serious

nervous troubles, rather for the purpose of enabling him to use his two eyes together than for the cure of any special nervous ailment.

Eye-Defects: This patient at his first visit showed the following refraction: O.D. V. $\frac{20}{20}$ with + 4.00 s.⊖ + 0.50 c. axis 180°, O.S. V. $\frac{20}{20}$ with + 1.75 s. His muscular tests (with the above correction on) were: right hyperphoria 5°, esophoria 3°, adduction 18°, abduction 7°, right sursumduction 13°, left sursumduction 2°. He had vertical diplopia with a red glass. He required + 2.50 s. added to his distance glasses for reading.

Treatment and Results: A full correction was at once given for his refractive error, and it has never been found necessary to change this glass, although I have tested him carefully once or twice each year since. + 2.50 was added to his distance correction for reading, and later this was increased to + 2.75. These glasses were worn for some months to see whether his hyperphoria would disappear after the correction of his unequal refraction, as is sometimes the case. In this instance, however, the hyperphoria proved to be genuine, and he showed the same muscular tests as when the glasses were first given. Accordingly a 3° prism, base up, was combined with his left lens and worn for a few months. A tenotomy was then performed on the right superior and on the left inferior rectus. Since the last operation he has never shown any hyperphoria, and his esophoria has fluctuated from 0° to 1°. He shows adduction 23°, abduction 8°, right and left sursumduction 6° each.

Since the establishment of binocular vision by tenotomies and the correction of his unequal refraction by glasses, this patient has noticed a very decided improvement in his general nervous tone, an ability to bear strain with much less fatigue, and a wonderful sense of comfort in his eyes that he had never before experienced. Strange as it may seem, he has no attacks of urticaria that formerly were the pest of his life. I interpret their absence rather as the result of improved nervous tone and stronger digestive functions than to any possible eye-reflex; although there are too many skin conditions that are unmistakably traced to nervous origin to justify us in ignoring altogether the eye-reflex.

The wife of this patient stated not long ago, while in my office, "that she could see a very great change for the better in her husband's health in a thousand little ways, since his eyes were treated."

One interesting feature in connection with this case is this: that the extreme difference of refraction in the two eyes, which for over fifty years had been uncorrected by glasses, and the extreme strabismus of the patient had unquestionably prevented much more serious ills of a nervous type than a less degree of heterophoria had produced in his children.

Case III.—Mr. S——, aged twenty years; single; student.

Family History: Both parents are living and well. No hereditary tendencies to nervous diseases or phthisis exist.

History of the Case: This patient was not a very robust boy and suffered considerably with headache, nervousness, and general debility. He never had any acute nervous disease up to June, 1897. He was at that time a student at a prominent university, and broke down completely with headache, nervousness, and absolute inability to use his eyes (with diplopia at times).

He was put under the care of a prominent oculist in New York City, who found exotropia 18° and right hypertropia 6°. A well-known physician, who was called in consultation, diagnosed "ocular paresis having its origin in the effects of the diseases of childhood." He had had meningitis when one year old. He was put on strychnine at once and atropine was dropped in his eyes, but he did not improve.

In December, 1897, the left externus was divided by the oculist previously referred to. He regained single vision, and improved so rapidly in general health and use of his eyes that he returned to the university.

In March, 1898, he again broke down with nervous prostration, headache, and double vision. He returned to the oculist who treated him before, who referred him to me for further treatment, as the case presented some problems that puzzled him and others who had seen the case.

Eye-Defects: When he first came to me he was wearing constantly a full atropine correction for his refraction, *i.e.*, O.D. + 0.25 c. axis 90°, O.S. + 0.50 c. axis 90°. His muscular tests were: Right hyperphoria 4°; exophoria 11°; adduction 16°; abduction 17°; sursumduction, right 4½°, left 3°. His rotations with the tropometer were about normal, showing that no paresis existed in any ocular muscle.

Treatment and Results: A tenotomy was at once performed on the right external rectus muscle, and a few weeks later a second tenotomy was done on the same muscle. A 4° right hyperphorial prism was then combined with his cylinders for constant wear.

With this correction he had single vision and began to use his eyes with comfort and was free from headache. Within a few weeks he engaged in the study of his father's business, which was the manufacture of machinery, and used his eyes for fine work seven hours a day without the return of any nervous symptoms. In September, 1899, I performed a tenotomy on the right superior rectus and removed the prism from his glasses.

He is still working very hard and remains perfectly well, with ability to use his eyes steadily for seven or eight hours a day.

His muscular tests are: Adduction 21°; abduction 13°; sursumduction, right 9°, left 5°; exophoria ½°; right hyperphoria ¼°. With the Maddox rod he at times shows more muscular defect, both exophoria and hyperphoria, and it is probable that he has more latent muscular trouble; but as he is doing his work comfortably and holding single images, it does not seem wise to push the correction of his eye-muscles any further at present.

Case IV.—Miss W——, aged thirteen years.

Family History: Both parents are living and well. One sister had severe headaches, which were relieved by my prescribing hypermetropic glasses.

History of the Case: This young lady was sent to me nine years ago suffering with headache, inability to use her eyes, and extremely annoying double vision.

Eye-Defects: This patient had myopia of three diopters, for which she was wearing correcting glasses. At the first visit she showed crossed diplopia of 14° with the red glass and at times showed also some left hyperphoria.

Treatment and Results: The treatment of this case required a great deal of operative work on the eye-muscles. Within one year both externi were divided freely, both interni were advanced, and graduated tenotomies were performed on the left superior and right inferior recti.

By these steps all of the hyperphoria was corrected, and she showed but two or three degrees of exophoria; but in spite of the close approach to orthophoria, she was unable to hold single images for more than five or ten seconds at a time. Static electricity, which had been applied at times to the internal recti during treatment, was now continued daily for several weeks until she was able to hold single images for forty-five seconds at a time. The diplopia was then only noticeable when looking at a very small bright object, as a candle-flame used in testing.

She then was obliged to leave for Europe for two years. On her return she showed no hyperphoria or exophoria, adduction 28°, abduction 8°. Prismatic exercises were used for two weeks, and her adduction increased to 45°.

Ever since then she has been using her eyes very hard. with no discomfort and with no headache. She has had no return of diplopia.

Summary and Conclusions.—1. A small percentage of subjects in whom cross-eye exists (even to a degree of extreme deformity) owe their existing disfigurement entirely to errors of refraction. Proper glasses alone will correct the disfigurement of such patients.

Extreme nervous phenomena may coexist in this type of case with the cross-eye, and disappear entirely when the refractive correction is properly made by glasses.

2. Extreme and constant disfigurement from cross-eye, which does not prove to be the result of refractive errors, does not as a rule entail eye-strain or tend to create reflex nervous disturbances.

3. Those who suffer only occasionally from cross-eye and at other times show no cast are peculiarly liable to reflex nervous diseases.

These subjects are constantly on the border line of double vision, and are wasting nervous force incessantly in their unconscious endeavors to maintain binocular single vision. The red-glass test and the exclusion tests are of great diagnostic value with such patients.

4. Extreme cross-eye inward or outward (convergent or divergent squint) is occasionally due to the fact that both eyes are adjusted either too high or too low in the orbit (anaphoria or kataphoria). This is a clinical fact that has been unrecognized by oculists until of late. It is a most important point to decide by the aid of the tropometer prior to operative interference in all cases of lateral squint.

5. Some subjects are unconsciously able to adjust for very high degrees of "latent" squint, and actually to maintain binocular single vision most of the time. The red-glass test in such cases usually develops unconquerable diplopia at once.

Severe nervous troubles are very common in patients of this type. The extreme mal-adjustment of the eye-muscles is very apt to be overlooked and remain uncorrected. This is because the squint is not constant, and when present is too often attributed solely to physical debility, excessive use of the eyes, etc.

6. The "phorometer" and "tropometer" are often essential to the proper recognition of the causes of cross-eye and the particular muscles at fault in individual cases.

7. To those of the profession who have not a "phorometer" or a "tropometer" the employment of the "Maddox rod"[1] and the red glass will sometimes furnish extremely valuable information regarding the causation of reflex nervous disturbances from eye-strain.

Patients who are on the border-line of squint will very often reveal their existing eye-strain at once (in the form of unconquerable diplopia) when the red-glass test alone is made.

I recall a rather amusing instance when a brother physician of this city, who had broken down completely in a nervous way and been for years under the care of an oculist of national reputation, resented as a serious affront to his vanity my assertion "that he was and always had been cross-eyed at times." I offered to prove it, and when a red glass was handed to him subsequently in my office to use as a test for his own personal satisfaction, he found that unconquerable double vision existed. He was operated upon immediately for his squint. He recovered his health at once, after his eye-strain was arrested. This sufferer had previously been wearing only a prism of two degrees for his reading, when he in reality had been unconsciously struggling for his entire life to overcome his tendency to cross-eye.

8. The "exclusion test" (previously described) is of great value in cases of squint. It is often extremely difficult and sometimes almost impossible to teach patients afflicted with cross-eye to abandon their unconscious habit of suppressing visual images. The "exclusion test" then becomes the chief reliance of the oculist in determining both the form and degree of mal-adjustment that exists, and in many instances which operative step to take first.

9. When vertical and lateral squint coexist, it is usually wise to correct the vertical mal-adjustment (either entirely or in part) prior to operation upon the lateral muscles.

There are enough exceptions to this rule, however, to make it wise for the oculist to study the effect of prisms upon his squint cases (prior to operative treatment) for a sufficient length of time to observe their influence. It is also advisable, as a rule, to get daily tropometer measurements for a week or two in cases of this peculiar type. Too much haste in operative procedures for the correction of combined lateral and vertical squint is apt to lead to unsatisfactory results.

I have had to do many advancements in my office, simply to correct mistakes made by others because of undue haste in undertaking the surgical correction of a complicated case of squint.

10. The old methods employed in operating for cross-eye have been so modified since the discovery of cocaine that the most extreme deformities can be rectified to-day without pain and even with no confinement to the house.

Formerly, the patient was obliged to take a general anæsthetic (chloroform or ether); the surgeon had usually to have two assistants, one to administer the anæsthetic and the other to assist in the operation; antiseptic dressings were applied to the eye, because it had a large conjunctival wound; and the patient was prevented from following his customary business pursuits for several days at least. To-day, a few drops of cocaine solution are dropped into the eye at intervals of a minute or two until the eye has entirely lost all sensibility to pain; the opening made through the conjunctiva is so small as to make the tenotomy almost a closed wound; the tendon is "buttonholed" through this small conjunctival opening; the patient is able to aid the operator by fixing vision steadily upon some designated point that puts the desired muscle on the stretch; the amount of tension relieved by the operation can be measured immediately (because the patient is conscious, not being under a general anæsthetic); and, finally, no surgical dressings are required after the operation, nor is it necessary to confine the patient to the house.

It certainly robs an operation of all its terrors when it is possible to correct extreme deformities by so simple and painless a method; to avoid all interruptions of business pursuits; to escape all danger of subsequent inflammation by having practically a closed wound; to be able to measure the results of the operation at the time; to enlarge the buttonhole in the tendon at one sitting as often as seems imperative: and to avoid the natural dread of taking ether or chloroform, with its possible dangers, loss of consciousness, and subsequent nausea and vomiting.

I have frequently operated upon young cross-eyed children in my office while I talked with them about the prospective pleasures or awards offered them by their parents in case they earned them by good behavior while the operation was being performed.

[1] A little device that can be carried in the pocket and that costs but a trifling sum.

11. In conclusion, I would impress upon my readers that a scientific correction of most cases of cross-eye takes more time than is usually allotted to such cases.

To pick up the tendon of an eye-muscle on a strabismus hook without any special study of the existing conditions, and to divide it completely (as has been done for years by many oculists for the relief of squint), is to-day a very crude and practically an obsolete method of procedure with those who aim at attaining orthophoria.[1]

Simply to get an improvement in personal appearance (that must of necessity be more or less uncertain, when operative procedures are attempted on so crude a basis) is not all that should be sought for by oculists.

Any person who has never had binocular single vision (in consequence of cross-eye) is peculiarly liable to be greatly annoyed by double images whenever the eyes are brought approximately but not quite to their normal position in the orbits by operations upon the eye-muscles originally at fault. The eyes will possibly look better to the casual observer than they did before the operations were performed; but the patient may become a sufferer from double vision and also from certain nervous disturbances never experienced while disfigured by cross-eye.

For this reason, if for no other, it is vitally important to endeavor to get as exact and perfect an adjustment as possible, and to save the patient many annoyances and possibly a nervous break-down that are apt to be entailed by imperfect operative work and the consequent eye-strain in overcoming a tendency to diplopia that never before existed to the same degree.

345 Madison Avenue.

REPORT OF A CASE OF PORRO-CÆSAREAN OPERATION.[2]

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The case of Porro-Cæsarean section I have to report is the sixth successful one, so far as I have been able to learn, in this State (Ohio). The first one was performed by Dr. J. F. Baldwin, of Columbus, on July 12, 1889, upon a rachitic dwarf with contracted pelvis. He saved both mother and child. On December 11, 1894, Dr. Hunter Robb, of Cleveland, operated, saving both mother and child. His case was one in

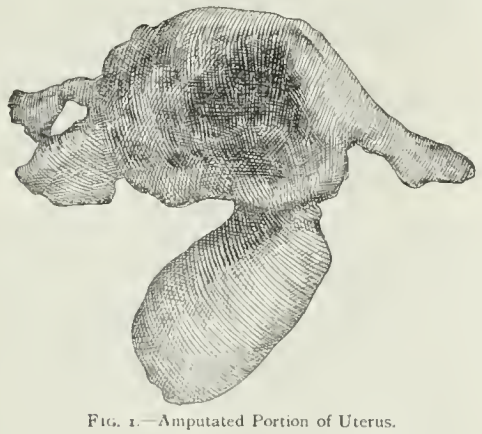

Fig. 1.—Amputated Portion of Uterus.

which the pelvic outlet was obstructed by a fibroid tumor arising from the cervix. On May 22, 1896, Dr. Edwin Ricketts, of Cincinnati, saved a mother. The obstruction was also a fibroid of the cervix. The same year a homœopathic physician in Toledo, Dr. O. Reese, operated, saving both mother and child; the obstruction was a specific contraction of the vagina. On April 24th of the present year Dr. George Crile, of Cleveland, saved mother and child in a case of con-

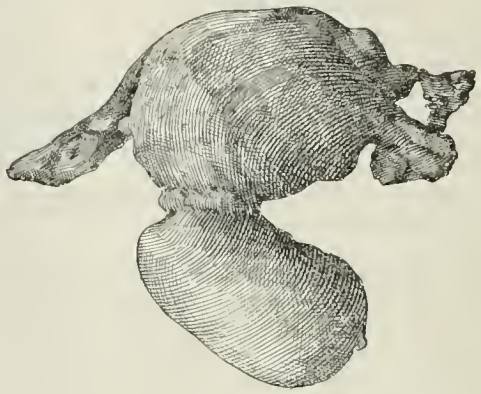

Fig. 2.—Fundus of Uterus with Tumor Attached.

tracted pelvis. All the cases here mentioned, except those of Drs. Robb and Crile, were done by fixing the pedicle in the lower angle of the incision.

The history of my case is briefly as follows: I was called to Findlay, Ohio, October 21st, last, by Drs. George F. Suker of Toledo, and J. P. Baker of that city, to see in consultation a married woman, a primipara, who had been in labor at full term, when I reached her, about forty-eight hours. Her family history has no bearing upon the case. Her father died at the age of sixty-two years, of a probable perforative peritonitis. The mother is living, aged sixty-two years, and well. One brother died in infancy. One brother is living, at the age of twenty-nine. No hereditary disease could be traced. She began to menstruate at seventeen years of age; menstruation was always regular after the first year, but painful, never profuse. Ten months since, her family physician in Gambier, Ohio, discovered a small tumor on the anterior wall of the uterus; prior to this, she supposed herself to be perfectly normal. Aside from an occasional pain in the back, her pregnancy gave her no discomfort.

On examination, a fibroid tumor, the size of a child's head, was found so completely blocking the pelvic outlet that it was with difficulty that the cervix could be reached at all. The contractions of the uterus apparently had so impacted the tumor in its position that all attempts at raising it out of the pelvic cavity, in order that the child might pass, were futile. It was so fixed that I could not move it at all.

The gravity of the condition was at once recognized, and immediate operation was urged by both Dr. Baker and myself. To this the patient and friends readily assented, when she was at once made ready, placed aboard a midnight train, and taken to Robinwood Hospital in Toledo, arriving there safely at about two o'clock in the morning. It was not, however, until ten o'clock, or about sixty hours after labor had commenced, that I operated. In the mean time Dr. C. A. Kirkley, of Toledo, was called in consultation.

Though labor had been in progress for sixty hours, and the waters had long since drained away, the patient when finally placed on the operating-table was in good condition, with a pulse of 68, a normal temperature, and no sign of exhaustion whatever. In the presence of a number of medical gentlemen, I operated, opening the abdomen by a median incision, when the relation of the tumor to the uterus could be clearly made out, it being connected to it on the posterior wall near the fundus by a pedicle the size of a wrist.

The tumor occupied such a position and was so im-

[1] See table of terms on preceding page.

[2] Read before the Northwestern Ohio Medical Association, at its meeting in Findlay, Ohio, December 7 and 8, 1899.

pacted in the pelvis that it was quite impossible to deliver either it or the uterus before the child was removed. It was impossible to do otherwise than incise the uterus *in situ*. It was also quite impossible to throw a rubber ligature around the cervix for the purpose of controlling hemorrhage.

The uterus was now opened anteriorly and a fœtus weighing seven and three-fourths pounds removed. The umbilical cord having been clamped and cut, the child, in good condition, was taken in charge by the nurse. The hemorrhage from the uterus was in the mean time controlled by my assistant, Dr. H. L. Green, who compressed with his hands the incised walls of the uterus against the abdominal walls. The uterus did not properly contract, and whenever the compression was relaxed in the least the bleeding was furious.

I removed the placenta at once without difficulty, but its removal was followed by profuse hemorrhage, which was only in part controlled by packing large sponges firmly into the uterine cavity.

The tumor was now with considerable difficulty enucleated from its position in the pelvis, where it had acquired rather extensive adhesions, and it, together with the uterus, was brought out of the abdomen. It was now for the first time possible to throw a rubber ligature about the cervix, which was done, completely controlling hemorrhage, and the uterus was amputated.

After making the pedicle as small as possible it was placed in the lower angle of the incision, the peritoneum was stitched about it, and two hysterectomy pins were inserted to hold it in place. Had I the same operation to perform again, I would most certainly drop the pedicle or do a panhysterectomy; though this patient did excellently with the method described. The abdominal cavity was now well washed out with decinormal salt solution and closed with interrupted deep silkworm-gut and buried catgut sutures.

The patient was placed in bed with a pulse of about 80. The time of operation was forty-five minutes. The pedicle came away at about the end of the second week. The rubber cord was removed at the end of the fourth day. For a few days after the pedicle sloughed, solutions used for vaginal douches came out through the opening left by it, but this soon closed, and the abdominal incision healed perfectly. At no time did the patient's pulse reach 100; 88 was the highest recorded, and the highest temperature was 101¼° F.

For a few days after the operation the patient suffered from a cystitis, which, however, entirely subsided after washing out the bladder a few times with a carbolic-acid solution. As soon as the patient came well out from the anæsthetic the child was placed at the breast. It has since grown nicely. At no time has it been given anything but the mother's milk.

Gonorrhœa in its Relation to Insurance.—D. D. G. Hall says that if an examiner meets with an applicant for insurance suffering from gonorrhœa, he should pursue the following course: If the applicant is otherwise in perfect health, if the case is uncomplicated and apparently likely to run a mild course, the examiner should, after relating briefly and exactly the true condition of things, recommend him as a first-class risk. Suppose, however, the ever-cautious medical director should see fit to postpone issuing the policy; who will be the loser, the company or the healthy young man, who can easily obtain insurance a few weeks later in any company he may desire? A case postponed, on account of gonorrhœa, is practically the same as lost to the company, for by the time the patient has recovered, and the medical director is ready to accept him, he will be safely landed in some other. In regard to women the writer says that if he should be asked to pass upon a female who had suffered within two years from suppurative inflammation of the ovaries he would feel in duty bound to reject her on account of the serious character of the affection and the great liability of there being a return of the symptoms, resulting perhaps in death from acute peritonitis, due to rupture of the abscess into the abdominal cavity.—*The Medical Examiner and Practitioner*, June, 1900.

Practice of Medicine and Surgery in the Higher Altitudes.—R. H. Reed makes Rock Springs, Wyo., sixty-two hundred and sixty feet above tide-water, the basis of his remarks upon typhoid fever, pneumonia, tuberculosis, shock, infection, anæsthetics, etc. There is no phthisis excepting that imported. Tent life in the open is advised for early cases. The Rocky Mountain air is favorable to all kinds of surgery. Infection is less prevalent than on the coast. Shock is usually slight even in grave injuries. Pneumonia rarely reaches the stage of gray hepatization, and the mortality is high. Ether seems decidedly irritating to the entire respiratory tract and more than usually exciting. Chloroform is there used by preference, and it is noted that it is attended with nearly the same amount of excitement as accompanies ether administration in the East.—*Columbus Medical Journal*, June, 1900.

Idiopathic Osteopsathyrosis.—Ludwig Lange considers as idiopathic osteopsathyrosis all instances of abnormal fragility of the bones for which no underlying cause can be found. He describes a case of unusual interest in a boy three years old, who altogether had had twenty-two fractures. The mother and father were healthy, and this was the fifth child. He began to walk at the age of eighteen months and was well up to the twenty-second month, when he broke the thigh by falling from a sofa. The question is considered in its various bearings, and it is thought that the prognosis in the case is favored by the fact that the boy begins again to walk. It is possible that under the well-known favorable influence of functional activity an improvement in the quality of the bone will take place, so that the patient may some time outgrow his very distressing affliction.—*Münchener medicinische Wochenschrift*, June 19, 1900.

Surgery among the Insane; its Difficulties, its Advantages, its Results.—Under the first head, A. T. Hobbs enumerates difficulties in diagnosis, examination, anæsthesia, preparation for operation, and after-treatment. The advantages are: (1) Little or no shock, as a rule, succeeds even a prolonged and dangerous operation, and post-operative pain is rarely complained of. (2) Except in occasional cases, the regimen laid out for them is strictly adhered to in spite of all whims and fancies. (3) Ether narcosis is very quickly recovered from in the insane. A gentle slapping of the face will quickly arouse the most profoundly anæsthetized patient, and very little nausea or vomiting occurs subsequent to the use of ether. The results of operative surgery, especially gynæcological, among the insane are twofold: Primarily, the restoration of physical health; secondarily, the improvement and recovery of the mental condition. In summing up mental results the statistics of 168 cases are given, divided into two groups: (1) 98 inflammatory, with an average ratio of recoveries of 51 per cent. and a ratio of mental improvement of 17 per cent.; (2) 70 non-inflammatory, with a recovery rate of 25.5 per cent. and an average ratio of mental improvement of 31 per cent. The number of deaths succeeding operation in the 168 cases was 4, or a little over 2 per cent.—*The Canadian Journal of Medicine and Surgery*, July, 1900.

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RUPTURE OF THE LIVER.

ACCUMULATING experience shows us that traumatic rupture of the liver involves a prognosis containing several elements beyond the immediate dangers of hemorrhage, and the later danger of peritonitis which until recently has almost always been put down as the cause of death in those patients who have survived the first few hours. The fact that peritonitis does not necessarily occur after laceration of hepatic tissue has perhaps not been sufficiently emphasized, though this fact may be of great importance in prognosis. In fact, mere laceration of the liver is not followed by peritonitis, even when the hemorrhage is inconsiderable enough to postpone death for several days, and it is only when the large or main gall ducts are torn that the infecting medium is present and finds a favorable field in blood clots and physiologically disturbed peritoneum. We are able to study the effects of intra-abdominal hemorrhage better after injuries of the liver and the anatomically similar organ, the spleen, than after lesions of any other organ, because in the case of every other organ of importance force sufficient to cause laceration will also almost certainly involve communication with some mucous tract through which the exciting cause of a complicating peritonitis will enter.

If we are confronted with a case in which the probable diagnosis of rupture of the liver is made, and in which the immediate shock is rallied from—in other words, one in which the patient does not succumb in the first few hours to shock and hemorrhage, we shall find that further developments will be along two fairly similar, though differing, lines. It is clear that, when indications are distinct enough to warrant operation, the fate of the patient is decided in a very short time; but such a state of affairs does not always exist, and we are sometimes compelled to wait and observe. One course which the case may follow is indicated by the rapid unfolding of the clinical picture of general peritonitis, too well known to need comment. A second picture is seen when peritonitis does not develop, but when there are signs of slowly or rapidly accumulating fluid in the abdominal cavity, with symptoms of loss of blood, and a temperature course which is somewhat peculiar. The peculiarity consists in a rise, with an unusual difference between the oral and rectal figures, amounting sometimes to several degrees, which is pretty certainly caused by the process of absorption of degenerating and disintegrating blood clot. The temperature usually maintains or increases its elevation until the end, and as in some other conditions may go very high.

In addition to the temperature there are other signs and symptoms in cases of this sort, which may be useful in distinguishing them from those cases with peritonitis. The distention and tenderness are both less marked than in peritonitis, and the fluid moves much more easily to different parts of the abdomen when the patient is moved. The constipation is not so obstinate as is often the case during the course of peritonitis. A case of such grave visceral injury as we are considering, in which peritonitis supervenes, is almost certainly beyond relief, but in the presence of the other condition it is possible that something in the nature of operative relief can be offered. The patient is dying from unchecked, though perhaps slow, hemorrhage, and from the entrance into his circulation of the products of disintegrating extravasated blood, or, more exactly, of the chemical substances of which the important parts of blood are formed. He may die of hemorrhage before his peritoneum has time to absorb much harmful material, but when the bleeding is active the indications for intervention are usually distinct enough to prevent delay. Should the patient, however, survive the shock and immediate effects of the hemorrhage, he still has a very serious condition with which to contend. He is weakened by loss of blood and disturbed digestion, and his peritoneum is transferring from its surface into his circulation quantities, perhaps overwhelming, of the chemical and physical break-up of blood.

We know that the peritoneum can absorb considerable quantities of blood without trouble, but beyond a certain point it seems to lose this power entirely. The patient's chance of survival under these circumstances, if treated on the expectant plan, is very small; we must, therefore, resort to something more positive in therapeutics than treating symptoms. We must get rid of the accumulated blood clots and fluid blood, and control any hemorrhage which may still be going on, though the amount of operative work must be as limited as possible. The operation thus has a double object—to clear away the blood and to explore as thoroughly as possible, so that the extent of the laceration of the liver may be known. Hot surgical salt solution will be found to be an exceedingly useful preparation in operations of this sort, both in the abdomen and for intravenous infusion, and we are justified in hoping that this line of treatment will be successful in a good proportion of cases of rupture of the liver in which there is time for any sort of systematic effort.

TYPHOID FEVER AMONG THE BRITISH TROOPS IN SOUTH AFRICA.

ENTERIC fever, the greatest scourge of armies in the field, is raging on an extensive scale in South Africa. Probably, too, its scope is wider than is publicly reported, as the war authorities for reasons

of expediency will doubtless be averse to making all the facts known, and will use their own judgment as to how much of the truth shall be suppressed. The reports, however, that have come to hand from various sources show that the situation is serious. Mr. Fripp states in a letter to the *British Medical Journal* that at the time of writing there were nearly two thousand cases of typhoid fever in Bloemfontein alone. In Kimberley, Mafeking, and Ladysmith the disease during the sieges of those towns was rife, especially in the last-named place. This condition of affairs was for obvious reasons more or less unavoidable, but it was hoped that when the opportunities arrived, by changing the location of the camps frequently and by using every possible sanitary precaution a widespread outbreak might be avoided. These sanguine anticipations have unfortunately not been realized. *The Journal of Tropical Medicine*, June 15th, says: "We have lately counted the number of deaths in the South African army from typhoid fever in one of the official lists of deaths from disease recently issued, and we find no fewer than one hundred deaths from typhoid fever occurred between May 30th and June 6th, and of these no fewer than twenty-three occurred on June 4th. It is plain from these figures alone that the army is suffering from an epidemic of typhoid fever, and, since the deaths are not reported from one station but from many stations, that the infection is widespread."

For some time after the commencement of the South African campaign the health outlook appeared decidedly favorable, but the unexpected prolongation of the war, the long sieges of Ladysmith, Kimberley, and Mafeking, and the lengthened stay of large bodies of men in the same locality, have produced the inevitable results. One disappointing feature in connection with typhoid fever in South Africa has been the failure of inoculation as a preventive. Surgeon-General Jameson reports that the results from inoculation among British soldiers going to the front has been the reverse of encouraging, and does not warrant the belief that a means of conferring immunity against this disease has been at last discovered. He further said that he had called for a return of sickness during the siege of Ladysmith, and the result was certainly somewhat singular and rather difficult to explain away. It would appear from the figures in question that inoculation against enteric fever was unfavorable to the incidence of the disease, but rather favorable to the case mortality.

Dr. Victor Vaughan, in the oration on state medicine delivered by him at the late meeting of the American Medical Association, dealing with the prevalence of and mortality from typhoid fever in our military camps in 1898, has made a valuable contribution to the literature on the subject. Among other causes he lays down the following: "Camp pollution was the greatest sanitary sin committed by the troops in 1898, inadequate space allowing a large body of men to remain on one site too long. Flies served as carriers of the disease, and infection was probably disseminated through the air in the form of dust." These last two theories are peculiarly applicable to the condition of things in South Africa, where both dust and flies at certain seasons of the year are more in evidence perhaps than in any other portion of the world.

THE TREATMENT OF GONORRHŒA.

THERE is no single remedy or procedure capable invariably of curing gonorrhœa within a certain limited time. It is pretty generally agreed that an ordinary uncomplicated attack of specific urethritis is not a dangerous disease. The conditions are, however, different at once a complication arises, and in accordance therewith gonorrhœa may become a serious or even a grave disorder with unlimited possibilities in the way of sequelæ, of which some of the best known are lymphangitis, adenitis, stricture, orchitis, epididymitis with secondary impotence, prostatitis and suppuration of the prostate gland, cystitis, pyelitis, pyonephrosis, neuralgia, rheumatic affections of the joints and the tendon-sheaths, metastases in vital organs (endocarditis), tuberculosis, especially of the genitourinary organs, neurasthenia of varying severity, and actual psychoses. While it is true that some of these complications and sequelæ, such as stricture of the urethra, may result from the long duration of the disease, and that others are unavoidable and no cause can be discovered for them, it is likewise true that some complications may be due to improper treatment, or at least their development may be favored thereby. The fundamental principle in the treatment of gonorrhœa is that the therapeutic measures employed should be so applied that complications may, so far as possible, be avoided.

With these preliminary considerations Casper (*Berliner klinische Wochenschrift*, No. 22, 1900) advises against all abortive treatment as not accomplishing the desired object, but favoring the occurrence of complications. The symptoms of the disease do not appear until some days after the gonococci have penetrated the mucous membrane of the urethra. The introduction of instruments into the urethra during the acute stage, so long as a florid, purulent discharge is still taking place, is contraindicated, as are also injections that induce irritation of the urethra or aggravate existing inflammation. Some cases of acute gonorrhœa set in with marked inflammatory manifestations, while others are wholly unattended therewith. The latter occur especially in patients who have previously had gonorrhœa. In both groups injections may be begun on the first day, but in the first no remedy should be employed that causes irritation or aggravates the inflammatory process, such as preparations of silver. Under these circumstances potassium permanganate may be employed in dilutions of from 1:10,000 to 1:8,000. In the less acute stage injections of antiseptic silver salts are useful, and of these the nitrate is the best. This may be employed first in a concentration of 1:10,000, gradually increased to a strength of 1:4,000. Both of these are irritating and should therefore never be employed alone, but always in association with

astringent, secretion-reducing, and antiphlogistic agents. Thus, a combination of silver nitrate with potassium permanganate is injected first; then silver nitrate and zinc sulphate are subsequently employed; and finally potassium permanganate and zinc sulphate in the last stage. The more frequently the injections are made the better. Attempts have been made to destroy the gonococci and control the secretion by means of a single preparation—zinc permanganate—but this has not proved so successful as the combination of zinc sulphate with potassium permanganate.

Similar principles govern the treatment of acute gonorrhœal cystitis. In a large number of such cases improvement and recovery can be brought about by means of diet, rest, diuretics, and balsamics. Should these fail and the second portion of urine voided remain turbid, resort may be had to irrigation through a catheter of the posterior urethra with solutions of silver, but this should not be begun too early. In cases of chronic gonorrhœa in which the injections, usually made by the patient, do not reach the affected parts, namely, the posterior urethra and the more superficial layers of the submucosa, relief can be afforded with certainty and promptitude by means of instillations according to the method of Guyon, or irrigation with potassium permanganate according to the method of Janet, or a combination of both.

Two varieties of chronic gonorrhœa occur that do not respond even to local measures, namely, one that resists treatment of all kinds, and another that yields only so long as the treatment is maintained, but recurs as soon as this is suspended. The first is almost always glandular and infiltrating, and the other is attended with the presence of inflammatory processes in adjacent glands, especially the prostate. The former is rather uncommon and the treatment should be jointly mechanical and chemical. Bougies may be used, dilatation of the urethra may be carefully and judiciously practised, local urethrotomy may possibly be undertaken, and injections and irrigations should be employed in the intervals.

The proportion of cases of chronic urethritis complicated by prostatitis is quite large. The diagnosis must be based upon the discovery on microscopic examination of leucocytes in the fluid expressed from the prostate gland through the rectum. The results of treatment in these cases are not very gratifying. The composition of the prostatic secretion is uninfluenced by the use of iodine or ichthyol or electricity, or of injections of hot water, although the subjective symptoms may be relieved by the last. Cauterization has been proposed in the treatment of prostatitis, but the results cannot yet be definitely estimated. The only certain and harmless means of influencing favorably the morbid process consists in systematic massage and expression of the gland. This should be done three times a week for months by a masseur, while urethral injections are made or irrigation is practised. Should these fail the treatment selected will depend upon whether the process is still infectious or not; namely, whether gonococci are present in the discharge or not. In the former event the treatment by well-known methods should be persisted in until the cocci have disappeared. In the other cases no further treatment may be required at all.

News of the Week.

Dr. F. Savary Pearce has been elected clinical professor of diseases of the nervous system in the Medico-Chirurgical College of Philadelphia, succeeding Dr. C. W. Burr, resigned.

St. Vincent's Foundling Asylum, Montclair.—The Sisters of Charity have opened a new institution for homeless infants at 45 Elm Street, Montclair, N. J. It is known as St. Vincent's Foundling Asylum. It is non-sectarian, and the present accommodations provide for one hundred infants. The medical staff consists of Drs. J. S. Brown and M. J. Synnott, of Montclair.

The Rocky Mountain Interstate Medical Association.—The second annual meeting of this society will be held in Butte, August 28th and 29th. The officers of this association are: *President*, Dr. C. K. Cole, of Helena; *First Vice-President*, Dr. Leonard Freeman, of Denver; *Second Vice-President*, Dr. R. Harvey Reed, of Rock Springs; *Treasurer*, Dr. Charles G. Plummer, of Salt Lake City; *Recording Secretary*, Dr. Donald Campbell, of Butte; *Corresponding Secretary*, Dr. S. D. Hopkins, of Denver, Colo.

High Death Rate in Philadelphia.—The effects of the summer's intense heat are still visible in the mortality records. There were reported to the Philadelphia bureau of health 633 deaths for the week ended July 14th, being 89 more than for the preceding week, and 151 more than for the corresponding week of the previous year. Among the more important causes of death were: cholera infantum 96 cases, pulmonary tuberculosis 65, marasmus 38, sunstroke 33, heart disease 31, inflammation of the stomach and bowels 24, pneumonia 26, apoplexy 21, nephritis 20, convulsions 19, inanition 18, uræmia 18, diphtheria 17, inflammation of the brain 13, typhoid fever 11, paralysis 11, old age 10.

Reorganization of the Red Cross.—On July 10th the American National Red Cross surrendered its charter of incorporation under the law of the District of Columbia and reorganized under the national charter granted by special act of Congress at the last session. More than a majority of the fifty-five incorporators named by the act were either present or represented at the meeting on that day in Washington. A constitution and by-laws were adopted, and Miss Clara Barton, B. H. Warner, Stephen E. Barton, Miss Ellen Spencer Mussey, William Flather, Mrs. James Tanner, and H. B. F. Macfarland, of the District of Columbia; Walter P. Phillips, of Connecticut; W. H. Michael, of Nebraska; Samuel E. Jarvis, of New York; A. C. Kaufman, of South Carolina; Joseph Gardner,

of Indiana; Gen. Daniel Hastings, of Pennsylvania, and Mrs. Phebe Hearst, of California, were elected members of the board of control, which will choose officers.

Dr. H. W. Lincoln has been appointed gastrologist to the Bushwick Central Hospital, Brooklyn.

The Yellow-Fever Outbreak at Quemados is at an end, no cases having been reported from there this month.

The Plague continues at Hong Kong, the report for the first week in July showing sixty-eight new cases and sixty-five deaths.

Dr. Marie L. Benoit, of this city, has been appointed woman physician to the State Custodial Asylum for Women at Newark, N. Y.

Noisy Chicago.—The mayor of Chicago has vetoed the anti-noise ordinance passed by the city fathers, and advises a removal to Philadelphia for those who object to the roar and racket of a live city.

The Brooklyn Water Supply.—According to newspaper reports, there are several cases of typhoid fever along the Massapequa section of the watershed from which the supply for Brooklyn is obtained.

Formaldehyde in Milk.—Many milk dealers in New Jersey have been arrested on the complaint of the State dairy commissioner for adulterating milk, the special adulterant being formaldehyde, added as a preservative.

Morton County, Kansas, which has a population of about four hundred, is peculiar. There has been no case of serious illness and no physician in the county for over a year. Which is cause and which is effect is now under discussion by the professional jokers.

Another Medical Governor in Maine.—The Republican nominee for governor of Maine is Dr. John F. Hill, of Augusta. He is a graduate of the Bowdoin Medical College in 1877 and of the Long Island College Hospital in 1887, but has large business interests outside of medicine.

Dr. Thomas M. Lippitt, the surgeon in charge of the marines sent as a legation guard to Peking, was an assistant surgeon in the army. He was born in Berryville, Va., in 1873, was graduated from the Starling Medical College in 1897, and was commissioned assistant surgeon in the navy June 27, 1898. During the Spanish war he served on the hospital ship *Solace*, and after the war was attached to the flagship *Baltimore* on the Asiatic station. Since then he had served on the *Oregon* and the *Newark*, going to Taku with the marine detachment aboard the latter vessel.

Texas Threatened with Yellow Fever.—Numerous Italians employed in building the Vera Cruz and Pacific Railroad in Mexico have deserted their work because of an outbreak of yellow fever among them. They are wandering in bands through Mexico, Texas being their objective point. Coming as they do direct from infected camps, it is feared that they will spread the disease throughout their route of travel in Mexico and Texas. Despite the fact that a close watch is being kept to prevent their crossing the Rio Grande, a large number have succeeded in evading the quarantine inspectors and customs officials, and are now scattered throughout Texas.

Ethnology at the Pan-American Exposition.—The department of ethnology and archæology of the Pan-American Exposition has been placed in charge of Dr. A. L. Benedict, of Buffalo, who requests information and the loan of collections for the use of this department.

Famine and Disease in India.—According to a report of the governor of Bombay, there were 9,928 cases of cholera in the famine districts during the week ending July 7, of which 6,474 were fatal, and in the native states there were 9,526 cases, of which 5,892 were fatal. There have been heavy rains lately, and the sowing of grain has begun; but, notwithstanding the improved prospects, no diminution of relief will be possible for a long time.

A Hospital for Tropical Diseases in England.—It is stated in *The Hospital* that a memorial hospital for tropical diseases is to be founded in honor of the late Miss Mary Kingsley, and to be called after her name. Mr. A. L. Jones, the chairman of the Liverpool School for Tropical Diseases, has headed a subscription list with £1,000; Mr. Blaize, of Lagos, has given £500, and other promises have been made.

Diphtheria in a Faith-Cure Colony.—Twenty-five children, inmates of the "Zook Zion," in Whiteside County, Illinois, have been ill with diphtheria, or have died of the disease during the past week. The adult members of the colony refused all medical attendance for the sick children, and so the health authorities quarantined the place, and the inmates died or recovered according to their varying powers of resistance.

The Medical Directory of the City of New York for 1900 has just been issued. The directory is published by the Medical Society of the County of New York, and contains information chiefly concerning the members of that society and of the Medical Society of the County of Kings, but the membership in city societies and hospital appointments in New York hospitals only are given. There are also lists giving residence, office hours, and place and date of graduation of all legally qualified practitioners in New York City. The names of physicians practising in New York, New Jersey, and Connecticut are also given, but they are, as a rule, unaccompanied by any data other than indication as to the school of practice followed.

The Study of Physiognomy is not always a safe pursuit, as a Bulgarian journalist named Sangoff has learned to his cost. He wrote an article not long ago in a Sofia paper on the subject of the relation of the nose to character. After discussing the various shapes, he came to the conclusion that persons with long noses are often bad characters. The public prosecutor regarded this as a case of *lèse majesté*, be-

cause Prince Ferdinand has a long nose. Sangoff was arrested, tried, and sentenced to three days' imprisonment.

Diseases at Tien-Tsin.—Among the lesser evils afflicting the inhabitants of Tien-Tsin are scarlet fever and plague, epidemics of which are reported to be raging there, the former among the whites, the latter among the natives. Plague is said also to have been prevalent in Peking for some time. The only Europeans attacked have been four Italian priests, who lived among the natives and who died early in June.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending July 14, 1900. July 6th.—Passed Assistant Surgeon F. W. Olcott detached from the recruiting rendezvous, Philadelphia, Pa., and ordered home and granted sick leave for two months. Passed Assistant Surgeon W. B. Grove detached from the *Scindia* and ordered home. July 9th.—Surgeon W. H. Rush granted sick leave until October 1st.

The Sanitary Condition at Cape Nome.—General Randal, at Fort St. Michael, Alaska, reports that the health condition at Cape Nome is serious, measles, typhoid fever, and smallpox being in the camp. There were eighteen cases of the latter disease reported on July 1st, and the disease was spreading. The chief surgeon of the department was placed in charge of sanitary matters there, with instructions to employ three acting assistant surgeons to aid him. Regulations for better sanitation of the place were issued and every effort will be made to improve the condition of affairs and control the spread of the disease. The epidemic is said to have started from two cases of smallpox brought on a steamer from the south. The ship's officers were afraid they would not be permitted to land their passengers, so hurriedly disembarked them at night, and the infection was thus spread in all directions through the camp.

Leprosy in Crete.—We learn from the *British Medical Journal* that Drs. O. Cahnheim, of Dresden, and Ehlers, of Copenhagen, have completed the investigation on leprosy in the island of Crete, which they undertook at the instance of Prince George of Greece, the high commissioner of the island. In the provisional report which they have presented to the prince, they state that they found 380 lepers, of whom they personally examined 293. Of these, 153 (92 men, 61 women) were of the tubercular, and 170 (79 men, 91 women) of the anæsthetic form. As in cold countries the proportion of tubercular to anæsthetic cases is as 1 to 2, and in hotter climates as 1 to 3, the figures quoted appear to warrant the assumption that the total number of lepers in Crete is from 600 to 800. The investigators have no doubt that Zambaco Pasha's estimate of 4,000 is immensely exaggerated. Drs. Cahnheim and Ehlers were able to satisfy themselves that the disease was on the increase in Crete. The type of the disease met with in Crete is less severe than in colder regions, and the tendency to cure is on the whole greater. Prince George of Greece is anxious that the isolation of lepers, which is still carried out on the lines laid down by the Turks, and is therefore very defective, should be made more stringent throughout the island. It is proposed to establish an asylum for lepers, and for that purpose the peninsula of Spina Longa is considered suitable. The prince has also asked Drs. Cahnheim and Ehlers to draft a law for the repression of leprosy in accordance with the conditions of the island of Crete.

New York State Hospital for the Care of Crippled and Deformed Children.—The following gentlemen, in addition to those already announced, have been appointed upon the consulting-board of the New York State Hospital for the Care of Crippled and Deformed Children: Drs. Samuel B. Ward and A. Vander Veer, of Albany, Jarvis S. Wight and John A. McCorkle, of Brooklyn, and Richard B. Coutant, of Tarrytown.

Dr. Senn Again Ready for War.—The Chicago *Tribune* says that Dr. Nicholas Senn, who served as a volunteer medical officer during the war with Spain, has again offered the United States government his services, this time to go to China to care for the American soldiers who may be wounded. As volunteer in the Spanish-American war Dr. Senn went to Cuba, where he was chief operating-surgeon in the field with the rank of lieutenant-colonel.

A Divine Healer Acknowledges His Guilt.—A man named Francis Truth, who was on trial in the United States circuit court in Boston for using the mails to defraud, has pleaded guilty on the seven indictments found against him. On five charges he was fined the maximum penalty, $500 each. The other two indictments were placed on file at the suggestion of the District Attorney as a matter of precaution. Should the man attempt to engage in any unlawful business these two indictments will be brought up against him and imprisonment imposed. He did his divine healing by correspondence, and is said to have made a moderate fortune from the advance fees received.

Association of Surgeons of the Confederate States.—The third annual meeting of this association was held in Louisville on May 30th and June 1st and 2d, under the presidency of Dr. Francis L. Parker, of Charleston, S. C. The following officers were elected for the next annual meeting, which will be held in Memphis, Tenn.: *President*, Dr. Preston B. Scott, Louisville, Ky.; *Vice-President*, Dr. J. M. Keller, Hot Springs, Ark.; *Secretary*, Dr. Deering J. Roberts, Nashville, Tenn.; *Treasurer*, Dr. V. G. Hitt, Atlanta, Ga.; *Chaplain*, Rev. George B. Overton, Louisville, Ky. It is desired to enroll all who are eligible to membership in the association, and therefore it is requested that all surgeons, assistant surgeons, acting assistant surgeons or contract surgeons, and hospital stewards, who served in the army or navy of the late Confederate States, will send their post-office address to Deering J. Roberts, M.D., secretary Surgeons' Association C. S. A., Nashville, Tenn.

Progress of Medical Science.

New York Medical Journal, July 14, 1900.

Primary Carcinoma of the Fallopian Tube. — Elizabeth Marcelis reports the case of a woman aged thirty-five years, who was operated upon successfully, but in whom a recurrence took place eighteen months later. At this latter time the case was regarded as inoperable and nothing was done. The case is notable from its rarity, there being but twenty similar cases on record. The histological points on which a diagnosis of primary carcinoma was made are as follows: (1) The absence of malignant growth in the uterus, as shown by microscopic examination of curettings at the time of operation. (2) The presence of an old salpingitis, together with the freedom of the inner end of the tube from malignant change. (3) An enlarged tube, the lumen of which was filled with carcinomatous masses of 2.5 cm. diameter; this change was found throughout two-thirds of the tube, and with the existence of a pelvic tumor for more than fifteen months. (4) The advanced stage of the growth within the tube and fairly healthy condition of the outer muscle layers. This, in view of the resistance of the tube to secondary invasion from the ovary, and that such, when occurring, usually involves the peritoneal surface first, the mucosa secondarily. (5) The ovary was not only small, but at the inner end free from the growth. (6) Microscopical evidences of a more rapid proliferation of the new cells in the ovary than in the tube.

"Floaters" in the Urine.—By this term W. F. Bernhart refers to the gonorrhœal threads so commonly met with. From experiments with fifty different specimens of urine, he arrives at the following conclusions: (1) The specific gravity of the urine is a prominent factor in the action of floaters. (2) The elements composing the floaters influence their action. (3) Their suspension at different depths in the urine is due to some mechanical interference. (4) Upon filtration of the urine all but the very lightest floaters, those composed of flocculent mucus, will sink to the bottom of the beaker. (5) The action of floaters does not alone depend upon their composition or the specific gravity of the urine.

Two Unique Rectal Cases.—S. G. Gant reports a case of chronic diarrhœa due to rectal ulceration cured by divulsion of the sphincter, curetting of the ulcer, and application of silver nitrate (thirty grains to the ounce). He believes that the continuing cause of diarrhœa is located in the colon and rectum with greater frequency than is generally supposed. He also reports a case of rectal stricture caused by stone in the bladder. A stone weighing four and a half ounces was removed, and the stricture broken up; ulcerated surfaces were curetted and urine was allowed to pass through the lithotomy (perineal) wound for a year. The latter finally closed of itself.

The Proper Care of the Infant's Nursing-Bottle.—T. W. Kilmer describes an apparatus devised by himself, for the perfect sterilization of the nursing-bottle combined with a sterilizer and pasteurizer for milk. The article is illustrated.

The Present State of the Galvano-Caustic Operation of Bottini for Ischuria.—By G. MacGowan.

Atrophy of the Ciliary Muscle.—By N. B. Jenkins.

The Elements of a Good Climate.—By P. Paquin.

Syphilis of the Brain.—By J. T. Eskridge.

Boston Medical and Surgical Journal, July 12, 1900.

A Review of Recent Studies in the Nature and Origin of Cancer.—J. C. Warren says there is little doubt that cancer is on the increase. He reviews the geographical distribution, showing the almost entire freedom of far north countries, including the northern coast line of Europe and Asia, Egypt, and Abyssinia, as well as the rarity of the disease in tropical climes. The increase has been marked in the past fifty years. In England and Wales during twenty years deaths from cancer more than doubled. In New York State cancer is the only disease tabulated which shows a progressive and steady increment. The greatest increase in this country is in San Francisco. Many points favor the inoculation or infective theory. The various theories of cause and mode of growth are reviewed. Cancer houses, streets, and villages are mentioned, as well as epidemic prevalence in certain regions. Recent experiments with blastomyces and other growths are referred to, and especial attention is directed to the first laboratory established for the study of cancer at Buffalo in this State. The parasitic theory seems plausible, but is "not proven."

Cysts in the Abdominal Wall Structurally Identical with Ovarian Cysts.—John Homans reports an operation for ovarian cyst weighing one hundred and two pounds. There was present at the same time a cyst in the abdominal wall of identical structure. Other cysts of like nature subsequently formed.

A Case of Mural Endocarditis.—By Harold Williams.

A Case of Cæsarean Section.—By T. Kittredge.

Journal of the American Medical Ass'n, July 14, 1900.

The Relation of Ethyl Alcohol to the Nutrition of the Animal Body.—W. S. Hall describes the nature of nutritive processes and answers the questions, What is food and what is alcohol? pointing out the relations of alcohol to nutrition, and how it influences certain phases of metabolism. The demonstrated facts we possess are set against each other in parallel columns.

ALCOHOL.	THE TRUTH ABOUT FOOD.
1. A certain quantity will produce a certain effect at first, but it requires more and more to produce the same effect when the drug is used habitually.	1. A certain quantity will produce a certain effect at first, and the same quantity will always produce the same effect in the healthy body.
2. When used habitually, it is likely to induce an uncontrollable desire for more, in ever-increasing amounts.	2. The habitual use of food never induces an uncontrollable desire for it, in ever-increasing amounts.
3. After its habitual use a sudden total abstinence is likely to cause a serious derangement of the central nervous system.	3. After its habitual use a sudden total abstinence never causes any derangement of the central nervous system.
4. Alcohol is oxidized rapidly in the body.	4. All foods are oxidized slowly in the body.
5. Alcohol, not being useful, is not stored in the body.	5. All foods, being useful, are stored in the body.
6. Alcohol is a product of decomposition of food in the presence of a scarcity of oxygen.	6. All foods are products of constructive activity of protoplasm in the presence of abundant oxygen.
7. Alcohol is an excretion and, in common with all excretions, is poisonous. It may be beneficial in certain phases of disease, but it is never beneficial to the healthy body.	7. All foods are formed by nature for nourishment and are by nature wholesome and always beneficial to the healthy body, though they may injure the body in certain phases of disease.
8. The use of alcohol, in common with narcotics in general, is followed by a reaction.	8. The use of foods is followed by no reaction.
9. The use of alcohol is followed by a decrease in the activity of the muscle-cells and the brain-cells.	9. The use of food is followed by an increased activity of the muscle-cells and brain-cells.
10. The use of alcohol is followed by a decrease in the secretion of CO_2.	10. The use of food is followed by an increase in the excretion of CO_2.
11. The use of alcohol is followed by an accumulation of fat through decreased activity.	11. The use of food may be followed by accumulation of fat, notwithstanding increased activity.
12. The use of alcohol is followed by a fall in body-temperature.	12. The use of food is followed by a rise in body-temperature.
13. The use of alcohol weakens and unsteadies the muscles.	13. The use of food strengthens and steadies the muscles.
14. The use of alcohol makes the brain less active and accurate.	14. The use of food makes the brain more active and accurate.

The Plague in San Francisco.—D. W. Montgomery relates eleven cases with autopsies and laboratory investigations. He presents arguments against the existence of plague and answers them. No diagnosis has been made on a living patient. He believes the plague enters a community slowly, as is here the case. The outlook for the future, he believes, is not bright. He expects the plague to appear with increased violence next winter. The daily press and the people are against the health board, but the work of the latter goes on with uninterrupted fidelity.

Diagnosis of Apoplexy Unaccompanied by Motor Paralysis.—William N. Bullard believes that apoplexy without motor symptoms is often overlooked by the general practitioner, and he presents cases showing how difficult is the diagnosis when it is impossible to obtain a history. An element in differentiation of the results of primary apoplexy from paralytic dementia or other cerebral affections is the presence or absence of symptoms characteristic of these affections, but not usual in the simple apoplexies.

The Specific Treatment of Croupous Pneumonia.—W. O. Bridges, in an attempt to solve the question whether in guaiacol carbonate and the salicylates we have a specific medication for croupous pneumonia, presents some cases showing how much reliance can be placed upon these drugs. He prefers guaiacol in cases past the stage of congestion, in the enfeebled, and when heart lesions are present. Strychnine obviates in part the depressant effect upon the heart, and so does alcohol.

Education and Legislative Control of Tuberculosis.—By Charles Denison.

Substitute Infant Feeding.—By H. D. Chapin.

Appendicular Fistula.—By J. B. Deaver.

The Philadelphia Medical Journal, July 14, 1900.

Dislocation of the Jaw in Epilepsy.—Charles J. Aldrich reports two cases of this unusual accident. The first was in the person of a woman aged twenty-one years, and the second in that of a man aged twenty-five years. In each case the first physician called failed to make a correct diagnosis. From our knowledge of the action of the facial muscles during an epileptic paroxysm, the author says, we would hardly expect a luxation of the jaw to occur as a complication.

A Case of Primary Adenocarcinoma of the Gall Bladder with Secondaries in Both Adrenals, Melanosis of Skin (Addison's Disease ?), Vitiligo, and Hypertrophy of the Pancreas.—By Aldred Scott Warthin.

Total Excision of the Scapula Alone, and with the Arm (Interscapulothoracic Amputation) : Partial Excision of the Scapula for Tumor.—By J. J. Buchanan

The Action of Rennin upon Milk-Digestion.—By I. H. Coriat.

A Case of Myoma of the Bladder.—By Otto G. Ramsay.

Medical News, July 14, 1900.

Some Remarks on the Artificial Feeding of Infants and the Regulation of the Milk Supply in the Country.—J. F. Bell points out the importance of proper artificial diet. Condensed milk, which is the most popular, is the most pernicious, being responsible for more malnutrition, etc., than all other articles combined. It is not a suitable substitute for mother's milk. A consideration of the proper modification of milk is given. There is something radically wrong in methods heretofore pursued. The care of cows, rules for milking, regulations assuring cleanliness, etc., are all considered with the view of producing an article which will not require sterilization. First of all a suitably educated dairyman must be secured, and all must be under health-board supervision.

Subphrenic Abscess following Appendicitis.—J. F. Baldwin gives two cases from his practice of this rare and often obscure and overlooked complication. An important point in diagnosis in many cases is that frequently a subphrenic abscess due to appendicitis contains gas as well as pus, due to perforation of some neighboring hollow viscus or more likely to gas-producing bacteria. The mortality under surgical procedure is not over fifty per cent., while in unrecognized cases recovery is to be expected in only about five per cent. of instances.

Tendon Transplantation in the Treatment of Deformities of the Hand.—By W. R. Townsend.

Petroleum in the Treatment of Phthisis.—By W. D. Robinson.

The Lancet, July 7, 1900.

Note on a New Medium for the Growth and Differentiation of the Bacillus Coli Communis and the Bacillus Typhi Abdominalis.—A. T. Macconkey says that in this medium advantage is taken of two well-known facts: (1) That the salts of bile are precipitated by acids, and (2) that bacillus coli communis produces acid in the presence of lactose while bacillus typhi abdominalis does not. The composition of the medium is sodium glycocholate, 0.5 per cent.; peptone, 1.5 per cent.; lactose, 0.3 to 0.5 per cent.; agar, 1.5 per cent.; tap-water, q.s. The lactose is added after filtration. If stab cultures be made in this medium with bacillus coli communis and bacillus typhi abdominalis and incubated at 42° C. for from twenty-four to forty-eight hours, it will be found that the tube inoculated with bacillus coli communis has become cloudy while the tube containing bacillus typhi abdominalis remains quite clear. If glucose be used instead of lactose, both tubes become cloudy, but the cloudiness due to bacillus coli communis begins from below and that due to bacillus typhi abdominalis from above. In plates made with the glucose medium incubated for forty-eight hours at 42° C., and then left for from three to four days exposed to the light at room temperature, the colonies gradually become orange colored.

Contagious Catarrh, or Roup, in Fowls, and Diphtheria in Man.—J. G. Sharp gives the following as his conclusions: (1) Roup-like diphtheria (including the somewhat indefinite term "croup") varies in its malignancy, sometimes being mild with only one or two deaths in a large hen-run, while the next epidemic may almost clear out the whole coop. (2) The disease does not appear to be transmissible to man, for those handling the affected birds without any precautions do not suffer from any disease resembling diphtheria. (3) Paralysis was, according to my observations, absent in roup cases. (4) The disease is evidently a highly contagious catarrh and may correspond to the morve or fowl glanders of the French. (5) Roup probably differs entirely from "fowl diphtheria," so called. (6) As we have already seen, bird fanciers distinguish between a "dry" roup and a "wet" roup. Dry roup is most likely a simple benign catarrh corresponding to the recurring croup affecting children, especially those inhabiting valleys and near a river bank. Wet roup, on the other hand, in its malignancy resembles diphtheria and membranous croup. (7) The micro-organism of roup (the wet variety or malignant variety) probably lives for a considerable time at least in the earth near the surface, and thus it is readily spread from animal to animal (as well as by direct contact with affected birds). (8) Conditions of soil and surroundings favorable to the spread of diphtheria would likewise appear to favor the spread of roup in fowls.

One Hundred Consecutive Cases of Abdominal Section in Hospital Practice, Without a Death.—Since W. Duncan's paper was sent in for publication he has added eight more successful cases to his list. He describes in detail his method of preparation of the patient, his routine with reference to assistants, instruments, sponges, flushing out the abdomen, drainage, and after-care. He combats shock by strychnine and endeavors to prevent tympanites by passing a soft rectal tube every four hours, and then, if flatus is not passing freely, giving an enema of an ounce of oil of turpentine in a pint of hot water. This is given high up and repeated two or three times daily until escape of flatus is free.

Unusual Complication following Gastro-Jejunostomy.—W. H. Brown's patient did well for two weeks following operation. At the end of that time, evidences of obstruction coming on, the abdomen was reopened. The junction between stomach and gut was all right, but insertion of the finger through an incision in the stomach two inches above the junction showed absence of bone-plate and no trace of an opening. A membrane had formed where the opening had originally been and was easily torn through with the finger. From this time on, recovery was uneventful.

On the Treatment of So-Called "Hay Fever" or Summer Catarrh.—Karl Grube has found in all of his cases a gouty tendency, and therefore lays great stress on a careful and strict regulation of the diet. His local treatment consists in the application of the Neuenahr waters in the form of inhalations, gargle, and nose-douche. Hot baths and massage may be added when there are, in addition to catarrhal symptoms, muscular and articular pains. He admits that cases without a distinct gouty history are not benefited by this treatment.

Hydatid Cyst in a Native of India.—This case is reported by W. J. Buchanan, as cysts of this nature are very rarely found in natives of India who have never left their homes.

The Present State of Our Knowledge Regarding Visual Sensation.—Bowman lecture, by R. M. Gunn.

A Case of Primary Carcinoma of the Vermiform Appendix.—By H. D. Rolleston.

Exercises in the Treatment of Lateral Curvature of the Spine.—By Noble Smith.

Suppurative Peritonitis ; Spontaneous Evacuation ; Recovery.—By J. R. Wallace.

The Degeneration of the Neuron.—Third Croonian lecture, by F. W. Mott.

Münchener medicinische Wochenschrift, June 26, 1900.

A Contribution to the Study of Multiple Neuritis.—Henrici discusses the etiology of this disease, and inclines to the views of Strümpell, who believes it to be always ultimately referable to the action of some poison, organic or inorganic. The neuritis following the infectious diseases is of the former, while that due to lead, arsenic, or alcohol is of the latter variety. These toxic substances, whether of external or internal origin, affect the peripheral nerve fibres most strongly, the cellular elements and the fibres situated in the central nervous system being more resistant. The author illustrates his statements with detailed accounts of five cases, one an arsenical neuritis, one following pneumonia, and the other three occurring in alcoholics. Alcohol is to be considered as merely a predisposing agent; there is nearly always to be found in addition tuberculosis, diabetes, or some febrile disease which forms the determining factor in the etiology.

Perithelioma of the Carotid Gland.—Heimleth relates the difficulties experienced in diagnosing and removing a

tumor which finally turned out to be a perithelioma of the carotid gland. Only six similar cases are to be found in the literature, and these are given in brief by the author. Nothing definite is known of the causation of these growths, which occur at all ages and give all the manifestations of malignancy. The frequency with which they have shown themselves at about the end of puberty gives color to the belief that the increased general hyperplastic activity of this period does not receive its natural check, and that in consequence of mechanical or inflammatory stimuli the overgrowth is excited.

The Agglutinating Properties of the Blood of a Healthy Infant Born of a Typhoid Mother.—Zängerle reports the case of a woman who in the third week of her typhoid gave birth to a child which continued perfectly well until three months later, when it died of a combination of varicella and pneumonia. The autopsy showed the absence of any of the lesions likely to have been caused by an intrauterine infection of the fœtus by typhoid, yet on the second day after birth the child's blood gave a definite Widal reaction in a dilution of 1 : 30 of the blood, corresponding to 1 : 60 of the serum. While the observation has been made often enough that intrauterine infection with typhoid is possible, the number of instances reported in which a healthy child was born of a woman sick of the disease, and then gave the characteristic serum reaction, is limited to five, which are abstracted by the author.

The Action of Digitoxin Merck Contrasted with that of Digitalis Leaves.—By Zeltner.

Communications from the Municipal Diphtheria Station of Chemnitz.—By Schoedel.

A Case of Apparent Foot-and-Mouth Disease in the Human Being.—By Schultze.

A Case of Infantile Cerebral Palsy with Oculomotor Paralysis.—By Kissling.

Deutsche medicinische Wochenschrift, June 28, 1900.

The Danger of Tubercle Infection through Milk and Dairy Products.—Lydia Rabinowitsch recapitulates the dangers to the community at large that exist in the constantly increasing number of tuberculous cattle used for the production of milk and its various modifications exposed for sale. Although for obvious reasons the general legally enforced application of the tuberculin reaction is meeting with much opposition at the hands of dairymen, it still represents the best and most reliable test, and it is only by its rigid employment that an absolutely tubercle-free milk supply can be obtained. This is conclusively shown by the author's investigation of the product of eight Berlin dairies supplying at an increased price what is ostensibly a germ-free milk to be used for children and invalids. In three of these establishments the tuberculin test is regularly applied and the milk furnished was found uncontaminated by the bacilli. In the other five dairies clinical observation is depended on to detect disease in the cattle; repeated examination demonstrated the presence of active virulent tubercle bacilli in the milk of three of these. The author's investigations were carried on to a study of various other dairy products. "Plasmon" (Siebold's milk albumen) was found free from pollution, but pot-cheese and kefir both furnished virulent cultures. Margarin and its modification "sana" being prepared from beef suet, and containing no milk, are supposably free from danger of infection, but the author calls attention to the fact that the fat used in their manufacture may easily contain diseased lymph glands, and as a matter of fact the two samples examined were found to give a positive result bacteriologically.

Fat Embolism.—Ribbert gainsays the prevalent theory as to the mechanics of fat embolism, and believes that the following considerations prove the fallacy of the belief that the oil globules found in the pulmonary and systemic capillaries are thrown into the circulation through the local laceration of bone marrow at the site of fracture. In the first place the torn vessels are themselves bleeding, *i.e.*, pouring out their contents, and therefore incapable of receiving and carrying off anything, and though it may be said that the local pressure is greater than that of the capillaries, still this same pressure is also acting by compressing and obstructing the orifices of the ruptured vessels. Secondly, the amount of fat thus set free is never sufficient to produce the degree of embolism found. In the third place, very pronounced fat embolism often follows comparatively insignificant fractures, and is nearly always present in fracture of the skull when only non-fatty bones are injured. The results of his clinical observations and animal experimentation incline the author to believe that the jarring and commotion produced in the bone marrow at large throughout the body by every serious traumatism cause the fat to enter the circulation, and he maintains that every shock, such even as that experienced in jumping from a height, is sufficient to produce a greater or less degree of fat embolism.

A New Club-Shaped Pathogenic Bacterium Found in Lymph (Corynebacterium Lymphæ Vaccinalis).—Levy and Fickler publish a preliminary report on a bacterium isolated by them from calves' vaccine lymph. Two varieties were cultivated, possessing practically the same characteristics but differing in that, when grown on Loeffler's blood serum, the one produces an orange-yellow coloring-matter, while cultures of the other are colorless. Young cultures consist of small wedge-shaped forms or cylinders of medium size; as they grow older the cylinders exhibit a tendency to the production of club-shaped forms which are slightly curved and beaded. The aniline colors are readily taken up, Gram's stain is positive, but in spite of their evident relationship to the diphtheria bacillus Neisser's stain for the metachromatic bodies is negative. Nakanishi has just published (*Centralbl. f. Bact. Parasit. u. Infect.*, vol. xxvii., Nos. 18 and 19) an account of a bacillus found by him constantly in the vaccine pustules of children and calves, and the authors consider their bacillus as very similar to, if not identical with this, though they think it too soon to indorse his belief that this is the specific organism of vaccinia and variola.

A Rare Complication in Tracheotomy.—Thomas, in operating on a two-year-old child, whose larynx was filled with diphtheritic membrane, had the unusual and disconcerting experience of being unable to find any trachea. Having explored the middle line of the neck in vain, two fibrous cords were exposed on either side, but an attempt to open each of these under the impression that it might be the very much altered trachea was unsuccessful. Further dissection revealed the larynx crowded close down on the jugular notch of the sternum. The thyroid cartilages were split and an endeavor was made to pass a tube in this way, but the manœuvre did not succeed, and the patient died in a very few moments. At the autopsy it was found that the fibrous cords were the greatly contracted and degenerated sternohyoid muscles, which had pulled the larynx down to the sternum, and on cutting these the trachea popped into view. No explanation of the anomaly could be given.

Investigation of the Behavior of Milk Bacteria in the Milk Thermophor.—By Dunbar and Dreyer.

Contributions to the Significance of the Oliver-Cardarelli Symptom.—By Ritook.

Iodipin.—By Klingmüller.

Berliner klinische Wochenschrift, June 25, 1900.

Prognosis of Glycosuria and Diabetes.—F. Hirschfeld finds in the literature of recent times a hopeful view as to the prognosis of the milder forms ot the disease. According to his own researches, a relative cure is to be looked for (that is, a freedom from sugar with the ingestion of 200 gm. of carbohydrates daily) if upon the outbreak of the affection eighty to eighty-five per cent. of the carbohydrates is burned up in the system. The assimilative power, with reference to this form of ingesta, he has seen diminished after influenza, certain forms of colic, and in an especially marked degree after gangrene and furunculosis. A deterioration with reference to glycosuria is seen through an increase and an improvement through a decrease in the quantity of the urine. Sometimes accompanying a rapid increase of weight an increase in glycosuria is seen, but it will subside under a restricted diet. The heart weakness occurring in diabetes is favorably influenced by a diet of diminished carbohydrates, but these should not be wholly given up.

A Case of Complete Transposition of the Viscera Associated with Dissecting Aneurism of the Aorta.—A. Barbo describes the case, which was that of a woman aged seventy-four years, who died of senile dementia. Autopsy revealed complete transposition of the viscera. A most careful description is given of the arrangement of the various organs. The aorta arose from the right ventricle and the pulmonary artery from the left. The aneurism was situated in that part of the aorta within the pericardial sac into which it had ruptured. The adventitia had been separated from the median coat. A valuable bibliography of the literature of dissecting aneurisms is given.

The Present Condition of Our Knowledge of the Anatomical Relations of the Cerebellum to the Remainder of the Nervous System, and its Significance for the Appreciation of the Symptomatology and Diagnosis of Cerebellar Diseases.—By L. Bruns.

The Anatomy of the Brain and Psychology.—By L. Edinger.

French Journals.

The Treatment of Wens by Interstitial Injection of Ether.—E. Sergent presents a new method of treating sebaceous cysts by injecting pure sulphuric ether by means of a sterile syringe whose platinum needle has been passed through the flame. No cyst which has begun to show signs of in-

flammation should be so treated. The surface should be prepared as for any operation. Cysts upon the face, when small, require only five or six drops of ether at a time, but the needle can be left in place, the syringe unscrewed, and subsequent injections be made at the same sitting. Each day or two the needle is introduced by the same opening (a follicular orifice). Ten or twelve sittings may be required before proceeding to the extraction of the sac. An eschar of pin-head size at the point of injection, together with flaccidity of the tumor, indicates the time for extracting the sac. The advantages of the method are bloodless removal without pain or subsequent scarring.—*La Presse Médicale*, June 30, 1900.

The Slow Pulse in Syphilis.—M. Degny says that syphilis affects the heart not only by way of its muscular fibres, its interstitial tissues, and its vessels, but also by central innervation giving a permanently slow pulse. The history of one case is given and several others are referred to. The Stokes-Adams syndrome can be brought about in three different ways: by the production of bulbo-cerebral or bulbo-protuberant gummous tumors; by the production of arteriosclerosis or of arterial lesions situated wholly or predominately in the bulb (as is the case in the majority of instances); or, as Thornton has observed, by syphilitic products compressing the pneumogastric at some point in its course.—*Journal des Praticiens*, June 30, 1900.

Treatment of Syphilis by Inunctions with Calomel Ointment.—J. Kazandjieff recommends in place of mercurial ointment frictions with calomel pomade. Each dose contains 4 gm. of calomel, two each of vaseline and lard, and 80 cgm. of essence of turpentine. It is more cleanly, and does not irritate the skin. It is applied to the back and lower extremities, by choice, each morning, and a bath is given three times per week.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, July 1, 1900.

Zeitschrift f. klinische Medicin, vol. xl., Nos. 3 and 4, 1900.

Artificial Modification of the Gastric Secretion.—According to Alder, bismuth subnitrate is so far the only drug that experience has shown to possess a definite therapeutic value in causing a diminished secretion of hydrochloric acid in cases of hyperchlorhydria. Actuated by the results of Riegel, obtained by experiments on animals, he was impelled to study the effect of atropine on the gastric secretion, the theory being that as the vagus is the agent primarily concerned in controlling this function and atropine inhibits the action of the nerve, the administration of the drug ought to decrease the amount of gastric juice formed. This was found to be true in practice and by analysis of test meals given first without and then with atropine; it was observed that under the latter condition the percentage of hydrochloric acid was very markedly cut down. The same result is produced by the administration of considerable quantities of sugar solution, and both of these substances are recommended as being of value in the treatment of cases of hyperacidity.

The Clinical Aspects of Abscess of the Lung.—Jacobson states that the prognosis in abscess of the lung depends largely on the nature of the perforation through which the pus finds its way into the bronchus, to be expectorated. A large opening corresponds to free drainage and an acute course, while in cases in which the orifice is small the discharge takes place slowly and the course accordingly becomes chronic and the outlook more unfavorable. Serous or purulent exudation into the pleura does not necessarily increase the gravity of the situation, but metastatic abscesses, especially in the brain, are always serious complications. Under the treatment pneumonotomy is to be considered as adapted particularly to the acute cases, and gives its best results when the collection of pus is subpleural or at least not very deeply situated.

The Interrelationship of Diabetes Mellitus, Abdominal Colic, and Œdema.—Ebstein discusses this symptom syndrome, taking as text a case history in which frequent severe attacks of abdominal colic were accompanied by a glycosuria which at first was evanescent but later became permanent, and in which finally well-marked œdema of the feet, legs, and genitals set in. The possibility is noted of impacted gall stones or pancreatic concretions producing both the attacks of pain and at the same time through direct or indirect action on the pancreas determining a state of glycosuria. In explaining the œdema, inasmuch as all the usual local and general causes could be excluded, the theory is advanced that the effect on the vasomotor nerves of the toxic substances present may be sufficient to produce, or at least predispose to, a widespread œdema.

Fat Diet in Hyperacidity.—Backman draws the following conclusions from an elaborate series of test-meal experiments with different foods in cases of hyperacidity: (1) Fat (butter or cream) usually markedly decreases the free hydrochloric acid in hyperacidity. (2) Fat probably exerts an inhibitory action on the total hydrochloric-acid secretion. (3) Butter and cream do not prolong gastric digestion. (4) The presence of fat does not retard the digestion of carbohydrates nor inhibit the secretion of pepsin. (5) Fat, especially in the form of butter and cream, is an eminently suitable food-stuff in cases of hyperacidity.

The Percussion of the Spleen-Lung Boundary.—Buttersack says that under the conditions usually present, viz., with the lungs in the mid-respiratory phase, percussion of the limit between spleen and lung is very difficult. If, however, the patient takes a deep breath, the contrast between the hyper-resonant pulmonary tissue and the spleen dulness is very pronounced, while forced expiration is also more favorable, for then the organ is forced more closely against the abdominal wall and its outlines are very distinctly appreciable.

Comparative Observations on the Action of Urotropin, Piperazin, Lysidin, Urecidin, and Sodium Bicarbonate in the Uric-Acid Diathesis.—By Ortowski.

The Influence of Benzoic Acid in the Formation of Uric Acid.—By Lewandowsky.

The Chemical Composition of the Blood in Pernicious Anæmia.—By Erben.

Experimental Observations on the Action of Saccharin.—By Bornstein.

The Chemical Composition of Lymphæmic Blood.—By Erben.

Woerner's Method of Uric-Acid Determination.—By Lewandowsky.

A Method of Hippuric-Acid Determination.—By Blumenthal.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL SUNDAY FUND—PRINCE OF WALES' FUND AND MEDICAL SCHOOLS—THE ARMY MEDICAL SERVICE—ALLEGED WAR HOSPITAL DEFICIENCIES—EXIT MIDWIVES BILL—CAMBRIDGE SUMMER SCHOOL—SIR WILLIAM GAIRDNER.

London, June 29, 1900.

Chilly, gloomy, cold, unseasonable, such were the milder adjectives applied to the weather on Sunday. And it was Hospital Sunday. The sermons were forthcoming in most of the churches and chapels, but the congregations were too often scanty, and fears were freely expressed for the fund. The lord mayor, undeterred by the other demands on the public benevolence, had issued an open letter asking that last year's amount might be more than doubled—asking, in fact, for £100,000. It is hardly to be expected he will get it, and if last year's collection be equalled it will be as much as I anticipate. On Monday evening £16,000 had reached the Mansion House.

A memorial was sent to the Prince of Wales three months ago from the council of the Metropolitan Radical Federation purporting to represent the Radical clubs. This Council had the assurance to pretend that the Prince's hospital committee had disregarded His Royal Highness' intentions and devoted part of the funds to medical schools and laboratories. You may judge the tone of the memorial from the fact that it incorporated an article in *The Contemporary Review* by Mr. Stephen Coleridge, to whose allegations about vivisection I have previously referred. The executive committee of the Prince's hospital fund have issued a report which completely disproves the "scandalous charge," in which they state that the honorary secretary of the Federation has already been informed that no grant had been made toward the support of laboratories. They go on to deny in detail the statements in the memorial and to explain some of the figures which had been impugned. Mr. Coleridge and his followers have thus obtained an advertisement which the article in *The Contemporary* could not give, but it may be questioned whether they will feel much satisfaction in the result, which is calculated to enlighten the public on the value of assertions made by Mr. Coleridge or the Radical Federation he has thus led by the nose. One can feel pity for the ignorance of the person who can believe that hospital patients are only material for experiments and vivisection by doctors. For an educated barrister, even though the advocate of the antivivisectionists, contempt seems more appropriate.

The Royal Army Medical Corps has had so much praise that it was sure to be assailed by some one. A fine encomium was passed upon the corps on the 18th inst. by Sir W. MacCormac on the occasion of his receiving the

freedom of the Salters' Company. He said he had seen all the organizations for the relief of the sick and wounded and could "speak in their praise without stint; the provision made for them has been unexampled in the history of war and profuse in every way." Other commendation followed, and the newspapers generally praised the Royal Army Medical Corps as the brightest spot in the army—until Wednesday last, when *The Times* published a letter from Mr. Burdett-Coutts, M.P., giving a sensational description of the sufferings and hardships to which our wounded soldiers are subject. He has just returned from South Africa, and declares he is impelled to speak out by the knowledge that distinguished medical men who have come home have testified to the perfection of the arrangements. In three columns of *The Times* Mr. Burdett-Coutts piles up the horrors endured by the wounded and typhoid patients—most of which, to those with experience, are clearly of the unavoidable kind. The challenge thrown down thus to the medical men was promptly taken up by Mr. Treves, who states his own experience, repeats his previous assertions, and says he cannot believe "our sick have been treated with neglect and inhumanity, as Mr. Burdett-Coutts asserts." You will not be surprised from this to learn that the subject has almost displaced every other from conversation among doctors, and that the newspapers are coming out with large head-lines on "War Hospital Horrors" and "War Hospital Scandal." Parliament was moved from the apathy into which it had fallen and demanded explanations of ministers. Mr. Balfour accordingly read extracts from a despatch of Lord Roberts, who tells how distressed he was that his men had to suffer much, and explains the impossibility of avoiding terrible scenes after a long march, repeated fights, and interruption to the long line of railway. He had himself constantly visited the hospitals, and considers that after a very short time they were in good order and not overcrowded. Lord Roberts says he "has no wish to shirk responsibility or to screen any shortcomings which may be proved against the Royal Army Medical Corps," and he suggests that a "committee, say of two medical men of recognized ability, and some man of sound common-sense, should proceed to South Africa in order to furnish a full report on the working of the medical arrangements throughout the war." As Mr. Balfour read the reference to "some man of common-sense," the house indulged in roars of laughter and cheers—a testimonial which Mr. Burdett-Coutts perhaps did not anticipate when he penned his sensational charges. Nobody supposes Lord Roberts intended the phrase to convey the meaning which honorable members seemed to see in it, but the House was intensely amused.

Sir Evelyn Wood was at a dinner of the civil engineers on Wednesday evening, and declared that the sick and wounded had been adequately looked after—and he ought to know. Lord Wantage, V.C., is chairman of the Red Cross Society, and its committee meets twice a week to receive and consider reports from the field, but no such complaints have reached them. He says Mr. Coutts attended a meeting before he went and offered to act as their commissioner, but as he was making only a flying visit the offer was not accepted. He did not inform the committee of what he now complains, or they would have remedied what needed reform. This shows how a person without proper information may take a roving commission and perhaps fall into errors as to what he sees. Mr. Coutts is evidently not qualified to write about war or to judge what is preventable. He may have "sound common-sense," but I never heard of his doing anything to show it.

Mr. Julian Ralph is a correspondent of far superior intelligence. He was out for *The Daily Mail*, and sent home interesting descriptions—but not a word about this matter, until now on his return he proceeds to father Mr. Coutts' statements, though he says he can tell only of "chance observations and impressions"—a very loose way of offering evidence. Then he repeats what he heard from an officer, that at one hospital they were "trying on famished patients a new German method of treatment rightly called 'the starvation treatment.'" Then he says he knows no more of the skill required that is to be seen in this "criminal adoption of the starvation method at Bloemfontein." He then goes on to declare that one of the greatest English surgeons told him the average army surgeon was a mere tyro, because the War Office would not let them go to Paris, Berlin, or New York in their holidays (?) and only those stationed near London "had a chance to walk the metropolitan hospitals"! Evidently Mr. Ralph has mixed up a statement of one of the army grievances about "study furlough," and made a mess of it all. He is a shrewd and able correspondent, and he acknowledges he made no notes on this matter and did not study it. I can therefore hardly excuse him for winding up his inconsequent statements by calling the treatment of the sick and wounded "primitive, cruel, and almost barbaric, as well as needless and inexcusable."

Really an experienced war correspondent should be more reticent with condemnatory adjectives. Some army surgeon may be retorting that these of his choice are more applicable to the man who accuses the staff on the strength of "chance impressions."

There is to be a debate on the subject in the House of Commons this evening.

Exit the midwives bill—it has gone out as in a farce. It came on, was opposed for a time, and to save it from the fate of rejection one of its supporters talked it out. Well, we are rid of it for another year, but shall no doubt then have to fight it again.

The Cambridge Summer School for Practitioners is to be discontinued, as the response has been too small to the offer made. But the Pathological Society will meet at Cambridge on the 30th, and there wind up its session, having been invited to do so by Professor Dr. Sims Woodhead.

Sir William Gairdner was last week entertained to a farewell dinner at which a number of distinguished persons were present. In his speech replying to the toast of his health he said he had lived thirty-eight years of life preprofessorially and thirty-eight professorially, and that he had had to ask for only two things that were of much account—his professorship and his wife. The rest came unasked, and he believed many went about suffering much because they were always running to and fro begging for all manner of things and grudging others their success. He was inclined, like Lord Kelvin, to regard his career as failing from poverty of accomplishment compared with the ideal he had set himself.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE NEW PASTEUR HOSPITAL—THE BAZY-ALBARRAN DISCUSSION—NEW METHOD FOR SUPPRESSING RATS.

PARIS, June 27, 1900.

NEXT Sunday, on the 1st of July, the Pasteur Hospital will open its doors and patients both rich and poor will be admitted free of charge, the first time such a plan of hospital treatment has been carried out in Paris. Hitherto all patients having an income exceeding 400 francs a year were obliged to pay a little over two francs a day in a medical ward, three francs and some odd centimes in a surgical ward, and five francs in a maternity. This hospital is a private institution, the money having been left anonymously for the founding of the same, a few months before Pasteur's death, in 1895. It is primarily intended for the reception of diphtheria patients. The architect chosen was Florentin Martin, and the great principles to be carried out in the organization of this hospital were the following: Complete isolation of each patient from the moment he entered the hospital; rigorous suppression of all danger of infection from his clothes; rooms and wards so disposed that they could be easily washed with water; an abundance of light, and hot and cold water in every room; lighting by electricity, and a modicum of furniture. One can safely say that the architect has taken advantage of all the ideas he could gather from an exhaustive visit to the principal hospitals of Germany, Austria, Switzerland, and Italy.

The patient, on arriving at the hospital, is shown into a special room, where he is examined by the physician. If he is found to be suffering from diphtheria or other contagious disease, he is shown into a "chambre d'entrée," and his clothes are taken from him and sterilized. A new suit of hospital clothes is given him, and he is taken to a "chambre d'isolement" and put to bed. Both rooms are disinfected as soon as the patient has left them. The "pavillon d'isolement" contains twenty-four rooms, containing each one bed, two wards for convalescents with twelve beds each, and five chambers with two beds, the latter being used for children accompanied by their mothers. The construction of the hospital is carried out on strictly scientific principles, stone and glass being used for the walls, and an empty space being left at one side of every room for the plumbing-pipes and electric-light wires. Hot-air pipes serve to heat the place. Instead of a director being appointed, Dr. Martin, who is the chief physician, has been made more or less general supervisor, and all the control is vested in the board of trustees of the Pasteur Institute, which meets every year.

A lively discussion has taken place recently at the Surgical Society regarding the use of ureteral catheterism as a means of diagnosing renal tuberculosis in its early stages, and its practical advantages in leading to an early intervention. The question was brought up for the first time in April, and since then it has been "on the tapis" at several meetings, but during the last three weeks the war of words has waged hot and heavy, and each side would seem to wish to have the last word. Dr. Pousson started

the discussion by reading a report of twelve cases on which he had operated with but one death. He stated that he had, however, never had occasion to operate on a case in its initial stages. Dr. Tuffier declared that ureteral catheterism was no means of giving assurance as to the condition of the other kidney. Dr. Albarran, who has used this method of exploration very extensively, took up the cudgels in its behalf and said he had never observed any accidents resulting from its use, when complete asepsis was enforced and the operator possessed a certain degree of manual dexterity. Dr. Tuffier answered that a discussion held two years ago in Berlin showed there was some danger in using this method, and chemical analysis of the urine passed and cryoscopy, or the examination of its freezing point, would often suffice to establish a correct diagnosis as to the condition of the other kidney. He was not in favor of an operation, unless the symptoms showed the general health was being affected. Dr. Albarran said it was to be remembered that cathe erization of twenty-four hours' duration was not called for, one hour amply sufficing.

On June 6th Dr. Bazy made a long speech, in which he showed how difficult cystoscopy might be under certain conditions, such as spasm of the bladder, strieture of the urethra, and youth of the subject. Desnos and Israel had cited cases in which accidents had occurred. He also expressed some doubt as to the advisability of catheterizing a healthy ureter after a diseased one had been investigated, washing out the bladder not being sufficient to ensure complete asepsis. Bazy strongly advocated the use of methylene blue, which is eliminated in a peculiar manner if both kidneys are affected. He has used this method almost exclusively, and said he considered catheterization not only a useless but a dangerous operation in many cases. As for operating upon renal tuberculosis in its early stages, Dr. Bazy said he was strongly opposed to it, just as much, for instance, as to castration unless the general health was affected. Of course hemorrhage was an important symptom, which could not be overlooked, and which might lead to an early intervention. He referred to a case in which Ricard had removed a very far advanced tuberculous kidney, on account of hemorrhage, but it was found that the hemorrhage came from the other kidney. If cystoscopy had been used, Dr. Ricard would have removed the relatively healthy kidney and the patient would not have survived.

On June 13th Dr. Albarran answered all that had been said against his first speech on the subject, and the gist of his remarks was that those who doubted the usefulness of this operation were those who had not employed it sufficiently to understand how easy it became through long practice. A week later another speech was made, this time by Dr. Bazy, and the observations of Dr. Albarran were more or less severely criticised. Nothing new can now be said on the subject, and it is to be hoped that the discussion has come to a close.

As rats have been shown to be in part the cause of the spread of plague, investigations are being carried out as to the best means of suppressing them. The *Matin*, a widely circulated morning paper, had an interesting article on this subject a few days ago. Dr. Danyez has been trying a new method at the Pasteur Institute, and as a result of his experiments this method was given a trial. A section of a sewer was closed in on both sides, two hundred large rats were placed in it, and they were fed with bread on which virulent cultures of a certain microbe had been deposited. Two weeks later only eight rats were found alive. In the bodies of the dead rats, which had not been eaten by the surviving ones, the lesions were found on examination to be always the same, and cultures gave the same microbe in all cases. These experiments have been carried out at Lille, at Tunis, at Copenhagen, and at Hamburg. The microbe used has no pathogenic action on other animals, and so one expeditious means of disposing of these rodents has been found.

LETTER FROM BRAZIL.

(From our Special Correspondent.)

SEPARATION OF XIPHOPAGOUS TWINS—THE PLAGUE.

São João del Rei, June 7, 1900

The medical world of Brazil was startled by the announcement that on the 30th ult., in the operating-room of the hospital of St. Sebastian in Rio de Janeiro, Dr. Chapot Prevost, one of Brazil's most distinguished physicians, had separated the eight-year-old twins, Rosalina and Maria, who had been the subject of much medical discussion during the past year, an operation that will mark an epoch in the annals of surgery.

These twins were born of poor parents in the state of Espirito Santo, Brazil, and were brought to Rio about a year ago. They were not united by a single band as were the Siamese twins, but their abdominal cavities were connected by a large opening, practically forming one cavity, their bodies being intimately attached as will be seen by the accompanying illustration. And as it afterward proved, the thoracic cavities were also implicated.

The following brief and incomplete account of the operation and history of the case up to the present may be of interest to the readers of the Medical Record. On June 23d of last year one of the leading Rio physicians made an exploratory opening, but finding the livers of the two girls so united as to form practically one liver he decided to go no further. Dr. Prevost then hearing of the case began a series of experiments to test the recuperative power of the liver, and the best means of controlling hemorrhage in this organ. Among others, he cut away a large part of a dog's liver, and in eight days it had almost reproduced itself. From these experiments he became convinced that this organ would bear a great deal of surgical interference, and he accepted the case.

Since last October the twins have been in this hospital under his care, and he has made a very careful study of the case from all points of view—anatomical, physiological, and psychological. He had several *x*-ray photographs

taken, and thus ascertained that the livers were united in nearly their whole extent.

While under his observation Rosalina had an attack of grippe, which lasted eight days, with a temperature on the third day of 40.2° C., with corresponding pulse and respiration, while Maria remained perfectly well. This confirmed him in his opinion that there were no psychological conditions to forbid their separation.

Having completed his studies and preparations he called a council of his colleagues who were to assist him, and explained to them his plans, and at 6 A.M. on the 30th ult. they assembled at the hospital to make the final preparations. Everything had been arranged with a view to the most perfect asepsis. The attendants, after taking a full disinfecting bath, dressed in new clothing thoroughly sterilized, and before entering the operating-room washed their hands and arms in six disinfecting solutions.

Before the operation the girls were given clysters of 500 gm. of artificial serum, and their bodies were thoroughly washed, first with soap and water, then with sublimate solution, and finally with sulphuric ether, after which they were wrapped in sterilized cotton covered with gauze. They were then placed upon a table especially prepared, which could be easily unjointed to make two, Rosalina lying upon her left side and Maria upon her right side, the cicatrix of the former operation showing upon the top.

The giving of the chloroform began at 9:15 A.M., and after slight resistance on the part of both they were soon

under its influence, and at 9:45 the first incision was made. This extended from the navel upward, having its middle at the ensiform cartilage, being closer to the false ribs of the right side of Maria. Turning back the flap toward Rosalina's side, the anterior superior surface of the liver was seen. This occupied two-thirds of the connecting space and formed a bridge between the two cavities. Below this was discovered another connecting bridge formed by the union of the two mesenteries. After having cut through the cartilage in the median line another bridge was discovered. This was formed by the union of the two pericardial sacs, 2 cm. in extent, through which the fluid could easily be seen passing from one sac to the other owing to the uneven beating of the two hearts. The operator placed a pair of pinces de Péan upon either side of this connecting bridge preparatory to separating it. This was one of the most intensely exciting moments during the whole operation, for by the severing of the anastomosing branch of the two mammary arteries the field of operation was deluged with blood. The points were quickly seized and the hemorrhage controlled, but one of his more fearful assistants inquired, "Doctor, will you still separate them?" He simply replied "Separo" ("I will separate"), and cut through the imprisoned tissue, and sutured the cut edges of each sac with catgut. Now, it was discovered that the pleura of Maria also extended across the line of union. However, before undertaking the task of correcting this it was thought best to attend to the mesenteric bridge, as its position made it easy for the intestines of one to pass to the cavity of the other. This was prevented by ligating it with silk at two points and cutting between them and returning the contents of each cavity to their proper place. He then returned to the remaining difficulty in the thoracic cavity. This was overcome by cutting upon the internal face of the half of the cartilage yet united, detaching the parietal pleura, and uniting it with a fine catgut suture to the median fold which adhered to the pericardial bridge.

Having thus completed the separation of the internal parts of the thorax, he then cut through the skin and cartilage on the other side, opposite to the first incision, leaving only the liver to be separated. This he accomplished in such a way as to give to each an uninjured gall bladder and duct. The final cut having been made at 10:50, and the table separated, he turned over Rosalina to two assistants, while he continued to care for Maria, who had suffered most from the operation. However, he had to suspend his work of closing up her wound to retie a ligature that had slipped from one of the hepatic vessels of Rosalina.

The final suturing was done on two planes, the deep peritoneal and the superficial, including the skin and muscular coat. At 11:45 the operation was completed. The condition of Rosalina was encouraging; that of Maria was much less hopeful. Little by little they were awakened, and upon opening her eyes, Maria, who awoke first, said, "Where is Rosalina." And Rosalina, upon awaking, asked the same in regard to her sister. When they saw each other, and realized that they were separated and still alive, Maria, looking toward Dr. Chapot, exclaimed, "Oh, doctor, how good you are!"—he had received his fee.

The children both vomited three times after the operation, and were given ice-water several times. Both during and after the operation they were given injections of artificial serum. They urinated without difficulty. After five o'clock they slept tranquilly with but slight interruption. At eight o'clock Rosalina wanted to say her prayers, and put on a new dress the doctor's daughter had given her. The following is the schedule of temperature, pulse, and respiration for the first twelve hours:

	Maria.			Rosalina.		
	Temp	Pulse.	Resp.	Temp.	Pulse.	Resp.
11:52 A.M.	36.0°	110	64	35.8°	Weak	45
3 P.M	36.7	126	46	36.6	110	38
5 P.M	36.6	128	44	36.6	108	42
8 P.M	37.3	126	43	36.9	112	39
12 M	36.6	130	48	37.2	124	40

On the second day, both slept well, though Maria, whose temperature ran up to 38° C. at 4 A.M. was somewhat disturbed. Her pulse at this time was 160, respiration 56; but at daylight these all had gone down somewhat. At 2:30 P.M. her temperature again ran up to 38.5°. She was then given injection of artificial serum and inhalations of oxygen, after which she became better, and at 9 P.M. was quietly sleeping. Rosalina remained in good condition all day, and several times asked to sit up.

Third day: During the night they both slept well, and during the day the general condition of both improved, and they closed the day in good condition, the temperature of neither going above 38.2°. At midnight Maria was given inhalations of oxygen.

Fourth day. Until 2 P.M. both girls were doing finely, when Maria's temperature ran up to 39, with pulse 172. She became quite weak and could not take nourishment. After taking inhalations of oxygen and a small dose of digitalin she became better. Her bowels were washed out, and she passed a large worm. At 9 P.M., temperature, 37.9°; respiration, 36; pulse, 150. At midnight both were sleeping, though Maria was somewhat restless.

Fifth day. The unfavorable symptoms of Maria of the day before did not return, and although very weak she was in every way better, taking with relish some broth at different times. The intestinal washings were continued with marked benefit. Oxygen was also administered throughout the day. The temperature did not get above 38.6°, and fell to 37.9°. Pulse, highest 150, lowest 137; respiration, highest 40, lowest 30.

Rosalina was in fine condition, she ate a little chicken and was anxious to sit up.

Sixth day: In the early part of the day Maria's condition was so flattering that the surgeon announced her to be out of danger. However, at 2:30 P.M. she began to vomit, and although this was checked, she became so prostrated that she could not rally under the supportive treatment given her, and at 1.30 A.M. of the following day she died.

At 3:30 P.M. the autopsy was held, at the request of Dr. Prevost, by the police physicians. He asked them to testify as to the following points, in addition to the regular facts of cause of death, etc.: (1) Had there been hemorrhage of the liver? (2) Had there been infection? (3) Was the death due to lack of skill, imprudence, or neglect?

The examination, made in the presence of a large number of physicians, revealed a state of inflammation of the pleura and pericardium with more or less exudate from each, but no inflammation of the peritoneum, while the liver was completely healed and cicatrized, as were all the external wounds. All present agreed that everything possible had been done that could have been done, but of course there were some who could find something to criticise, either in the method of operating or in the after-treatment. The experts have not yet made formal report.

Rosalina continues to improve without any drawback so far.

The report of this operation has made a great sensation in Rio, almost overshadowing the plague, which is yet extending itself throughout the city. However, there have been since May 16th up to June 5th but eighty-six cases with twenty-three deaths, which in a city of six hundred thousand inhabitants would indicate a very mild type. It is rumored that a case has developed in a city in the interior of the state of Minas, two hundred miles northwest from Rio, on the line of the Central Railroad of Brazil; but the rumor is not yet confirmed.

A Contribution to the Symptomatology of Senile Arteriosclerosis.—Friedmann rehearses the classical symptoms of this condition, and then goes on to describe a new sign which he considers of value in the diagnosis. Normally in adults the heart sounds are to be heard by careful auscultation over the descending aorta, and in health and under the age of forty to fifty years are most plainly appreciable at a point on a level with the spine of the scapula and just to the left of the vertebral column. With advancing years this point moves downward, and if, in addition, there is atheroma of the aorta the sounds are to be heard with great distinctness and force on a line joining the angle of the scapula to the spinous process of the seventh vertebra. The cause for this phenomenon is to be found in the fact, first, that these sounds are not truly transmitted heart sounds, the first being certainly purely vascular in its origin, for it is present even when over the aortic area the first sound is entirely replaced by a murmur; and, second, accompanying the arterial lesion there is nearly always a concomitant emphysematous condition of the thoracic walls which increases the resonating-power of the ribs and also causes an alteration in shape favorable for the direct transmission of the sound. There are also fixation of the chest in the expiratory position and prolonged and diminished expiration, which added to the hypertrophy of the left ventricle combine to make a set of causes sufficiently characteristic to give the sign diagnostic value. —*Wiener klinische Wochenschrift*, June 21, 1900.

Society Reports.

FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, Held in Brooklyn, May 22, 1900.

J. C. Bierwirth, M.D., of Brooklyn, President.

President's Address.—Dr. J. C. Bierwirth, in his address, considered "The Necessity and Benefits of More Completely Organizing the Medical Profession." The speaker pointed out the increasing frequency of malpractice suits, and the general feeling among the unprincipled that physicians are an easy prey owing to their sensitiveness and abhorrence of publicity. The liability of physicians to unjust arrest on mere suspicion of complicity in cases of criminal abortion was another crying evil. The remedy was to be found in proper organization, such as could be effected under the charter just granted to the New York State Medical Association. Believing in home rule, it was thought best that members should be admitted through their local organization, the county association, as here the character of candidates was best known. In time, the members would have not only protection from malpractice suits, but a death benefit fund. In conclusion, the speaker begged all interested in the welfare of the new and enlarged State association to put aside personal ambitions and differences, that all might work shoulder to shoulder for the common weal.

The address was ordered printed and distributed gratuitously to the regular physicians of the State.

Discussion on Diabetes.—The afternoon was devoted to this symposium.

The Identification of Dextrose in Human Urine.—Dr. Heinrich Stern presented an elaborate paper on this subject, which he read in abstract. He said that while, as a rule, glucose could be identified in urine containing 0.5 per cent. or more of it, great difficulty was experienced when the quantity was less than this. He knew of a number of instances in which persons had undergone treatment for diabetes without ever having suffered from this disease. Many spurious cases had come under his observation which had been diagnosticated as diabetes by life-insurance companies. He was cognizant of many errors which had been committed in testing for glucose, which would never have occurred if the physician had taken the precaution to make use of control tests. Mention was made of a case in which a diagnosis of glycosuria had been made in a person who had indicanuria. The explanation was to be found in the fact that the physician who had tested the urine had employed only the bismuth test, and had fallen into the error because the bismuth had been reduced by the indican. Grape sugar may be confounded with a number of other urinary constituents. Comparing the more important of these tests, it would be found that with Boettger's test the limit of sensitiveness was one per cent., and the limit of reliability 0.5 per cent.; with Nylander's test, 0.1 per cent. and 0.3 per cent. respectively; with Trommer's, 0.1 per cent. and 0.5 per cent.; with the fermentation test, 0.1 per cent. and 0.5 per cent., and with the phenylhydrazin test the limit of sensitiveness was 0.03 per cent., and limit of reliability 0.05 per cent. The delicacy of the glucose test, moreover, was not the same in all urines. For instance, Trommer's test was exceedingly delicate if skilfully applied to certain urines, yet in a great majority of instances it could not be relied upon when there was less than 0.5 per cent. of glucose present.

Boettger's Bismuth Test: Excessive amounts of pigment, glycuronic acid, mucin, and other urinary constituents containing sulphur, gave a reaction similar to that obtained with glucose. Almost every urine blackened bismuth in a strongly alkaline medium, but the darkening was not due to sugar. Saccharin was one of the substances which prevented the reduction. The working of the test was interfered with in urine containing antipyrin, acetanilid, salicylates, quinine, sulphur, mercurials, salts of iodine, turpentine, senna, tannic acid, chloral hydrate, benzol, sulfonal, trional, and many others.

Trommer's Test: This test was interfered with by the presence in the urine of uric acid, urates, creatin, hippuric acid, indican, nucleo-albumin, urinary pigments, glycuronic acid, arsenic, tannin, gallic acid, pyrogallol, camphor, copaiba, cubebs, chrysophanic acid, salicylic acid, oxalic acid, chloral hydrate, turpentine, glycerin, sulfonal, thallin, benzoic and carbolic acids. Albumin, parapeptone, salts of ammonium, and saccharin retarded or prevented the reduction. Urine rich in ammonia might keep the cupric oxide in solution.

Phenylhydrazin Test: The delicacy and trustworthiness of the phenylhydrazin test, the speaker said, had been decidedly overestimated. The true nature of the crystals must be demonstrated beyond a doubt before the reaction could be considered positive.

Picric Acid: This test was very fallacious.

Fermentation Test: The fermentation test was one of the most reliable methods of detecting the presence of grape-sugar in human urine. The test was made with fresh beer yeast, or with German yeast. The method of determining the quantity of sugar by the amount of gas generated must always be very inaccurate. Roberts' method—the determination oft he loss in specific gravity by fermentation—was a very reliable one, and was well suited to the needs of the medical practitioner. But there was not a single method of determining the presence of glucose in urine that was not open to sources of error; hence absolute reliance should not be placed in any one of them alone. The employment of the copper test in mere routine work without a control test was certainly objectionable. The speaker asserted that one case in every six or seven coming to him was neither diabetes nor glycosuria, yet the urine in the majority of them gave a reduction with the copper tests.

Diabetes Mellitus in Children.—Dr. Henry Dwight Chapin considered this subject. He said that the literature was almost silent on diabetes in children. A case had been reported in 1895 in which glucose had been found in the liquor amnii of a pregnant woman suffering with diabetes, in which examination of the infant's urine failed to show any glucose. Dr. Chapin reported two cases seen by him during the past year. The first was that of a boy aged four years and a half, who, following the fatigue and exposure caused by the Dewey parade, had developed a slight fever and had rapidly lost flesh and strength. Dr. Jackson, on being called in, had found that the child was passing over one hundred and five ounces of saccharine urine daily. He had failed to find, on careful examination, with Dr. Jackson, any evidence of tuberculosis or other organic disease that might explain the atrophy. The disease lasted about three weeks, the child dying three days after he saw it. The other case had been seen in consultation with Dr. McPhee, and was that of a boy aged about six years, in whom the disease ran about the same course. The patient was in semi-stupor at the time of the examination, but this had deepened into coma, in which state the boy had died four days later. In both of these cases the urine had contained about five per cent. of sugar, which had persisted to the last. The extremely rapid emaciation was specially worthy of note. Dr. Chapin said that

he had made it a practice to have the urine of his hospital children systematically examined, and it had been very rare to meet with glycosuria. It was exceedingly fatal in early life.

Diagnosis, Symptoms, Treatment, and Prognosis of Diabetes Mellitus.—Dr. Egbert Le Fevre read a paper with this title. He said that the peculiarly aged and emaciated appearance of diabetics was quite characteristic. These patients did not present an anæmic condition of the mucous membranes. The onset of the disease was frequently insidious, and the diagnosis often was first made by a life-insurance examiner. Ordinarily, the only thing noticed at first was a slight loss of vigor or of general health. The occurrence of thirst and the increase in the quantity of urine were frequently so gradual as not to attract attention. The manner of onset often determined the subsequent course of the disease. In the aged and in stout people from sixty to one hundred ounces of urine might be passed. When the night urine was equal to or greater than that passed during the day, it was to be considered an unfavorable sign. Polyuria with a decrease in the quantity of sugar was always a good sign. The color of the urine was usually pale or light yellow; a greenish or greenish-yellow tint was an unfavorable sign. Dark-colored urine, or a sudden increase in the color, should lead one to estimate the presence of sugar or its quantity, as this change in the color often occurred just before an attack of coma. The specific gravity usually ran parallel with the percentage of sugar contained. A low specific gravity, however, did not preclude the presence of sugar, as a few cases had been reported in which sugar was found in urine having a specific gravity of 1.012. A light-colored urine having a specific gravity of 1.025 should always be examined for sugar; a high-colored urine having a specific gravity of 1.025 or 1.030 was of little significance. The diurnal variation in the amount of sugar was of great importance. If the quantity of sugar passed during the night exceeded that voided during the day it indicated that the disease would run a severe course, and would rapidly prove fatal. Every case would be limited, to a greater or less extent, by the quantity and character of food taken. The occurrence of phthisis caused a reduction in the quantity of sugar. When diabetes was associated with advanced disease of the kidney there was likely to be a progressive diminution in the quantity of sugar, so that this was not necessarily a favorable symptom. Most authors stated that the quantity of urea was increased in diabetes. This was usually due to the exclusion of the carbohydrates and the patient's being on a largely nitrogenous diet. The quantity of urea became less than normal in the terminal stage. When uric acid was present in diabetic urine, and the latter had a high color, it usually indicated a mild type of the disease. It was most commonly observed in gouty people. A small trace of albumin in the urine was an almost constant symptom of diabetes. In the large proportion of cases showing this small quantity of albumin there were no other evidences of nephritis. In diabetic coma albumin was always present, and as the sugar often decreased or disappeared on the occurrence of coma, many of these cases had been erroneously looked upon as examples of uræmic rather than of diabetic coma. Diacetic acid was never found in normal urine. In the diabetic it was readily produced by the withdrawal of carbohydrates. Gerhardt's test for diacetic acid was exceedingly simple. It was applied by adding to the urine a strong solution of perchloride of iron. If this caused a deep wine color, it indicated the presence of diacetic acid. In answer to the question as to whether the diagnosis of diabetes could be more surely made by an examination of the blood than of the urine, the speaker said that it was, to say the least, a most useful method of examination, as the reaction with the blood was often observed when it was no longer obtained in the urine. One of the simplest of these tests was that known as Williams', which consisted in adding a small quantity of blood to a measured quantity of a standard solution of methylene blue, and noting if any decolorization took place. The peculiar sweet, aromatic odor of the breath was often of more or less diagnostic import, and was especially apt to be present just prior to the occurrence of diabetic coma. Of the nervous manifestations the most important were the mental derangements. The diabetic was never cheerful, not even when the diabetes was complicated with pulmonary tuberculosis. The patellar reflex was diminished in the majority of cases of diabetes, and when occurring in an early stage this was an unfavorable sign. The most common cause of death in diabetes was coma. It was most common in those who rapidly emaciated, and the most frequent exciting causes were mental excitement, fatigue, and sudden indiscretions in diet. Severe pain in the epigastrium, with or without nausea, was an exceedingly common precursor of diabetic coma. In these cases albumin was always present, generally in large quantities, and whitish specks would be found frequently floating in the urine. The latter were found, on microscopical examination, to be collections of casts. The mild form of diabetes was usually the result of errors in diet, and was associated with obesity. The second form was the arthritic or gouty, and often constituted only a transition from the obese to the severe form of diabetes. A third type was the neurotic. These persons were generally spare and nervous, and such cases were apt to be characterized by transient glycosuria for some time before the true diabetes was established. Under proper management these patients enjoyed good health and the disease could be controlled for a long time. The severe type was characterized by a sudden onset and rapid emaciation, with loss of muscular power. In the well-to-do the disease was often mild; in the poor and hard-working the disease was severe, and its course was rapid. Von Noorden had made an excellent suggestion concerning the method of testing the sugar-destroying power of the individual organism. This the speaker had carried out by giving in the morning, before breakfast, 150 gm. of grape sugar, and following this shortly afterward by the usual breakfast. The patient remained in bed during the test. If the urine showed no glycosuria the dose was gradually increased up to one of 250 gm., and if this failed to produce transient glycosuria it was fair to assume that the sugar-destroying power of the system was within the normal limits. A case was cited to show the valuable aid such a test was capable of rendering. In regard to treatment the speaker thought the tendency had been to go to extremes in the matter of diet. If with a certain diet the sugar diminished in quantity, and yet the patient's general condition was not correspondingly benefited, or was even made worse, this was a distinct indication that the dietary was wrong. The quantity of urea excreted should be determined from time to time. Another useful guide in regulating the diet was testing the urine for diacetic acid. He had been unfortunate enough to see three cases of diabetic coma within the past five months, in which the patients had used a certain combination of arsenic freely advertised and now quite popular for such cases. These patients had shown a temporary diminution in the quantity of sugar in the urine, but the remedy had caused gastro-intestinal disturbance, and he believed it was dangerous. This remedy had one deceptive feature: it was apparently well tolerated by the patient, though in reality it was insidiously mischievous.

The Relations of Surgery to Diabetes Mellitus.—Dr. Charles P. Gildersleeve contributed this paper to the discussion. He said that the text-books on surgery gave very little information on this subject. Many of them, especially the older ones, insisted that wounds in diabetics were prone to become gangrenous, but this assertion was disputed in some of the more recent works, the contention being that, with antidiabetic diet and thorough antisepsis and asepsis, this should not occur. The author did not think it could be denied that in some instances gangrene occurred in diabetics apparently from no other cause than the existence of the diabetes. Cases were cited in support of this view. One of the most striking of these was a case of rapidly fatal gangrene developing in a man upon whom he had operated for phimosis. This man stated that he had been diabetic for several years, yet his health had been such as to allow of his going around as usual. When the flaps sloughed in these cases the healing-process would be found to go on with exceptional rapidity under the use of charcoal poultices. In the management of these cases surgically he was guided by the following rules: (1) He would not operate upon any patient suffering from diabetes without explaining the possible dangers; (2) he would not operate for benign tumors or other simple conditions unless there was some special reason for so doing; (3) for the rapidly spreading gangrene occurring in these cases, and which was bound to cause death if left alone, he believed in prompt and high amputation.

Ocular Manifestations in Diabetes Mellitus.—Dr. L. A. W. Alleman took up this part of the subject. He said that ocular lesions were more frequently found in the chronic cases with mild general disturbance. Paralysis of the extra-ocular muscles in both mild and severe cases of diabetes, and in persons unaware of the existence of any serious disorder, were not uncommon. Any of the extra-ocular muscles might be involved. Paralysis of accommodation was perhaps the most common of the ocular manifestations of diabetes, and occurred quite early. The paralysis was often complete, so that the patients would observe perhaps only increased difficulty in reading. Some authors claimed that there was a true diabetic cataract, while others contended that the changes in the lens were no more common in diabetics than in others of the same age. But the unexplained occurrence of juvenile cataract required an examination of the urine in addition to the physical examination. Hirschberg believed that there was a true, distinctive diabetic retinitis, and the speaker was disposed to agree with him, though this view was not accepted by many. A diabetic retinitis might take on a renal character when disease of the kidney developed in a diabetic. Retinal hemorrhages, with or without other retinal changes, were always suggestive of diabetes, particularly the small, punctate hemorrhages. They were always associated with conjunctival hemorrhages. Retinal changes were always present in a case of diabetes which had existed more than ten or twelve years. While this was always an unfavorable symptom, it did not necessarily indicate an immediate termition of the disease. Iritis of a severe type was often met with in diabetes.

Cutaneous Manifestations in Diabetes Mellitus.—Dr. Samuel Sherwell discussed this topic. He enumerated the more important cutaneous manifestations as follows: (1) xeroderma, a condition of dry skin which was almost always present; (2) pruritus without any noteworthy subjective lesions, the genital region suffering most; (3) eczema, partly neurotic, and at other times catarrhal, having its chief seats on the genital and flexor surfaces of the body; (4) furunculosis, often general in character, but sometimes regional; (5) conditions of an erysipelatous nature, and gangrene—usually late symptoms; (6) xanthoma diabeticorum, accompanied by immense numbers of new growths; (7) the recently recognized disease named blastomycetic dermatitis; (8) the disease termed dermatitis herpetiformis, or Duhring's disease. Dr. Sherwell said that the only cases of erysipelas of the upper air passages that he had met with had been in diabetics. Some striking photographs of a case of xanthoma diabeticorum were exhibited. In this case the improvement in the cutaneous lesions had been most remarkable after dietetic treatment continued for only a fortnight.

Manifestations of Diabetes Mellitus in the Upper Air Passages.—Dr. Jonathan Wright spoke on this subject. He referred to a case of glycosuria developing suddenly after a third nasal operation on a boy aged fifteen years. This glycosuria had disappeared under a few months of hygienic and dietetic treatment. Extended reference was then made to Dr. W. Freudenthal's recently published five cases of ulceration of the upper air passages in diabetics, and the opinion was hazarded that Dr. Freudenthal had not positively excluded tuberculosis and syphilis. There was still another class of throat cases in which it had been claimed diabetes was more than ordinarily frequent, *i.e.*, in cases of laryngeal vertigo. He had examined the reports of these twenty or thirty cases, and had found diabetes present in only three of them. As these three were all plethoric persons over forty years of age, it did not seem to him that it had been proved that there was any larger proportion of cases of diabetes among them than among other individuals.

Dr. Nelson L. North said that he believed that some emotion or serious nervous disturbance was almost always the exciting cause of diabetes, and that the disease was essentially a failure of the digestive and assimilative processes brought about by this profund nervous influence. He had been impressed with the part played by heredity.

Dr. Heinrich Stern, in closing the discussion, said that of the two hundred and six deaths from diabetes reported in the boroughs of Manhattan and the Bronx in 1899, fifty-eight had occurred in coma. Of fifty cases of diabetic coma that he had studied, fully fifty per cent. had shown no excess of acetone, or the presence of aceto-acetic acid. To his mind, diabetes mellitus was only one stage of a progressive disease characterized by the elimination of glucose and urea. He recognized in all three stages, viz., (1) a preglycosuric stage; (2) a glycosuric stage—diabetes mellitus, and (3) a postglycosuric stage, or a stage of toxæmia arising from the action of ethyl-diacetic acid.

AMERICAN PROCTOLOGIC SOCIETY.

Second Annual Meeting, Held in Washington, D. C., May 2 and 3, 1900.

First Day—Wednesday, May 2d.

President's Address.—The president, Dr. Joseph M. Mathews, of Louisville, said that the bane of specialism of to-day was the "blooming out" of a class of men to practise specialties, who had no practical knowledge of them. Such action should receive the strongest censure from the entire profession. He took it that the object of this assemblage was mainly to encourage the better understanding of the diseases of the rectum, by the reading of papers and the free discussion of the same. If permitted, he would suggest that the membership be made up of those who desire a better knowledge of proctological subjects, whether general or special surgeons, gynæcologists

or obstetricians. Indeed, it was by the diffusion of such knowledge in a general way that societies were of profit. Considered from a special standpoint, it might be well to try to demonstrate that it was just as difficult to excise a rectum as it was to remove an ovary; that it required as much surgical knowledge to anastomose the colon around a stricture as it did to sew up a lacerated perineum; to do a colopexia as to remove a fibroid tumor; or to do a colostomy properly as to do a trachelorrhaphy.

Report of a Case of Excision of the Rectum through the Vagina.—Dr. S. T. Earle, Jr., of Baltimore, reported this case, which was one of adeno-carcinoma; there were about five inches of the rectum removed. The centrifugal end of the rectum was drawn down, and stitched to the anal margin; the vaginal and perineal incision was closed, and united by first intention. The results were most satisfactory, and the patient had fair control of her evacuations.

Unique Cases of Rectal Surgery.—Dr. Samuel G. Gant, of New York, reported these cases.

Case I.—Congenital absence of the coccyx and lower sacral vertebra. This patient was referred to Dr. Gant to be treated for anal fissure. He was thirty years old and a very strong man. Examination revealed the absence of the coccyx and lower sacral vertebra, which made the broad end of the bone stand out and be easily noticeable through the skin because of the fact that the tissues below it were drooped, making a concavity large enough to hold a goose-egg. He had been that way since birth, but had suffered no inconvenience from it, having perfect control over his bladder and anus. The fissure was relieved by divulsing the sphincter, incising the rent, and stimulating it thereafter with a mild silver solution.

Case II.—Stricture of the rectum in a little girl eleven months old, caused by swallowing an open safety-pin. This case was of unusual interest because of the child's age. At the time the pin was swallowed it caused considerable pain and suffocation. It was passed embedded in a mass of fecal matter just one month later. Several days preceding this she suffered great agony and passed frequent and bloody stools. From this time on the child continued to have bowel trouble, suffering from constipation, occasional diarrhœa, and the discharge of pus, blood, and mucus with the stools. Digital examination revealed a tight stricture three inches above the anus which appeared to be the result of inflammatory action and adhesions. It was easily dilated with first one and then two fingers. The ulceration was curetted, the rectum irrigated, and the patient sent home. After-treatment consisted of stimulating applications and occasional divulsion with the finger. This patient was discharged cured in eight weeks.

Case III.—Closure of artificial anus of more than three years' duration. The left inguinal colostomy was made in the case of a young woman eighteen years old, suffering from tuberculous ulceration which would not succumb to less radical means. As a result of treatment, local and general, she fully recovered in a year, having in the mean time supported herself as a waitress. She desired the opening closed, but she was advised to wait. Three years from the time the operation was made, she became engaged to be married and insisted upon the closing of the opening in the side. Thorough examination demonstrated that the ulceration had healed, and further that there was no constriction of the bowel. A No. 10 Wales bougie passed through the anus and out at the anal aperture in the groin. The opening was included in two elliptical incisions which were carried inward until the bowel was separated from the parietes. Because of the spur both legs of the original loop were firmly adherent and required resection. A purse-string suture was thrown around each, a Murphy button inserted and locked, and the gut dropped into the abdominal cavity. Peritoneum, muscles, and skin were united with catgut. Primary union obtained; the button passed on the tenth day, and the patient left the hospital at the end of three weeks. This patient made a complete recovery. She was under observation for two years after the closure, and her bowels moved naturally during this time.

Submucous Ligature for Hemorrhoids.—Dr. B. Merrill Ricketts, of Cincinnati, read this paper. He said that in performing this operation a large needle was made to describe more than a semicircle, carrying a moderate-sized kangaroo tendon submucously around the varices which occupied the rectum as much as three inches above the muco-cutaneous border. The three hemorrhoidal vessels, arterial and venous, entered the rectum and perforated the rectal muscular tissue about three and a half inches above the sphincter ani. Great difficulty had been experienced in passing the needle to complete the entire circle submucously. To overcome this the needle was brought out at a point corresponding to one-half of the circle, again to enter at its point of exit, and then made to pass out at the point of primary entrance. In cases of but one or two hemorrhoids one ligature of this character was sufficient. If there were many hemorrhoids occupying the entire circumference of the rectum as many of these submucous ligatures might be applied as necessary. Then, too, it was not necessary to incorporate all the varices within the ligature, because many of those which were not so constricted by the ligature would become so as a result of the trophic changes which ensued. Sometimes it would be found most convenient to introduce all the ligatures before making them taut. By doing this the introduction of the needle was made with greater ease. Before this work was attempted the sphincter ani should be divulsed to the fullest degree with the finger. Divulsion once being completed, the hemorrhoids would at once protrude, and were most easily encircled by the ligature. As soon as the ligatures were made taut the hemorrhoids were inverted into the rectum. Sometimes it was desirable to puncture some of the larger hemorrhoids that the distention might not be so great, and for the purpose of lessening the amount of hyper trophied tissue within the rectum. After a few weeks atrophy would have taken place to such a degree as to allow the sphincter ani to resume its normal tonicity, and to have completely destroyed all the objectionable varices which formerly existed. The advantages of this operation were, (1) the impossibility of secondary hemorrhage; (2) there was no tissue destroyed or sacrificed; (3) the loss of time was but little, if at all, greater than when the growths were removed by the clamp and cautery; (4) thus far there had been no infection; (5) there had been no fistula, abscess, or fissures resulting therefrom; (6) the pain was no greater, and perhaps less, than with other methods of ligaturing; (7) there was absolutely no stenosis.

Temporary Artificial Anus.—Dr. James P. Tuttle, of New York, read this paper. He said that the indications for temporary artificial anus were: (1) Obstruction with removable cause; (2) in cases of excision of the rectum in which the sphincter was involved; (3) in intractable ulceration of the rectum; (4) in stricture of the rectum with large area of ulceration which did not readily yield to local treatment; (5) in neoplasms in the sigmoid and colon that could not be found through the rectum; (6) in malformations and imperforate rectums, in which the gut could not be easily found in the perineum; (7) in chronic membranous colitis; (8) in certain forms of recto-vesical, recto-vaginal, and recto-urethral fistulæ. With these numerous and clear indications, the operation was

comparatively seldom recommended because of prejudice against it, and the false impression that once one had an artificial anus he must always have it. Doctors hesitated to advise it, because they knew that by the older methods closure was uncertain, and more dangerous than the operation or the disease for which it was made. The operation advised was a modification of the Rectus-Maydl method. It was quick, simple, and effectual. The opening was a T-shaped incision so made that the transverse flap fell into the distal, and effectually closed it, while the two triangular ones rolled outward and curled up like a dry leaf, thus leaving free exit from the proximal leg of the convolution. No part of the gut was removed or destroyed. The closure was made by simply unrolling and suturing these flaps back into position, first with sutures through the mucous membrane and then with Lembert sutures of chromicized catgut. After the gut was thus closed, the partial parietal peritoneum was dissected away for an inch or more all around the abdominal incision, so that the gut would drop back into the abdomen, but not into the peritoneal cavity, thus eradicating the spur. The muscular fascia and skin were then sutured over the gut with silkworm gut.

Chronic Interstitial Proctitis as a Factor in Obstinate Constipation and its Radical Treatment.—Dr. J. Rawson Pennington, of Chicago, demonstrated that the sigmoid flexure in the distended state frequently extended into and occupied the right iliac fossa; he also gave conclusive evidence of the existence of the rectal valve and its structure. He claimed that deformity of the rectal valve and hypertrophy of its muscular layers were the two principal primitive causes of obstinate constipation. He exhibited his automatic valve clip for dividing these structures when pathological.

Demonstration of the Rectal Valves in the Living Subject.—Dr. Thomas Charles Martin, of Cleveland, Ohio, showed his method of proctoscopy. Without the use of an anæsthetic, by means of his chair the subject was put into a posture equivalent to the knee-chest posture, the rectum inflated, and its entire length exposed to direct view. The rectal valves were rendered conspicuously visible and palpable to the members of the society, and the fact of their existence was generally admitted.

Second Day—Thursday, May 3d.

The New Radical Operation for Valvular Obstipation.—This was described by Dr. Thomas Charles Martin, of Cleveland. He said that a normal valve might be effaced under the pressure of the test-hook. A valve situated on the fixed posterior wall of the rectum was much more obstructive than was one situated on the anterior wall, for the reason that the descent and backward excursion of the anterior rectal wall placed the fæces more securely in the pocket afforded by a posterior valve. A valve situated on the anterior wall, if of the same condition and dimension as one situated on the posterior wall, was less obstructive to defecation, for the reason that the backward and downward excursion of the rectal wall threw the fæces out of the valve pocket and over its free border. If the number of the valves was greater than the normal three, it could be readily understood that such an addition increased the obstruction. For instance, four or five relatively shallow valves placed close together were more obstructive than were two somewhat deeper valves if these two valves were placed at some distance from one another. Anatomical coarctation or physiological juxtaposition of the valves might contribute to the establishment of obstipation whether the valves were diseased or not. If two valves were so closely situated that their borders were seen to overlap, or if it was seen that on the patient's bearing down two valves then overlapped, it might be assumed that these valves constituted an obstruction to defecation. A valve situated at a direct right angle to the axis of the rectum was more obstructive than one that was obliquely situated. However, an oblique valve might contribute to the establishment of an obstruction in a transverse valve immediately below it, for the reason that the oblique valve might deflect the fecal column directly into the pocket formed by the next lower and transversely situated valve. The resistance which any given valve afforded to the test-hook, the propinquity of other valves to a given valve, and the direction of the valve next above a given valve, together with the number of valves in the rectum and the precise situation and direction of each valve, were all features which should be studied as possible component factors which contributed to the obstipation. Hypertrophy of the rectal valve due to a proctitis, local or general, was characterized by evident thickening of the free border of the valve. Fibrosis of the rectal valve was not characterized by an increased size of the valve, though its resistance to the hook might be as great as in the case of the hypertrophied valve. There was always noticeable in cases of valvular obstipation a very conspicuous redness of the mucous membrane, which began at the obstructing valve and extended downward toward the anus. The rectal mucosa above the obstructing valve was usually of pale complexion except in those cases in which there was invagination of the upper gut. Dr. Martin then outlined his operation for division of the valve, and detailed the precautionary measures to be employed to insure safety and secure success.

Mooted Questions in Proctology.—Dr. A. B. Cooke, of Nashville, called attention to a number of the more prominent points of disagreement among proctologists. These were: (1) Anatomy: the existence of the rectal valves was not yet generally admitted, when in truth they constituted the most conspicuous features of the normal rectum. (2) Physiology: many points in this connection were yet to be worked out. The mechanism of defecation was a much-disputed subject. (3) Pruritus ani: was this a disease or merely a symptom? The etymology of the term itself offered the readiest solution of the problem. Pruritus meant simply itching, and itching could not be regarded as other than a symptom. Though sometimes difficult to locate, the lesion which gave rise to it was practically always a macroscopic one. In searching for it the reflexes were to be borne in mind. (4) Simple ulceration: one prominent author (Mathews) stated that this disease located above the sphincter ani muscle was a very uncommon one. Dr. Cooke's experience had been the very opposite. The difference of opinion is probably due to different conceptions of the meaning of the word; properly considered, ulceration and ulcer were synonymous terms, and the rectal ampulla was a frequent site of such disease process. (5) Benign stricture: the author called attention to the different views held as to the frequency of syphilis as a causative factor. Sixty per cent. is far too high an estimate. The rectal valves have much to do in the etiology of this disease. (6) Cancer: discussion of this disease was limited to the question of the justifiability of colostomy as a means of prolonging life and giving comfort. As compared with the hypodermic syringe the author deemed it greatly to be preferred, and when total extirpation was impossible he strongly advised resort to this procedure.

Pruritus Ani, with Especial Reference to its Local Treatment.—Dr. Lewis H. Adler, Jr., of Philadelphia, read this paper. He said that it was important that the patient had a daily evacuation of the bowels, and, if necessary, medicines were to be

used for this purpose. In all cases, more or less varicosity of the hemorrhoidal vessels existed; at all events, he was in the habit of seeing the patient daily for a time, and he employed an injection into the cavity of the rectum of one, or two, or two and a half drachms of the following prescription: ℞ Fluid extract of hamamelis, fl ℥ i.; fluid extract of ergot, fluid extract of hydrastis, compound tincture of benzoin, āā fl ℥ ii.; carbolized olive or linseed oil, fl ℥ i. (carbolic acid, five per cent.). M. S. Shake well before using. The patient was advised, prior to using this injection, that a desire to have the bowels evacuated would occur as a result of its employment, but that if he would remain quiet upon the examination table, the sensation would quickly pass away. The entire surface around the anus for several inches outward was to be painted with a strong solution of nitrate of silver. If any break in the continuity of the skin existed as a result of previous scratching, a little of a two-per-cent. cocaine solution applied to the abrasion would prevent the suffering incident to the use of the silver salt. In his experience the use of a strong silver solution was not nearly so painful, under the circumstances surrounding its use in the class of cases under consideration, as the weaker solutions. So soon as the silver had dried and from the first visit and thereafter, the officinal citrine ointment or unguentum hydrargyri nitratis was smeared over the anus and the cutaneous surface of the parts for a distance of about two inches around the orifice. The ointment was used in its full strength. Over the salve was placed a wad of absorbent cotton, the quantity of cotton varying with the patient's wishes and comfort. The dressing was kept in place with a T-bandage. If the itching should annoy the patient during the night he was directed to bathe the anus with hot water, as hot as could be borne with comfort, but under no circumstances was he to rub the parts. He was also told that the application of the hot water would momentarily increase the itching, but that he was not to scratch. After he had used the water he was directed to use either a solution of black wash (lotio nigra) or, what was better in some cases, calomel ointment, either of which was to be applied locally to the affected parts.

Fistula.—Dr. George B. Evans, of Dayton, Ohio, read this paper. He said that the inefficacy of all remedial measures except the knife for curing fistula still remained unquestioned, unless by inaccurate observers. A fistula which was not due to ulceration and perforation of the rectal wall from within was the result of a previous abscess, due to an inflammation, and that the result of traumatism. He had sometimes found fistula due to caries of the lower portion of the sacrum and coccyx. He believed it to be a safe rule to operate on phthisical patients as upon others. During the past ten years there had been over six hundred phthisical patients admitted to St. Elizabeth Hospital, Dayton, Ohio; during the past six years he had operated upon one hundred and ninety-eight cases of various rectal diseases in the charity wards, of which forty-two had been for fistula; seven of the forty-two had been without doubt tuberculous. Two of the seven patients died after several months of comparative comfort.

Silver Leaf has been used in the Johns Hopkins and Bellevue hospitals as a dressing for burns, with satisfactory results.

Strangulated Hernia.—The parts about the tumor should be covered with vaseline, the patient placed upon the back, with the pelvis elevated and thighs flexed, and ether be poured or sprayed upon the constricted neck. This depletes the tissues and permits of reduction, previously impossible.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 9, 1900.

Eugene Hodenpyl, M.D., President.

A Case of Tubular Cast of the Bronchus.—Dr. Theodore C. Janeway presented this specimen. It had been coughed up by a middle-aged and very stout gentleman who had been sick for about ten days with what had been supposed to be the grippe. He had been apparently convalescent, when he had been suddenly seized with dyspnœa and increased fever. After some hours he had expectorated this cast, which was perfectly tubular and of about the size of the main bronchus. At its lower end it showed the beginning bifurcation into the smaller bronchi. The specimen not having been seen until it had been immersed for some time in alcohol, no cultures had been made. The man died a few days later, having exhibited signs indicative only of bronchitis with marked dyspnœa and cyanosis. On section, the cast showed a fibrinous exudate with numerous cell nuclei. Scattered through it were clumps of round-ended bacilli, which in their morphology and staining exactly resembled diphtheria bacilli. The speaker said that two cases had been reported before the London Pathological Society. One of these had been reported by Dr. Pye Smith in 1880. In this instance a woman had expectorated a cast of the trachea and primary bronchi. At the autopsy the trachea and bronchi were found lined with tubular casts. Rod-like bacteria were present. The other case had been reported by Dr. Murchison. A prominent laryngologist had seen the case just reported, so it seemed safe to assume that no evidence of diphtheria had been visible during life, though it was apparently a case of diphtheria of the bronchi.

Dissecting Aneurism of the Aorta.—Dr. H. S. Carter presented this specimen, which had been taken from a man aged eighty years, who had died some months ago in Bellevue Hospital from chronic interstitial nephritis. At the autopsy the condition in the aorta had been discovered accidentally, and for this reason the specimen was not in perfect condition. The dilatation of the aorta started from the sinus of Valsalva. The dissecting aneurism began at the junction of the descending part of the arch and thoracic aorta and continued through into both common iliacs. The left suprarenal was given off directly from the aneurismal sac, as was also the inferior mesenteric artery. Dr. Carter said that up to 1856 only eight cases had been reported; up to 1895 there had been seventeen, and by 1897 two hundred cases had been collected, including all dissecting aneurisms, but the greater part of these had been of the arch of the aorta. There was only one case on record in which the diagnosis had been made during life, and this had been confirmed by autopsy. It should be noted that the history of these cases had been pretty uniform—a history of sudden pain in the chest and back and shooting into the abdomen, but not radiating down the arm as in angina pectoris. There was also a feeling of something having given way. If the patient did not die immediately, there were œdema and other evidences of disturbed circulation.

Dr. James Ewing said that he had studied the specimen a good deal. At first it had appeared to be a case of true double aorta, largely because of the large vessels given off unquestionably from the aneurism. Though not familiar with the literature it seemed to him rather difficult to explain the separation of a trunk of the size of the inferior mesenteric from the aorta, and the subsequent canalization that had undoubtedly taken place in this case, if it was one of dissecting aneurism. A strong point in favor of dissecting aneurism was the presence of three openings

at the top of the sac. He asked if Dr. Carter had seen in his reading any description of the manner in which these large vessels were given off.

Dr. Carter replied that in looking over the literature of the subject he had found a number of similar specimens reported, particularly descriptions of the inferior mesenteric given off from the aneurismal sac.

A Case of Non-Traumatic Rupture of the Heart.—Dr. N. B. Potter presented this specimen, which had been removed from a large, stout woman, admitted to the City Hospital on February 28th. According to the history she had suffered for five or six years from bronchitis and asthma. Some time in last November a bronchitis had become more than usually troublesome, and she had begun to complain of pain in the left side and back, radiating to the shoulder and down the arm. When first seen by him on March 1st, she had been pale and cyanosed, and there had been much cough and expectoration. The physical examination had revealed nothing further than a diffuse bronchitis. The heart sounds were rather feeble. In spite of stimulation she became gradually more cyanosed, and finally died, about two weeks after admission. At the autopsy the pericardium had been found fairly full of blood, much of which was old and clotted. It was estimated that this represented about twenty ounces. A rupture was found in the left ventricle, a short distance from the interventricular septum. On the ventricular side was a large thrombus attached at the superior extremity. It formed a sort of valve and occluded the opening. Apparently the rupture had taken place some days before death. The wall of the ventricle was remarkably thin.

Dr. G. Langmann thought it was not at all uncommon for persons to live for days, or even weeks, after rupture of the heart. He referred to the case of a shoemaker who, while moving some furniture from one room to another, had been seized with distressing pain over the heart necessitating his going to bed. This pain had gradually subsided, and he had resumed his work. About two weeks later there had been a second severe attack of pain, and physical examination at that time had shown only slight increase in the cardiac dulness, and a feeble and small pulse. The patient had died about four hours later, and the autopsy had revealed not only the fresh rupture in the left ventricle, but an older rupture in the right ventricle. From its appearance and from the history this rupture had evidently occurred two weeks previously. Both ruptures were about midway between the apex and base of the heart. The walls were thin, but there was no marked fatty degeneration.

Three Cases of Tuberculous Peritonitis.—Dr. Leon T. Le Wald reported these cases and presented specimens. The first case was that of a man aged thirty-five years, who had presented at autopsy a tuberculosis of the seminal vesicles and of the epididymis on the left side. The tuberculous process had apparently started in the left epididymis and spread to the prostate. On opening the peritoneal cavity a small quantity of dark fluid had been found, and the peritoneum had been generally studded with tubercles of large size. Miliary tubercles were scattered over the peritoneum covering the intestine, and they were particularly abundant on the under surface of the diaphragm. There was also a rather recent miliary tuberculosis of the lungs. The oldest-looking lesions were in the region of the prostate and the seminal vesicles, though it was not at all unlikely that some small focus in the lung might have been the original process, but the peritoneal tuberculosis was secondary to the genital tuberculosis. The second case was that of a man aged fifty years, who had been treated for cirrhosis of the liver in the Roosevelt Hospital last December. He had been operated on with the idea of determining whether he had a tuberculous peritonitis or an accumulation of fluid entirely the result of the disease in the liver. The operation had revealed nothing more than the cirrhosis of the liver. On March 31st the man's abdomen had been tapped, and fluid removed, and this had failed to show any tubercle bacilli present. On April 4th he had died, and the autopsy had shown a well-marked tuberculous peritonitis. The lungs showed a chronic tuberculosis. The third case was that of a man aged thirty-five years, who had been suffering from alcoholism and cirrhosis of the liver. The autopsy showed a miliary tuberculosis of the peritoneum. A careful search had failed to show any other tuberculous process in the body, so that the case was considered to be one of primary tuberculosis of the peritoneum associated with a marked cirrhosis of the liver. While primary tuberculosis of the peritoneum was quite rare, it was somewhat less so when associated with cirrhosis of the liver, as shown by statistics published by Osler. Ziegler mentioned the occurrence of primary peritoneal tuberculosis, although the manner of its occurrence was not understood.

A Case of Addison's Disease.— Dr. Le Wald also presened specimens from a case of Addison's disease occurring in a woman fifty years of age. The case was typical, so far as the bronzing of the skin was concerned. The skin of the face and neck was of a very dark bronze, and the skin on the hands, wrist, and forearms of a somewhat lighter tint. The body was emaciated. The bronchial glands were markedly enlarged and pigmented. The heart was small and showed brown atrophy. The coronary arteries showed very slight arteriosclerosis. There were old adhesions about the stomach, liver, and spleen. In the large intestine were some cicatricial areas in the mucous membrane, apparently the result of some old ulcers. There were also a few lymphatic nodes which were apparently tuberculous. The right suprarenal was of about twice the normal size, and was adherent to the under surface of the liver. On section, it had been found to be almost entirely replaced by caseous masses. The left suprarenal was surrounded by a mass of adhesions, which bound it to the pancreas. A small abscess had formed between the pancreas and the suprarenal gland. Its contents were cheesy, and the suprarenal gland itself was largely replaced by cheesy nodules. Sections were exhibited under the microscope.

Dr. Carlin Philips asked, in the case of supposed primary tuberculous peritonitis, whether the small nodules contained tubercle bacilli or not. About four or five years ago Wagner described a form of fibroid peritonitis occurring in cases of cirrhosis of the liver which at times resembled in the gross appearance miliary tuberculosis. This condition was termed pseudo-tuberculous peritonitis.

Dr. Le Wald replied that one of the sections exhibited under the microscope showed typical tubercles, and he also had a specimen showing stained tubercle bacilli.

A Case of Papilloma of the Ovary with Secondary Deposits in the Peritoneum.—Dr. G. Langmann said that the president had exhibited at the last meeting one feature of the interesting specimen that he was about to present. The specimen had been taken from a woman seventy-three years old. He had known her for several years, and knew that she had a large tumor on the right side, apparently ovarian. Last October he had been called to see her because of a considerable enlargement of the abdomen. Inquiry showed that she had had a severe fall last summer, and that since that time her health had failed, and the abdomen had been increasing in size. When first seen the size of the abdomen had precluded thorough

examination of the abdominal organs. There was a very large, smooth tumor in the abdomen having a hard, blunt border running from side to side. On November 8th, the abdomen was tapped, and about five litres of clear, amber-colored fluid evacuated. Examination after the tapping showed one tumor about the size of a man's head on the right, and another about the size of a fist on the left side. Percussion showed that regular vesicular resonance ran into the tympanitic resonance of the colon. No trace of the liver could be found by percussion. A second tapping had been required in a short time, and bloody fluid had been removed at this operation. Shortly after the third tapping she died. The autopsy revealed an immense ovarian tumor on the right side, and a smaller one on the left side. The liver had not been visible on opening the abdomen. All of the ileum and the omentum were matted together. The vesical and parietal peritoneum was covered with small nodules, as was also part of the surface of the ovarian cyst. The ovarian tumor was a papillary cystadenoma, and some of the cysts were already suppurating. Microscopical examination of the nodules by Dr. Hodenpyl had revealed nothing but ordinary papilloma. When these cysts broke and scattered their contents over the peritoneum nodules developed from direct implantation, so that the result was practically like that of a malignant growth. The fall that this woman had experienced had probably caused a rupture of some of the cysts, and in this way he explained the decline in her health. The autopsy also showed numerous stenoses in the colon, probably as a result of long-continued pressure. They were interesting because of the absence of symptoms pointing to such a condition. The numerous diverticula along the colon had been exhibited by Dr. Hodenpyl at the last meeting of the society.

Dr. Philips stated that in the summer of 1896 Ziegler, of Freiburg, presented to his advanced class in pathology a similar tumor which histologically was a papilliferous cystadenoma of the ovary. He considered the tumor of very great importance, as it was histologically benign but clinically malignant and capable of metastasis.

Dr. Hodenpyl objected to looking upon the case just reported as a malignant growth. It was primarily a connective-tissue tumor, and therefore he would classify it as a benign tumor.

Dr. Langmann replied that one might make a distinction between clinical malignancy and microscopical malignancy. He thought no one would be justified in recommending the early removal of such a cyst because of the possibility of just such an accident as had occurred in this case.

A Demonstration of Nucleic Acid Extracted from Bacillus Tuberculosis.—Dr. P. A. Levene made this demonstration. The products exhibited had been procured from cultures made on synthetic media, *i.e.*, such as were composed of mineral salts and were free from proteid material. The speaker said that all of the nuclear compounds were composed of nucleic acid. Until recently it had been known only that they contained phosphoric acid, and that some of them contained xanthin bases. Only very recently had different nucleic compounds been recognized. It was natural to expect that cells producing diseases would probably store up this power of producing disease in the nuclei, and probably in the nucleic acid. Nucleic acid was more active than the nuclear compound itself. Last year he had presented a paper on the chemistry of the tubercle bacillus, and it was only since then that he had succeeded in devising a method which would enable him to obtain nucleic acid from any cell or tissue whatever. In the tubercle bacillus one found a free nucleic acid, and the nucleic acid in combination with proteid material. He exhibited two samples, one a copper salt obtained from the free acid, and the other procured from the combined nuclein. The acidity in the growth was due partly to the nucleic acid. This could be demonstrated by the fact that nucleic acid had the property of precipitating any proteid, as for instance peptone. The precipitation with peptone was demonstrated. It had occurred to him that this nucleic acid might be the cause of certain necrotic processes taking place around the bacilli.

On the Property of Precipitating Albumin Exhibited by Some Pathogenic Bacteria.—Dr. E. Libman said that he had been surprised to find that nearly all pathogenic bacteria he had tested could precipitate serum-albumin and egg-albumin in the presence of sugar. The result depended largely upon the amount of acid formed. This reaction occurred if only 0.1 per cent. of glucose was present, and this percentage was present in the blood normally. Pneumococci did not precipitate albumin at all. These facts might possibly be of interest in explaining some lesions, especially in diabetics. This study opened up interesting possibilities in connection with acid toxæmiæ in the human body. Dr. Bookman had examined these tubes for him, and had reported that there was no doubt about the precipitate being albumin.

Dr. P. A. Levene thought the reaction was due to the presence of free nucleic acid.

Dr. Libman said that if the acid was nucleic acid, he thought it should act even though sugar was not present.

On the Influence on Normal Animals of Blood from Animals Deprived of their Adrenals.—Dr. I. Levin made some remarks on this subject, and exhibited blood-pressure tracings. These tracings had been made to illustrate the influence on the blood pressure of injecting into a normal animal the defibrinated blood from an animal deprived of its adrenals five hours previously. The tracings showed a marked rise of blood pressure lasting for a considerable time. As a control, tracings were shown of the blood pressure of an animal who had received an injection of defibrinated blood from a normal animal. It showed that there was scarcely any perceptible rise of blood pressure following this injection. These tracings showed that the first injections resulted in a toxic condition. He thought the absence of the tonic action of the adrenals on the muscular and circulatory system was not sufficient to explain that fatal result of the extirpation of these glands.

Dr. Langmann said that some experiments had been made with the suprarenal extract in connection with snake poisoning. Guinea-pigs were particularly susceptible to snake poison, and these animals had almost no adrenal tissue. Suprarenal extract obtained from sheep or oxen was injected into the guinea-pig poisoned with snake poison. These animals showed a much greater resistance to the snake poison. Experiment had shown that only the suprarenals possessed this power. It might be that the effect of the suprarenal extract on the heart and blood pressure was in itself sufficient to account for this increased resistance in the animal without supposing that the product of the adrenals was an antitoxin.

Dr. P. A. Levene said that from the suprarenal a substance had been obtained which produced a tremendous rise of blood pressure. If one accepted the theory of internal secretions, then by removing the gland the substance causing this increase of blood pressure was removed, and the blood of the animal should not contain the substance which caused the rise of blood pressure. This was very different from what had been just described in the experiment of Dr. I. Levin.

On a Method of Photographing Slides.—Dr. Buxton exhibited some photographs taken by a method which he thought would obviate the necessity of using drawings.

Endotheliomata.—Dr. F. C. Wood read this paper, and exhibited a patient. This man had had a tumor in the parotid region for about five years. It had grown rapidly only during the past few months. The tumor was adherent to the deep fascia, and was almost cartilaginous. The object of the paper was to show that there was a class of mixed tumors characterized by slow growth for a long time, and then by a more rapid growth and a change in structure coincident with the change to malignancy. These tumors were derived from the endothelium. As the mesoderm and the tissues which it formed, notably the connective tissue, came from the tissues epithelial in character, certain embryologists insisted that all tumors so derived should be called epithelial tumors. Others contended that tumors arising from the endothelial cells of the peritoneum or pleural cavity or the lymph spaces should be known by the name of endotheliomata. Within a year two prominent foreign pathologists had taken opposite positions on this question. The speaker thought it was inadvisable to go back to the earliest stage of development, and that it was better to classify tumors according to their origin from the tissues as found at birth. A number of microscopical specimens were then projected on the screen by means of an electric lantern.

New Instruments.

DILATATION OF THE LACRYMAL PUNCTUM.

By J. R. SHANNON, M.D.,
NEW YORK.

A great many cases of epiphora coming under the care of ophthalmic surgeons are undoubtedly due to a constriction of the lacrymal punctum, and nothing more. This is not a very original piece of information, and yet in the treatment of the condition the causal element seems to be lost sight of frequently, for we find that in many clinics—and I doubt not in the private practice of many ophthalmologists—the appearance of a patient complaining of the familiar symptoms immediately suggests the canaliculus knife and lacrymal probe. Now, the slitting of the canaliculus probably does no great damage—although this is by no means unquestioned—but it is a mutilation, and an absolutely unnecessary one in the cases under discussion, while the use of the probe is often an offence against a perfectly healthy and uncomplaining duct.

Fig. 1.—Dilator.

Fig. 2.—Syringe.

For some years I have relieved the symptoms arising from atresia and constriction of the lacrymal punctum, as well as of the canaliculus, by dilating both with a small steel dilator, and syringing thoroughly with some mild lotions—boric acid, alum, or weak bichloride. Nor is this treatment startlingly new, for we find it or something like it advocated in most text books on ophthalmology—notably, for instance, by Theobald, in his article in Norris and Oliver's System. But it is not practised at all generally, and why it is not is difficult to explain. To particularize briefly for those who may need it: the dilator which I employ is sufficiently pointed to enable it to enter any punctum not absolutely closed, and yet not sharp enough to wound the conjunctival mucous membrane when carefully used. I sit in front of the patient as a rule, though if the patient is restless, or for any reason the manipulation is difficult, I stand behind the head as for passing the lacrymal probe. If the punctum is quite closed, the point of a Graefe knife may be used to facilitate the entrance of the dilator. The dilator is conically shaped for about one inch of its length; and after having opened the punctum by its being held vertically and gently pressed downward, it is shifted to the horizontal and the point passed well along the canaliculus, the lid meanwhile being held on the stretch by the thumb of the left hand, the punctum dilating as it passes up over the expanding instrument.

The syringe is not unlike an ordinary hypodermic as to the barrel, but the tip is of pure silver, easily bent, and with a slightly bulbous end. The object in having the syringe small is that it does not drag the canaliculus, does not hurt the patient, can be managed with one hand while the other steadies the lid, and at the same time is capable of all the force that is necessary and carries quite enough lotion. I sit in front of the patient always when using it, chiefly that I may see for myself whether the fluid passes freely into the nose. I think this is important, because I have become convinced that patients will frequently declare that the fluid has gone through when it has not, in order to avoid further treatment, especially if it is uncomfortable, and, secondly, because it is unpleasant to have boric or alum lotion syringed into a pharynx which does not want it; whereas with the floor of the nose inclined forward this is avoided, and the operator sees at once the result of his treatment.

My only reason for communicating this note is to draw attention to a very simple method of relieving a simple condition—a method which has proved most satisfactory and convenient in my hands. Of course, when there is an obstruction in the duct the probe must be used—but that is another story.

20 West Thirty-fifth Street.

LINGUAL TONSIL SCISSORS.

By J. H. MORRISON, M.D.,
ST. JOHN, N. B., CANADA.

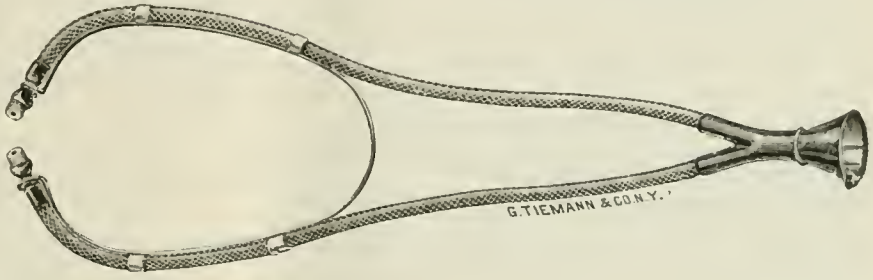
I know of no more awkward predicament into which the throat-surgeon can get himself than, during an attempt to remove a large hypertrophied gland at the base of the tongue with any of the ordinary snares, to find that, after he has engaged the hypertrophied mass in the wire loop, no amount of traction is sufficient to make the wire cut through the tough, fibrous pedicle or base of the tumor. The snare is fast fixed *in situ*, and he can neither complete the excision nor remove the instrument; the patient becomes terrified, gags, chokes, coughs, and often vomits the contents of his stomach into the operator's lap, while every motion of himself or of the operator aggravates his discomfort and increases his alarm.

With the Bosworth snare it is quite impossible to disengage the contracted loop without detaching the proximate ends of the wire from the finger rings, cutting off the twisted portion, and forcibly pulling the instrument away, leaving the wire still fast to the gland. Then one or perhaps two fingers must be inserted into the patient's throat and the wire unhitched from the gland—a difficult and awkward proceeding. If the operator prefers to take up the slack wire and cut the loop in the mouth with a pair of wire-cutters, the cut ends of the loop fly upward and stick into the soft-palate, tonsils, or even up into the naso-pharynx, every motion of the patient's tongue causing him the greatest distress and discomfort. Then the operator must insert his fingers and remove the cut loop, and admit a failure. The chances are that he will never again get a snare into that patient's mouth.

Even with the end-loop snare, in which the loop of wire may be quickly pushed out of the cannula, the greatest difficulty is experienced in removing it from the half-severed pedicle or base.

Generally the fibrous base cannot be cut through by traction made with the fingers; and the nut, wheel, screw, and ratchet attachments are quite useless.

To meet such an emergency, which sooner or later comes to every throat surgeon, I have devised the lingual tonsil scissors shown in the cut. When it is found that the gland cannot be cut through by finger traction upon the snare, the throat mirror is discarded, the scissors are inserted, the points guided by the forefinger of the left hand, and the gland is snipped off with the wire still engaging it. The patient considers it an essential part of the operation, and the whole difficulty is over in a moment. The forefinger should be pushed quickly along the dorsum of the tongue under the cannula until the wire and gland are reached, and the scissors, passed under the finger, cannot fail to reach the exact desired spot. As the parts have been locally anæsthetized, the quiet but rapid introduction of the finger gives the patient no discomfort or concern. With a cool, collected patient, who will continue to pull forward the tip of the tongue, the snare may be passed to the left hand, the tip of the cannula somewhat elevated, bringing the base of the tongue into view, when the contracted pedicle may be quickly severed without the necessity of passing the finger into the mouth.



The instrument, as shown in the cut, is in reality a combination of the Asche septum forceps and the common curved uvula scissors. Beyond the pivot the curve is somewhat less than that of the snare cannula and loop. The shanks are separated and rounded to avoid the possibility of engaging and wounding the dorsum of the tongue. This is an essential point in the construction of the instrument, for the patient is apt to let go his tongue and pull it back into his mouth, where, being arched, it would be sure to get between the cutting blades if they extended back to the pivot. The cutting edges are half an inch long and concave, so that the pedicle cannot escape when they are closed upon it. The tips are blunt and slightly rounded inward toward the cutting line to avoid the possibility of wounding the epiglottis, which might be thrown up against them should the patient gag or cough during their introduction. The handles are long, so that the operator's right hand is quite free and entirely outside of the patient's mouth.

In favorable cases in which the glands are large they may be excised with the scissors without having recourse to the snare at all. In these cases the scissors are, of course, used in conjunction with the throat mirror.

AN IMPROVED STETHOSCOPE.

By MARK I. KNAPP, M.D.,
NEW YORK.

The present stethoscope is an improvement on my first one, a description of which was published in the Medical Record, November 9, 1895, in so far only as the lessened cost is concerned; the quality remaining the same, although the shape and make-up differ.

The principle of this stethoscope is to do away with the humming and buzzing and incidentally to magnify the volume and the quality of the sounds. To effect this I assumed that the annoying sounds came not from within the instrument, but from without, from the atmospheric waves propagated to our ears by the ordinary metallic ear-parts of all other stethoscopes. The solution of the problem was to have a bad sound conductor, rubber, cover a good sound conductor, metal, by which combination I produced an ideal material for a stethoscope.

To lessen the cost of the instrument I have dispensed with its solid metal and rubber covered proximal parts. The present stethoscope then consists of: (1) The distal part, the chest piece, made of metal and covered with rubber; (2) ear-tips, and (3) flexible tubing which intervenes between the chest and the ear-tips. This flexible tubing consists of a spiral wire whose individual rings are so closely apposed to one another as practically to form a metal tube; this is covered with soft-rubber tubing and then spun over with silk. The ends of the ear-tips have soft-rubber covers whose object it is to prevent painful pressure. To give this stethoscope firmness and springiness, a nickel-plated steel spring wire, of sufficient length and breadth to allow the head to move freely, runs from ear-tip to ear-tip; two nickel-plated rings, a quarter of an inch wide and three inches apart, are soldered on to the spring wire about three inches from its ends; the purpose of this is to hold the flexible tubing and give the proper shape to the instrument.

The excellence of this instrument as to its quality in doing away with the buzzing and humming sounds peculiar to all stethoscopes, at the same time increasing the power of the instrument, cannot fail to recommend it to the medical profession.

Elbow-Joint Fractures, especially the intercondyloid in children, should not be treated by too early nor too forcible passive motion.

Medical Items.

Prehistoric Bacteria.—Owing to the ephemeral nature and to the exceedingly small size of bacteria, it would seem wellnigh impossible to study the minute forms which assuredly must have existed ages ago. Two French investigators, B. Renault and C. E. Bertrand, have, however, microscopically examined several varieties of anthracite coal and partially carbonized wood, and believe they have discovered petrified bacilli. Renault has even designated several of his species by name (micrococcus carbo, bacillus carbo, bacillus colletus). He advances the theory that these bacteria have effected the transformation of wood cellulose into coal, a theory which is decidedly opposed to our conception of the carbonization of wood. Bacteria, according to Renault, would therefore be most powerful factors in the geological development of the world.—*Scientific American.*

The Open-Air Treatment of Consumption in Southern Brittany.—The open-air marine treatment for consumption has been practised, says an English weekly journal, with success for several years in Southern Brittany. The Pen-Bron Hospital is famous for its cures. It is used mainly by working-people, the cost of maintenance being defrayed by the local authorities by whom they are sent. Its success has led to the creation of a magnificent private institution at La Baule, a few miles away, for well-to-do patients who can afford to pay for treatment. The new hospital, which is built of granite, looks out upon the sea from beautiful grounds, surrounded by evergreen pine forests. It has been fitted out on a luxurious scale, with a special system of drainage. The hydropathic department comprises hot and sea-water baths, seaweed baths, electric brine baths, and hot-air baths, together with vapor, douche, rain, shower, and medicated baths.

Consumption of Alcohol in France.—In France much dread is being expressed at the steadily growing increase in the consumption of alcohol, and a vigorous crusade has been inaugurated against its excessive use. Not only is alcohol prohibited in military canteens but in civil circles. An effort is being made to secure the registration of deaths directly traceable to alcoholism under this head.

Famine in India.—The reports of the Indian famine, says the London *Spectator*, continue to be heartbreaking. The number of persons on the relief works is now five million seven hundred thousand, and the deaths from fever, cholera, and the diseases promoted by starvation will affect the next census. Mr. Klopsch, the American gentleman sent to distribute American subscriptions, draws a horrible picture of the sufferings of children in Guzerat, whose bodies are often eaten by dogs; and in Rajpootana, Kathawar, and indeed the whole Bombay Presidency the mortality is frightful.

Average Ages of Various Groups.—A general summary of the following groups and individuals shows that the average duration of life has been about sixty-eight years and eight months: 46 poets average 66 years, 39 painters and sculptors 66 years, 30 musicians 62 years, 26 novelists 63 years, 40 men of letters 67 years, 22 religious 66 years, 35 women 69 years, 18 philosophers 65 years, 38 historians 65 years, 58 scientists and inventors 72 years, 14 agitators 69 years, 48 commanders 71 years, 112 statesmen 71 years.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended July 14, 1900:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia, Washington	July 1st to 7th	4	
Florida, Jacksonville	July 1st to 7th	1	
Illinois, Cairo	July 1st to 7th	7	
Indiana, Evansville	July 1st to 7th	1	
Iowa, Des Moines	June 1st to 30th	3	
Kansas, Wichita	July 1st to 7th	9	
Kentucky, Covington	July 1st to 8th	13	
Louisiana, New Orleans	July 1st to 7th	18	5
Maryland, Cumberland	July 1st to 7th	5	
Massachusetts, Fall River	July 2d to 9th	2	
Michigan, Jackson	July 1st to 7th	1	
Minnesota, Minneapolis	June 8th to 30th	20	1
Nebraska, Omaha	June 23d to 30th	3	
N. Hampshire, Manchester	July 1st to 7th	1	
New York, New York	July 1st to 7th	1	
Ohio, Cincinnati	June 30th to July 6th	6	
Cleveland	July 1st to 7th	37	
Pennsylvania, Pittsburg	July 1st to 7th	1	
Utah, Ogden	June 1st to 30th	6	
Salt Lake City	July 1st to 7th	1	
Virginia, Roanoke	June 1st to 30th	22	2
Washington, Tacoma	June 23d to 30th	1	
West Virginia, Charlestown	July 7th	4	
Smallpox—Foreign and Insular.			
Austria, Prague	June 16th to 23d	5	
Egypt, Cairo	June 10th to 17th	1	
England, Liverpool	June 16th to 23d	1	
London	June 16th to 23d	13	
France, Bordeaux	May 1st to 31st	..	2
Paris	June 16th to 23d	..	1
Greece, Athens	June 16th to 23d	10	6
India, Karachi	June 3d to 10th	8	7
Madras	May 26th to June 1st	..	1
Mexico, Chihuahua	July 1st to 7th	..	1
Vera Cruz	June 23d to 30th	..	5
Philippines, Manila	May 10th to 26th	1	
Porto Rico, Ponce	June 8th to 23d	1	
Russia, Moscow	June 8th to 16th	19	2
Odessa	June 16th to 23d	2	1
St Petersburg	June 16th to 23d	27	16
Warsaw	June 8th to 16th	..	2
Straits Settlements, Singapore	May 19th to 26th	..	1
Yellow Fever.			
Colombia, Barranquilla	June 16th to 23d	7	3
Cartagena	June 14th to 21st	5	5
Panama	June 25th to July 2d	..	1
Cuba, Havana	June 20th to 30th	..	?
Santa Clara	June 20th to 25th	4	
Cholera.			
India, Madras	May 26th to June 1st	..	2
Plague—Foreign and Insular.			
Egypt, Port Said	April 20th to June 18th	75	32
India, Karachi	June 3d to 10th	13	13
Japan, Osaka	June 2d to 12th	6	
Shidzuoka Ken	June 2d to 12th	2	
Philippines, Manila	May 12th to 26th	7	4
Turkey, Smyrna	June 6th to 21st	5	

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DISEASES OF THE CHEST, THROAT AND NASAL CAVITIES. By E. Fletcher Ingals, M.D. 8vo. 765 pages. Illustrated. William Wood and Company, New York.

EDINBURGH HOSPITAL REPORTS. Edited by G. A. Gibson, M.D., C. W. Cathcart, M.A., John Thompson, M.D., and D. Berry Hart, M.D. 6 volumes, 8vo. Illustrated.

TWENTY-THIRD ANNUAL REPORT OF BOARD OF HEALTH OF STATE OF NEW JERSEY, 1899. 8vo, 432 pages. Illustrated.

FORTY YEARS IN THE MEDICAL PROFESSION, 1858–1898. By John Janvier Black, M.D. 8vo. 498 pages. J. B. Lippincott Co., Philadelphia.

MEDICAL AND SURGICAL NURSING. By H. J. O'Brien, M.D. 12mo, 287 pages. G. P. Putnam's Sons, New York.

DISEASES OF THE EYE. By Edward Nettleship. Revised and edited by William Campbell Posey, M.D. 12mo, 560 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

A MANUAL OF OPERATIVE SURGERY. By Lewis A. Stimson, M.D., and John Rogers, Jr., M.D. 12mo, 589 pages. Lea Brothers & Co., Philadelphia.

ATLAS AND EPITOME OF SPECIAL PATHOLOGICAL HISTOLOGY. By Hermann Durck, M.D. Translation from the German by Ludvig Hektoen, M.D. 12mo, 158 pages. Illustrated. W. B. Saunders, Philadelphia

FRACTURES. By Carl Beck, M.D. 8vo, 335 pages. Illustrated. W. B Saunders, Philadelphia.

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Original Articles.

CHORIO-EPITHELIOMA MALIGNUM.

BY B. S. TALMEY, M.D.,

NEW YORK.

THE study of the new growth called chorio-epithelioma malignum has not cast as yet full light upon the pathology of this interesting tumor. It is therefore desirable to put on record all recognized cases. The succinct history of our present case reads as follows:

In the first days of July, 1899, the autopsy of a woman, with the clinical diagnosis "anæmia," was performed in the pathological institute of the University of Zürich. The woman was delivered in April, and had had since her confinement a light bloody uterine discharge. The rough, lacerated, papulous appearance of the surface of the uterine mucosa of the

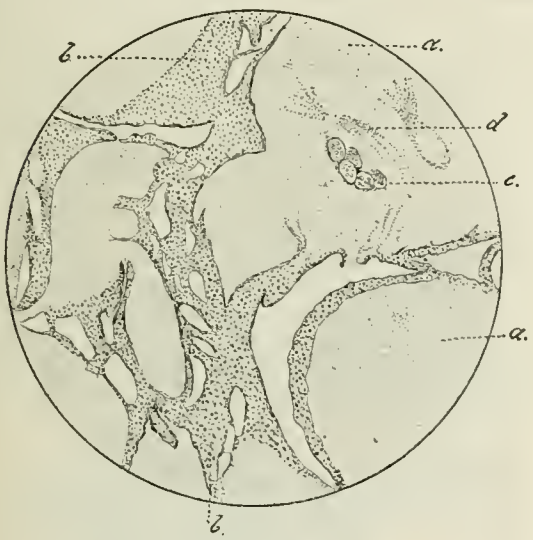

FIG. 1.—*a*, Fibrinous masses; *b*, syncytial masses; *c*, nests of wandering cells of Langhans' layer.

posterior wall, giving the impression of the yet preserved placental site, three months after delivery, caused Professor Ribbert, the director of the institute, to hand me over the uterus for microscopical examination:

The uterus, 13 cm. in length, is somewhat thickened, the posterior wall measuring 2 cm., the anterior 1 cm. The peritoneum is intact. The uterine cavity is somewhat enlarged. The mucosa of the anterior wall gives the aspect of a simple endometritis. At the posterior wall, occupying almost the whole surface of the fundus, a triangular mass is seen growing from the wall and projecting forward into the uterine cavity. The tumor is fungiform in appearance, resting on a broad base (diameter 2½ cm.) in the uterine mucosa, the latter arching over the tumor for some distance. The surface is rough, lacerated, and papulous. The color is reddish-brown. The uterus was fixed in Zenker's fluid, and then slices involving the whole thickness of the uterus were taken from the anterior and posterior walls, hardened in alcohol, cut partly in paraffin, partly in celloidin, stained with hæmatoxylin-eosin and hæmatoxylin-Van Gieson, and mounted in Canada balsam.

FIG. 2.—Portion of Fig. 1, More Magnified to Show the Nests. *n*, Ectodermal cell-nests; *r*, red blood globules.

The bright rose-red stained masses of the tumor can be noticed with the naked eye, occupying half of the uterine wall and reaching almost to the vascular interval between the circular and longitudinal muscular coats. The circular coat has either totally disappeared or is represented by mere remnants. The blood-vessels appear greatly enlarged.

The microscopical examination shows the bulk of the tumor to consist, first, of irregular, branching, multinucleated, trabecular masses, which are distinguished by darkly stained protoplasm. Yet the greater part of the tumor is changed into very dense fibrinous, coagulated masses of irregular outline, enclosing spaces of various shape. At the apex of the tumor the uterine mucosa has entirely disappeared, the fibrinous masses reaching the uterine cavity. At the opposite side the fibrin is closely adherent to the uterine muscles, sending long offshoots into the remnants of the circular layer, upon which it seems to encroach. At some points within the fibrinous masses epitheloid cells, ectodermal cells of Langhans' cellular layer, are seen either single or in small groups of two to three. They are lying in lacunæ of the fibrin. Some of the cells are in a state of degenerative metamorphosis, showing only outlines of cells. Other

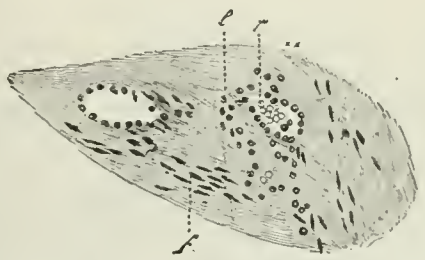

FIG. 3.—Portion of Fig. 2 at *xx* to Show the Residua of the Cellular Elements within the Fibrin. *l*, Lymphocytes; *r*, red blood globules; *f*, spindle-shaped nuclei.

cells are in various states of degeneration. The cells yet normal appear to have only for a time survived this degenerative fate. The fibrin gives us the impression of being the hyaline metamorphosis of these degenerated cells. After careful search some cells

were found lying in larger heaps and adhering together without any intercellular substance. They are surrounded by a circular layer of dense fibrinous tissue,

Fig. 4.—*a*, Fibrinous masses; *b*, syncytial masses; *c*, ectodermal cell; *d*, disintegration of a uterine gland.

giving the appearance of an alveolar sarcomatous tissue; the epithelioid cells are the large granular wandering cells and stain less than those derived from the glandular epithelium. The cell bodies are almost colorless. They are irregularly oval in outline and have usually a single large, well-stained nucleus containing a nucleolus. A few are larger, more granular, and multinucleated. The cells are less individual in the large patches within the alveolus; otherwise there is no difference between them and the single cells scattered within the fibrin. Some cells within the alveoles show mitotic changes. They have not yet entirely lost their proliferating-power.

The large irregular spaces between the fibrinous masses are mostly occupied by the syncytial multinucleated mass of protoplasm without recognizable cell boundaries, as above alluded to. The nuclei are oval, round, or polyhedric in outline; some are spindle-

Fig. 5.—Portion of Fig. 4 at *x*, More Magnified to Show the Nests.

shaped or triangular. The masses lie usually at the margin of the fibrin. The structure is trabecular with processes running off in various directions, making the thick fibrinous trabeculæ appear to be embedded in the syncytial mass. The nuclei of the syncytial masses resemble the connective-tissue nuclei, but are greatly increased in size. The greater part of them resemble enlarged lymphocytes. Some nuclei are surrounded by a light area so as to make a cellular structure appear within the syncytium. The protoplasmatic area appears often homogeneous and hyaline, resembling in color the fibrinous mass.

On both sides of the tumor only a hyperplasia of the mucous membrane is to be noticed, showing an increase of the interglandular connective-tissue cells and a greater widening of the glands. The change of the glands at the edge of the syncytial masses is extremely characteristic. The epithelial cells alter first their cylindrical shape, becoming larger and changing into spherical or cuboidal elements with a central nucleus and a very narrow zone of protoplasm. They soon commence to proliferate, and instead of a single layer several layers are now lining the glandular cavity. In this stage the nucleus is very little enlarged, with a very small, scarcely recognizable margin of protoplasm. The glandular epithelium then breaks down, the cells lying in patches within the glandular cavity, while some of them still adhere to the wall. Finally they detach themselves entirely from the wall and lie irregularly scattered around the former gland's cavity, resembling enlarged lymphocytes. The disintegrated cells are irregular in outline with a round, darkly staining nucleus. Their bodies stain slightly with eosin and appear to be in a stage of hyaline metamorphosis. These aggregations of epithelial cells send out shoots into the syncytial masses. On their way the nuclei lose entirely their narrow marginal protoplasm and fuse finally with the syncytium. I failed to find any decidual cells anywhere.

Fig. 6.—Portion of Fig. 4 at *x.x*, to Show the Disintegration.

The intermuscular connective tissue is somewhat thickened. The uterine blood-vessels in the interval between the remnants of the circular layer and the longitudinal layer are greatly dilated. Especially the media is much thickened, but the looser layer, the adventitia, is also changed. The endothelium seems to be normal. In some transverse sections I was able to recognize syncytial masses within the vessel's lumen.

From the description it is seen that this case agrees in most particulars with those already recorded. It represents the early beginning of a malignant growth. By far the greatest part of the tumor appears to be a pure product of a coagulation as described by Marchand.[1] In his case the small nodule consists also of coagulated products. There can be no doubt that the tumor is a pure case of chorio-epithelioma malignum, The plasmodial syncytial masses were always characterized by three points: (1) absence of cell-outline, (2) deeply staining nuclei, and (3) vacuolation. These three characteristic points are found in our case in the masses surrounding the fibrin. The essen-

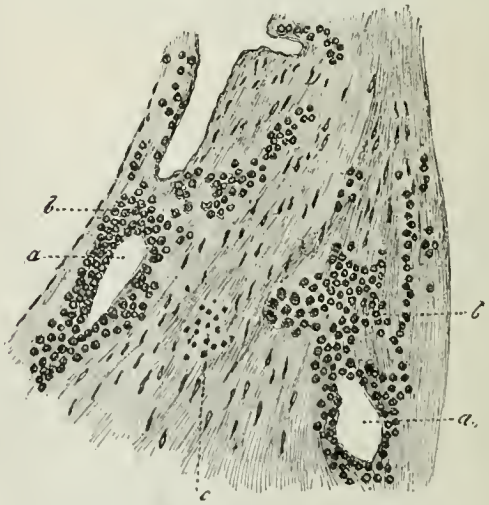

Fig. 7.—Showing the Change of the Glandular Epithelium into Syncytial Masses. *a*, Glandular cavity; *b*, broken-down epithelial cells; *c*, lymphocytes.

tial part of deciduoma, says Pfannenstiel,[2] is the large polymorphic, multinucleated, darkly staining protoplasmatic masses, which were found by all the authors

and which are partly derived from the syncytium. The protoplasmatic masses in our case are also multinucleated and darkly staining. They are partly seen in coherent chains, partly dissolved into single individuals as Freund[3] characterizes them. Freund found also that in the malignant chorionic growths the syncytial proliferation does not always penetrate the tissue in form of coherent chains, but dissolves into single individuals, which are lying either isolated or in heaps near each other. Besides numerous large multiform cells, the syncytial wandering cells are also found in our case dispersed through the fibrinous tissue and at some points in larger aggregations. There is therefore no doubt that the tumor is composed of the two elements which form the normal epithelium of the chorionic villi, of syncytium and ectodermal cells. The tumor is further characterized as malignant by its completely destroying the muscular fascicles to the entire depth to which it invades the uterine wall.

A few words will now suffice about the strange presence of the enormous fibrinous masses. Marchand considers this coagulation to be the first stage in the formation of the tumor. I, on the other hand, am inclined to think it is the last stage in the process. Hyaline metamorphosis is generally a sign of degeneration and not of proliferation. I perfectly agree, therefore, with Gottschalk,[4] who found that the farther the villi penetrate the wall of the uterus, the more the superficial parts are separated from their nutritive soil and suffer a speedy necrosis. This necrosis may easily assume larger dimensions. Even the whole nodule can be affected by it. In our case the hyaline degeneration is also considerably more advanced in the deeper than in the peripheral portions of the tumor. This necrosis would thus represent nature's attempt at healing, as the formation of colloid in carcinoma colloids. She fails, because the yet living syncytial masses continue to proliferate, destroying everything in their advance.

As to the origin of the fibrin, it seemed to me that the large ectodermal cells stand mainly in close relation to the formation of the fibrin. I will not deny the possible participation of the syncytial masses in this formation. I have often found a hyaline degeneration in the round granular cells, with obvious division into nucleus and surrounding protoplasm derived from the glandular uterine epithelium. The narrow margin of protoplasm becomes more homogeneous, appearing hyaline and glistening and greatly resembling in color the fibrinous masses. Minot's[5] observations show also conclusively that the canalicular fibrin arises through a degenerative metamorphosis of the epithelium, which begins in the outer layer and may invade the inner layer, the cell layer of Langhans. In the large patches the cells are less individual, owing to the spread of the process of degeneration into the layer. But the presence of the polyhedral, large granular wandering cells irregularly spread through the fibrinous masses makes the view more acceptable, that the fibrin is mainly the product of the degenerated cells of Langhans' layer, and the outlines of cells that are still plainly recognizable, show the various degrees of the process of degeneration (compare Fig. 8).

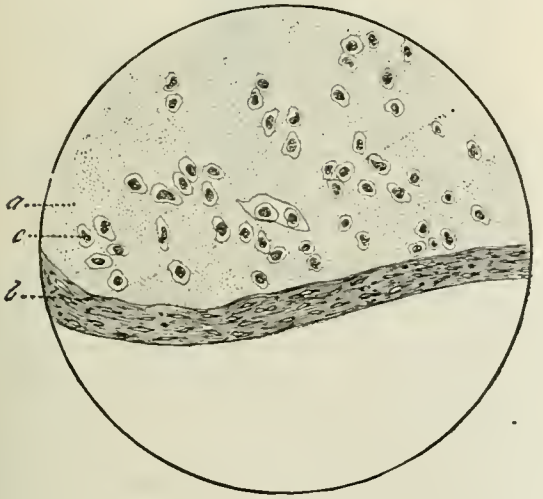

Fig. 8.—Showing the Degenerative Metamorphosis of Langhans' Cells into Fibrin. *a*, Fibrin; *b*, syncytium; *c*, ectodermal cells.

The disintegration of the glandular epithelium and its change into syncytial masses, as seen in our case in spots near the tumor, are especially instructive. The epithelium is found in various stages of conversion into syncytium. It can be noted how the cylindrical cells become cuboidal and oval in shape. They soon break down. Each cell is cleft from its fellows, and some of them, loosened from the wall, lie free in the glandular cavity. Finally they fuse together and dissolve in the syncytial masses. I have therefore no doubt to attribute the origin of the syncytium to the glandular uterine epithelium. Turner[6] assigns the deep layer to the chorion as its true and only epithelium and the outer layer to the uterus. But after accepting the outer layer as maternal the question as to its origin still remained. Marchand[7] is of the opinion that the syncytium can be traced back to the changed uterine epithelium or to the outer epithelial layer of the chorionic villi that is derived from the former. Kossman[8] says: There cannot now be any doubt that the syncytium is nothing else than the changed uterine epithelium, changed by an obliteration of the cell-boundaries. Selenka[9] also found that the villi of the chorion invade the uterine glands and in further advancing receive the flattened glandular epithelium as a second layer for their investment. In our case I failed to recognize true chorionic villi anywhere, yet the glandular epithelium continues to change into syncytium. This atypical formation shows the malignancy of the tumor; the glands continue to furnish syncytium as an investment for villi that are no more in existence.

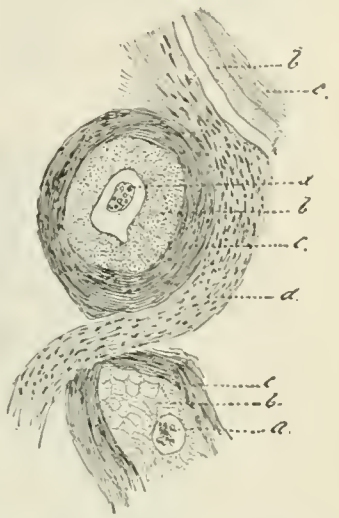

Fig. 9.—Showing a Uterine Vessel in the Interval between the Circular and Longitudinal Muscular Layers. *a*, Syncytial mass within the vessel's lumen; *b*, enlarged media; *c*, adventitia; *d*, perivascular connective tissue.

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Amputation of the Tonsil is good treatment for foul breath originating in decomposing secretions in the crypts.—Fraenkel.

HYPOSPADIAS OPERATED ON BY BECK'S METHOD.[1]

By FERD. C. VALENTINE, M.D.,

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THE hypospadias in this case was penile; the urethra opened half an inch below the glans. The glans

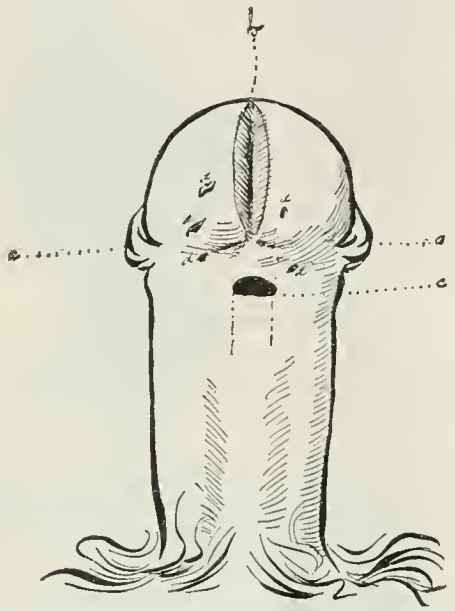

FIG. 1.—Front View. *a*, *a*, Prepuce partly encircling the glans; *b*, sulcus taking the place of the fossa navicularis; *c*, abnormal urethral orifice; *d*, *d*, *d*, *d*, openings of para-urethral fistulæ.

itself appeared normal, except when its lower halves were separated; this then revealed them to be ununited, a deep, wide sulcus occupying the place of the fossa navicularis (Fig. 1). Five para-urethral fistulæ opened irregularly about the urethral opening and the glans.

On inserting a sound into the urethra, the relations became more evident and the glans seemed almost an

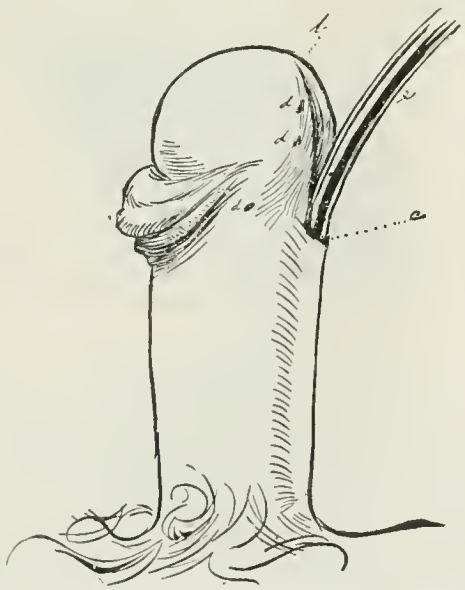

FIG. 2.—Lateral View. *a*, Prepuce forming a ruff about the posterior part of the penis; *b*, sulcus in place of the fossa navicularis; *c*, abnormal urethral orifice; *d*, *d*, *d*, para-urethral fistulæ; *e*, sound inserted into the abnormal urethral orifice.

independent attachment to the penis (Fig. 2). As the treatment of this case demonstrates the typical Beck operation for hypospadias, it will be well to recite each step of the procedure as it was performed:

An incision was carried from the centre of the abnormal urethral opening, through the skin, to the posterior third of the pendulous portion. At the upper end of this incision another was made through the skin, encircling the lower third of the neck of the penis, immediately below the coronary sulcus. The skin-flaps so obtained were dissected back to expose the lower third of the penis. Then the urethra, together with its corpus cavernosum, was dissected from its bed between the corpora cavernosa penis (Fig. 3). A narrow, straight bistoury was then thrust through the glans (Fig. 4) from below upward and well behind the sulcus which normally would have been the fossa, making a new meatus about a quarter of an inch behind the topmost angle of this sulcus. The point of emergence of the knife was enlarged by turning it to the right and the left, making an incision at each side.

After the knife was withdrawn, a long, narrow forceps was passed from above through the channel and the urethra grasped (Fig. 5).

Owing to the longitudinal extensibility of the urethra, first described by Beck, it was rather easy to

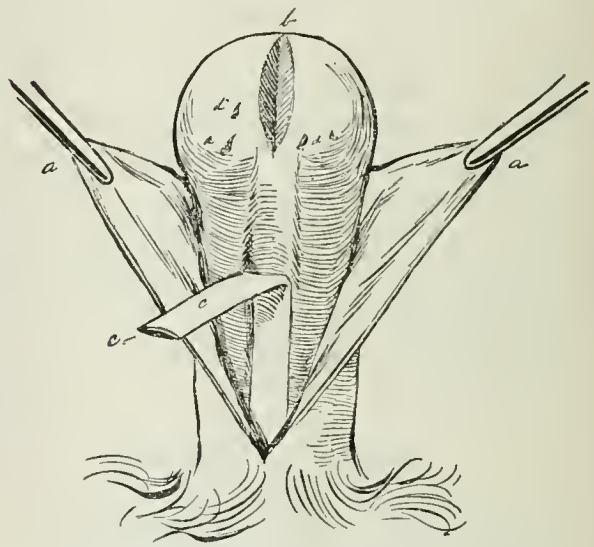

FIG. 3.—First, Second, and Third Steps of the Beck Operation for Hypospadias. *a*, *a*, Skin flaps dissected from the lower surface of the penis; *b*, sulcus in the glans; *c*, *c*, urethra dissected out; *d*, *d*, *d*, para-urethral fistulæ, disregarded during the operation.

NOTE: The skin flaps (*a*, *a*) appear in this illustration somewhat more widely dissected from the penis than they were in reality.

draw the freed end of the urethra through the channel perforating the glans and to attach its opening by means of four sutures to the new meatus. In so doing the glans was somewhat crushed forward, thus obliterating the deep sulcus which had occupied the place of the fossa navicularis. The para-urethral fistulæ were disregarded during the operating.

After attaching the end of the urethra, as before described, the flaps beneath the glans were sutured into their former position.

On the third night after the operation, the patient had a seminal emission, during which one of the stitches at the meatus was torn out of the tissues. Another was substituted for it and the healing thereafter was eventless.

The site of the incisions was at first infiltrated, as would naturally be expected. The consequence was that erections were incurvated at an angle formed by the glans and the penis. This infiltration gradually yielded to dilatations of the anterior third of the urethra, so that now, two months after operation, the patient reports his erections as entirely painless and with not enough incurvation remaining to prevent intromission in coitus (Fig. 6).

[1] Demonstrated before the Genito-Urinary Section, New York Academy of Medicine, April 18, 1900.

The para-urethral fistulæ, which were disregarded during the operation, closed spontaneously. No vestige of them is now visible. The mental depression of the patient, due to the continued consciousness of deformity, has also disappeared.

In attributing this ingenious operation to Carl Beck, of New York, I am not actuated solely by patriotism. The special facilities that were so kindly afforded me for study and observation by the great men of Germany, France, and England would preclude my being ungrateful, by insisting otherwise than that science has no country. Moreover, Beck needs no champion to advocate his cause. But I may be allowed to avail myself of this occasion to protest against the all too prevalent tendency that exists to "originate" an operation, a method, or an instrument which another has fully described before. In such secondary "discoveries," the real originator is most egregiously ignored. Sometimes the new "originator," who was present at the first demonstration, or studied the first publication of the one who devised the novelty, adds to it a useless or deleterious suppendage; it would be charity to

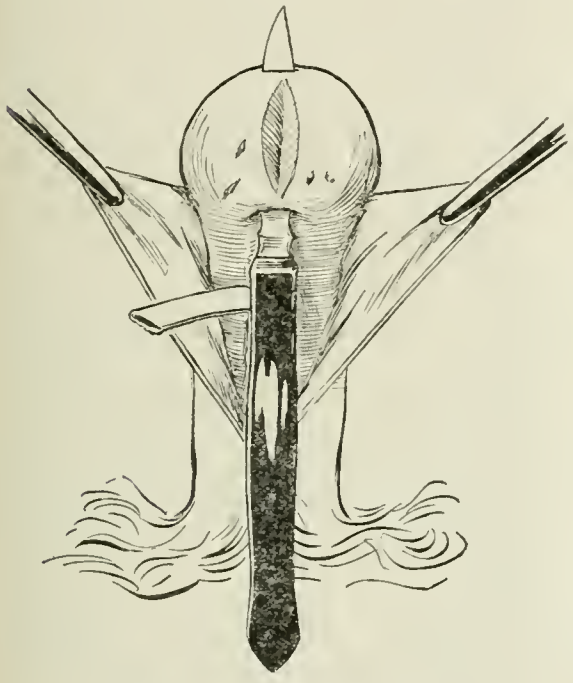

Fig. 4.—Formation of a New Channel through the Glans.

aver that he did so through a capricious memory, which caused him to forget that the genuine work was done by his predecessor. Carl Beck, of New York, is among those made to suffer by such treatment, as literature shows. On October 4, 1897, he demonstrated his operation for hypospadias before the Deutsche medicinische Gesellschaft der Stadt New York; this he described in the *New Yorker medicinische Monatsschrift* for November, 1897. In the *New York Medical Journal* for January 29, 1898, he detailed the operation, and in doing so he distinctly specified its essential features, among them "dissecting the urethra from its bed and extending it to do the service of a new canal." von Hacker ten months later (*Beiträge zur klinischen Chirurgie*, August, 1898) announced the identical operation as his own. Another author, Brevcer, performed the same feat (*Centralblatt für Chirurgie*, No. 29, 1898), but he afterward gracefully conceded Beck's priority. I hold, therefore, that I am fully justified in designating as Beck's the operation done in this case. If Beck's priority needs further proof, it will be found on pages 157 and 158 of the *Beiträge zur klinischen Chirurgie* (April, 1900) containing the reports of Heidelberg Surgical Clinic for 1898. In this report 3 cases of hypospadias operated upon by Beck's method are reported.

After presenting the case, a number of fellows of the Academy, in discussing it, warmly congratulated

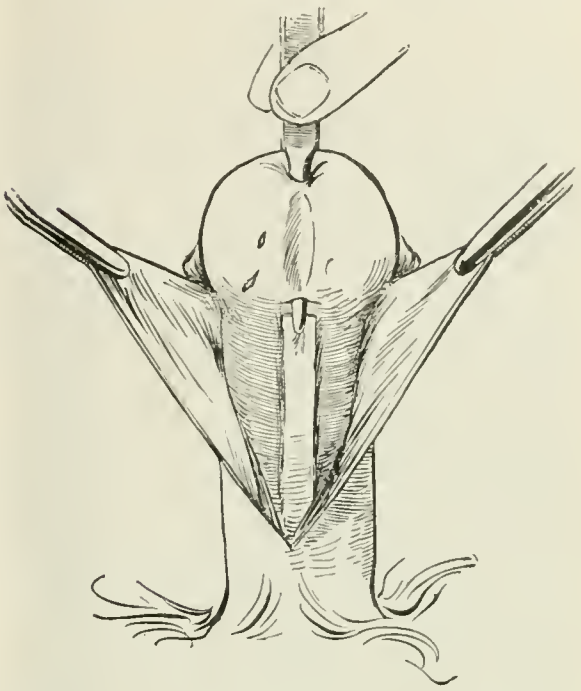

Fig. 5.—Drawing the Urethra through the New Channel.

me on the results. I deemed it my duty to say, and take occasion now to repeat, that all the congratulations I received belong to Dr. Carl Beck, who not only devised the method but rendered the valuable encour-

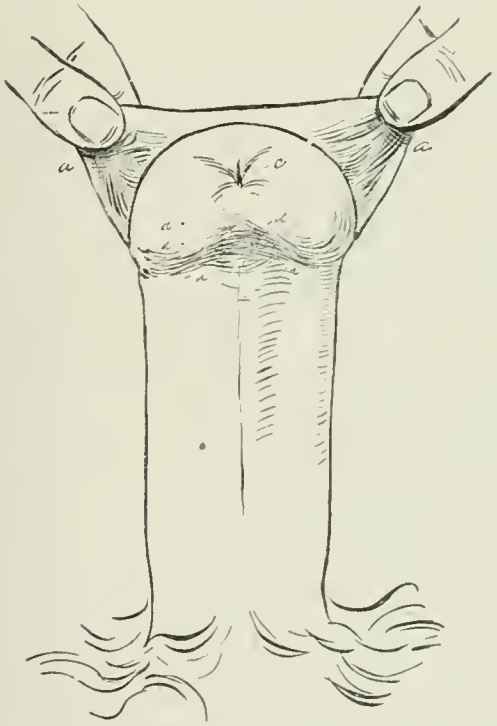

Fig. 6.—Two Months After Operation. The penis is raised by the defective prepuce (*a*, *a*), which is stretched so as thoroughly to expose the organ; *c*, new meatus; *d*, *d*, *d*, *d*, *d*, sites of the former para-urethral fistulæ.

agement of his presence and personal aid in the operations.

I desire publicly to thank my patient, Mr. C. S——, for coming before the section.

For Tremor in paralysis agitans, hyoscine hydrobromate, gr. $\frac{1}{200}$, twice daily.

THE PERITONEUM—ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

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Anatomy.—The peritoneum is a lymph sac whose walls line the abdominal cavity. The peritoneum proper begins and perfects itself in the fish. From fish to man the peritoneum is the same structure: nothing added, nothing subtracted, only modified. Peritoneal pores (pori peritoneales) begin in the fish and exist in the man as the ostia abdominalia at the ends of the oviducts. It appears that the abdominal cavity or cœlom, *i.e.*, the space between the ectoderm and the entoderm, was once filled with mesoderm and that it atrophied or partially disappeared, leaving the viscera covered with peritoneum projecting into it.

The essential structure of the peritoneum is an exceedingly thin membrane, composed of endothelial cells so arranged with their edges in contact that the membrane is continuous or uninterrupted. The endothelial cell is a connective-tissue cell flattened by pressure or stretching in the embryo. Lying between the endothelial cells are interendothelial spaces. At the junction of several endothelial cells there exists an aperture (mouth) called a stoma verum, which is lined with granular polyhedral nucleated cells. Located in the interendothelial spaces are the stomata spuria. The stomata open into the subperitoneal lymph channels. Silver nitrate one-fourth per cent. applied to fresh peritoneum brings to view microscopically the outlines of the endothelial cells, stomata vera et spuria, and the interendothelial spaces.

The four elements of the peritoneum—(*a*) endothelial cell, (*b*) interendothelial spaces, (*c*) stomata vera, (*d*) stomata spuria—constitute the structure peculiar to the peritoneum. The subperitoneal tissue is simply mesodermic tissue. The anatomical use of the peritoneum is to anchor and limit the motion of the viscera; to produce maximum motion with minimum friction. The peritoneum is a joint of vast interest and dimensions. It is endowed with wonderful elasticity and is very mobile on its base. The internal peritoneum surface is smooth, shiny, moist, and slippery from its secretions. It is a closed sac except in the female. Of special interest in the peritoneum are the mesenteries, which consist of a peritoneal (endothelial) mesentery (temporary or permanent), and a mesodermic mesentery (permanent). The utility of the mesentery is as a neuro-vascular visceral pedicle, and to limit the motion and position of viscera.

Physiology.—The physiology of the peritoneum is its utility in the animal economy. It is the most important serous membrane in the body, from its relation to and influence over numerous and different viscera, and also its life-protecting capacity. Experimentation alone can demonstrate its use. It is a joint in all its functions. It absorbs and secretes fluid. Fluids poured into the living peritoneal cavity disappear at the rate of (in the dog) ten per cent. of the body weight in an hour (and at the rate of five per cent. a few hours after death).

To discover the paths of fluid exit from the peritoneum, pour in fluid containing particles of Berlin blue, which will be found to be directed chiefly toward the diaphragm and through the lymph channels. The particles of Berlin blue will be found passing through the chief stomata vera, aided by thousands of leucocytes which swarm out of the peritoneal mouths, seizing the Berlin-blue particles and hastening onward with them into the subperitoneal lymph channels.

From my own numerous experiments and those of others, it appears we are warranted in the following physiological conclusions:

1. The primary path by which fluids pass from the peritoneum into the circulation is by the way of the lymphatics. The secondary path is the blood-vessels. Hamberger, with some others, asserts that the primary path is by the way of the blood-vessels.

2. A stream of fluid exists in the peritoneum directed toward the diaphragm.

3. The anatomical structure, physiological function (respiration), of the diaphragm enables it to act like a suction or force pump.

4. In five minutes after injection of a solution holding Berlin blue in suspension into the abdomen, the colored granules may be found in the sub-diaphragmatic lymph bed and intra-thoracic glands.

5. So far as my experiments extend, the diaphragm is the primary locality of peritoneal absorption of solid granules. Others assert that the rootlets of the portal vein also absorb solids, but I have not been able to confirm it.

6. The vast function of absorption performed by the diaphragm, and the very small part taken in this process by other portions of the peritoneum, account for the non-fatality in cases in which there is a purulent condition found at the oviductal ends and about the appendix, and when there is a ruptured gall bladder, which is circumscribed and confined by the ligamentum hepato-colicum. The virulent microbes or their products are not absorbed, but circumscribed.

7. On account of vigorous absorptive powers, the nearer peritonitis approaches the diaphragm the more dangerous it is to life.

8. The stomata vera are the most numerous and constant of the diaphragmatic serosa. They are the mouths of the vast lymph bed located in the diaphragm.

9. When foreign bodies (microbes or colored granules) enter the peritoneum the leucocytes swarm out (*a*) to digest the invader, (*b*) to surround or imprison the microbe, or (*c*) to sterilize the germ.

10. It appears to be the leucocyte which carries the colored granules from the peritoneal cavity through the stomata vera into the sub-peritoneal diaphragmatic lymphatics.

11. The normal peritoneum is automatic in regulating the quantity of fluids contained. Normally it will absorb all excessive fluid; but in abnormal conditions it may only add to the fluid injected.

12. If potassium ferrocyanide is injected into the peritoneal cavity it will appear in the urine much sooner (about twenty minutes) if the thoracic duct is not ligated. Ligation of the thoracic duct retards its appearance in the urine. Hence, with open lymphatics the ferrocyanide appears in the urine much more rapidly.

13. The diaphragm absorbs fluid perhaps by imbibition. Imbibition is molecular when a mass of tissue absorbs the fluid, and capillary when it passes through the pores of the vessels.

The forces which are said to produce peritoneal absorption of fluids may be enumerated as follows: (*a*) Vital cell forces, (*b*) stomata, (*c*) imbibition, (*d*) infiltration, (*e*) intra-abdominal pressure (mechanical), (*f*) osmosis.

The leucocytes act as a body-guard to the peritoneum. At a moment's notice (irritation), the army of leucocytes emerge to protect the peritoneum against the invasion, viz., by digestion, imprisonment, transportation, or sterilization of the foreign body, be it vegetable germ or inorganic particle.

The peritoneum has a limited power to resist septic germs. At present we have no standard by which the power may be measured. The power to resist septic germs is slightly different in animals. The perito-

neum of the pig, rabbit, and cow resist considerable quantities of septic organisms. The mare's peritoneum is so sensitive to septic germs that laparotomy on her is almost always fatal. The dog and man are about equal in their power to resist peritoneal invasions of pathogenic germs. Some, however, claim that the peritoneum of a dog resists more than that of man.

The rapid fluid absorption by the peritoneum argues against irrigation in laparotomy, from the fact that by irrigation the germs would become widely and rapidly distributed.

Pathology.—That disease of the peritoneum is also a matter of experimentation was demonstrated in the rapid development of the science of abdominal surgery. Peritonitis saves life, while sepsis kills. Peritonitis is a life-saving process: it builds barriers against the invading host, while absorption overwhelms the system with infective products. Peritoneal exudates circumscribe microbes; imprison and sterilize them. The diagnosis of peritonitis should be more cultivated. The temperature is often of the least value in the most critical cases. The pulse is the most reliable. Tympanites, abdominal muscular rigidity, tenderness on pressure, and the facies peritonei tell their own tale. It must be definitely understood that patients suffering from septic peritonitis are in a state of toxæmia, which clinically resembles profound shock. The nervous system is profoundly impressed with sepsis. Such patients bear anæsthesia very badly, hence the operation for all septic cases of peritonitis which are surgical should be done under very little anæsthesia, supported by hot rectal injections, or hypodermic doses of strychnine and whiskey in the rectum. The pulse must be watched every moment, as collapse may occur at any time. With definite diagnosis, a median abdominal incision should be made. During operation the intestines must be thoroughly protected and wrapped in moist, warm towels. The examination of the intestines should be performed systematically. It should be the rule first to strike for the landmarks, pelvic, appendicular, and gall-bladder region, and if the lesion is not found, to continue systematic examination until it is found. Irrigation should not be employed: it only distributes germs. A rubber tube enclosed in strips of gauze makes the best drain.

After the operation, mild chloride in one-grain doses every hour, with a half to one teaspoonful of sulphate of magnesia hourly, until five grains of mild chloride and six drachms to two ounces of salts are taken, is a useful course to follow. This revives intestinal peristalsis, starts the secretions, and affords drainage from the mucosa. One-sixtieth of a grain of sulphate of strychnine every hour aids peristalsis. All the whiskey a septic patient can bear is good treatment.

To observe the phenomena of peritonitis the following experiment speaks volumes: I injected the peritoneum of a turtle with an ounce of water holding Berlin blue in fine suspension. Four or five weeks later the turtle (four pounds) died of peritonitis. The autopsy showed œdematous and intensely vascular peritoneum. In short, the interpreted results were the following: The fine particles of Berlin blue were distributed in the lymphatic vessels of the peritoneum. They collected especially along the numerous pigment cells which aid to make the walls of the lymph vessels. Large masses of exudates could be seen over the endothelial surface. The endothelia were desquamated, leaving pits on the surface. Numerous leucocytes were to be seen emerging through the stomata and interendothelial spaces. They attack all foreign bodies and surround, imprison, sterilize, or digest them. Hemorrhagic peritonitis existed in localities, *i.e.*, thousands of red blood corpuscles were emerging on the endothelial surface from endothelial lesions.

The signification of this terribly destructive process is: (*a*) the endothelial surface is an infective atrium; (*b*) the endothelial or peritoneal surface is trying to defend itself by (1) calling out the body-guard, the army of white corpuscles, the leucocytes, who are swarming on the surface. They emerge through the stomata and interendothelial spaces. These leucocytes may be seen partially through and fixed in the stomata or interendothelial spaces. They are merciless on intruders, seizing and surrounding them, imprisoning, sterilizing, isolating, and even devouring them. (2) The exudate pours out vast quantities in response to the irritant (microbe or its product). The exudate builds forts or barriers and checks invasion by mechanical means. The battle is never a drawn one: it must be lost or won. It is to kill or to be killed; the microbes or the leucocytes must be victorious. If the battle between the leucocytes and microbes lasts long, the heaps of slain leucocytes or microbes attest the fierce combat for life.

The hemorrhagic peritoneum reports partial or complete victory of the microbe or its products (chemical). The endothelia have become desquamated, loosened in their pitted bed, producing a lesion in the peritoneum, out of which ooze thousands of red corpuscles; the enemy is conquering the territory. The process known as peritonitis—a life-saving process—has yielded to infection, which kills.

The leucocytes, the body-guard of the peritoneum, are capable of vast resistance. The leucocytes are an automatic standing army, and whatever calls out the one leucocyte appears to call out a host sufficient for the occasion. The treatment for such a peritoneum is drainage and not irrigation, which would rapidly sweep the pathogenic microbes and their chemical products to distant fields, entirely out of reach of the mobilized army of leucocytes on the original battle-field.

The peritoneum is a lymph sac. It is a serous membrane, similar to the pleura, pericardium, and synovia. If one will imagine the empty abdominal cavity lined with peritoneum, and the viscera gradually growing from the dorsal wall, pushing the peritoneum before them until they fill the cavity, a good view of the peritoneal relations will be obtained. It forms supports to organs by anchoring and holding them in definite relations. The supports are called mesenteries, for intestinal supports; ligaments, for the support of more solid organs; and omenta, connecting the stomach to some other organ.

The peritoneum consists of two diverticula—a lesser and a greater—communicating with each other through the foramen of Winslow. All organs lie outside of the peritoneum. It is a closed sac superimposed on the viscera and tucked between and among visceral folds. In woman an anatomical peculiarity exists, namely, the two openings in the peritoneum for the transmission of ova. The mature egg breaks through the folds of peritoneum which cover the ovary, and the oviduct opens into the peritoneal cavity in order to secure it for carriage to the uterine cavity, so that the ovum really passes through both peritoneal layers to reach the uterus. It is this unique connection of oviduct to serous cavity, this continuation of mucous membrane with serous membrane, that constitutes the peculiar liability of the female to local peritonitis. The pelvic peritoneum is particularly loose. It rests on the pelvic organs in the centre, but on each side it rests on soft, white areolar tissue (the subserosium).

The relations of the peritoneum are much altered after labor. I have found the pelvic peritoneum thicker in women than in men.

The use of the peritoneum is: (*a*) To prevent friction to moving viscera; (*b*) to anchor and support the viscera in proper relations; (*c*) to prevent the invasion

of infection by throwing out barriers of exudates to protect wounded viscera; (*d*) to limit viscera so that they may not become entangled; (*e*) to furnish the viscera with an elastic covering; (*f*) to absorb and secrete fluid.

In the abdominal cavity there exists a great fold of peritoneum, known as the omentum. It acts as the great protector from infectious invasions. It will plug visceral wounds and heal other wounds. It is like a man-of-war which is ready at any time to move to attacked points, wherever infection invades the peritoneal cavity—at the appendix, gall bladder, or oviductal ends, the omentum stands ready to circumscribe the infectious invader. It corrals the enemy of the peritoneum with exudates. It indicates the point of invasion. It is like a moving sentinel whose beat is its whole cœlom.

The peritoneum is liable to inflammation—peritonitis. The infection must generally attack the peritoneum from the inside, for it withstands very much infection and trauma from the outside, without apparent inflammation. The trauma of the psoas muscle on any segment of bowel which lies within its range induces the migration of pathogenic microbes and eventually induces peritonitis. This may be the case with any segment of the bowel which may lie on the psoas. It may be the case also with the appendix, the cæcum, and the lower end of the ileum. There is over seventy-five per cent. of peritonitis in the right iliac fossa due to trauma of the psoas on the bowels. Much appendicitis is due to trauma of the psoas.

One of the chief essentials of peritonitis (after infection) seems to be that the epithelium must be denuded to start the infection, *i.e.*, there must be sufficient trauma to break off the flat serous epithelium in order to give a growing medium for the pathogenic microbes. Pathogenic microbes can, it is true, be injected into a healthy peritoneum without causing peritonitis, but in contact with denuded epithelium these infectious agents give rise to violent peritonitis. Laparotomy is just the process to furnish all the required trauma to denude the delicate epithelium. With the shingles torn off a roof, it will leak; and similarly with the shingles of the flat epithelium torn from the peritoneal surface, it affords ample opportunity for the invasion of pathogenic microbes. Trauma leads the way to peritonitis.

Peritonitis always begins locally. The two sexes seem to suffer from it to about the same extent, though from different causes. Man has much more hernia than woman. Woman has much more pelvic peritonitis, or peritonitis at the ends of the oviducts; but man has four times as much appendicitis from trauma of the psoas. Man has more volvulus, but woman is afflicted much oftener with derangement of the gall bladder.

Local peritonitis arises at the following points: (*a*) at the ends of the oviducts, where infection passes into the peritoneal cavity. This is the most common localization of the affection designated "pelvic peritonitis." The gonococcus prepares the way for all other pathogenic microbes—by trauma.

(*b*) At the hernial openings. This occurs some three or four times as often in man as in woman. The peritonitis arises from irritation or strangulation, trauma of the intestine in the hernial opening, thus allowing the passage of pathogenic microbes through the bowel wall to the peritoneum, inducing local peritonitis.

(*c*) At the appendix. Perforation of the appendix induces local peritonitis by the escape of pathogenic microbes. This form of local peritonitis is four times as frequent in man as in woman. In short, peritonitis in man or boy should be considered as appendicitis until otherwise proven.

(*d*) At the gall bladder. Perforation or migration arises and peritonitis follows. This form is four times as frequent in woman as in man. Over one-third of the autopsies I have made on women above forty-five have shown local peritonitis around the gall bladder.

(*e*) At the pylorus (sphincter) peritonitis chiefly arises from malignant invasion.

(*f*) At the ileo-cæcal valve (sphincter).

(*g*) At the anus (sphincter) peritonitis is not infrequent. It occurs oftener in woman than in man, on account of the more frequent occurrence of stricture in the female rectum, due to gonorrhœa.

(*h*) At the hepatic flexure.

(*i*) At the splenic flexure.

(*j*) The trauma of the psoas muscle induces the migration of pathogenic microbes or their products through the mucosa muscularis, ending in inflammation of the adjacent serosa. Peritonitis in the sigmoid flexure is due chiefly to trauma of the psoas. At the sigmoid flexure the friction of fæces abrades the mucous membrane, thus allowing the pathogenic microbes to pass through the intestinal walls, where they induce peritonitis around the flexure.

(*k*) Peritonitis occurs about the spleen in ninety-five per cent. of cases; due to muscular trauma (diaphragmatic).

(*l*) It occurs in the mesentery on its lower end, due to muscular trauma or aortic trauma.

(*m*) Local peritonitis occurs in the range of action of the pillars of the diaphragm, especially where the duodenum crosses the right crus.

(*n*) It may occur at the flexura duodeno-jejunalis. Observe that local peritonitis occurs about flexures and sphincters of the bowel.

(*o*) At any point where infection may invade the peritoneum, *e.g.*, at any perforation of the alimentary canal, the genital tract, or urinary passages, where infectious matter may pass into some part of the peritoneal cavity.

(*p*) Tuberculous peritonitis is a common disease. It frequently begins at the fimbriated ends of the oviducts. It is chiefly cured by peritoneal incision and drainage.

Generally, abdominal tenderness, muscular rigidity, and abdominal pain mean peritonitis which has started from some infectious focus, as peritonitis is a secondary disease.

The exquisite tenderness found in the distinct locations of large tumors generally indicates local peritonitis. Severe tenderness in parts of the pelvis is generally caused by peritonitis, induced by infectious matter escaping from the oviduct ends. The local peritonitis may be recent and very tender, or old and not acutely tender, but still giving, on all active motion, a dull, sickening, aching sensation from old adhesions. The adhesions may persist and induce these dull pains for many years, especially in child-bearing life, as monthly exacerbations occur.

Satisfactory recoveries after section, when the adhesions have been broken up, show the adhesions were the cause of the protracted pain and illness. The adhesions seem to irritate the nerves by pinching and compressing them, and checking peristalsis. They disturb circulation by congestion or anæmia of the parts, and by drawing viscera out of normal relations. It may be observed that when the visceral peritoneum is involved only, the pain is of a dull character—only the sympathetic nerves are attacked—but when there is parietal peritoneum, the spinal nerves as well as the sympathetic are involved, and the pain assumes an acute, lancinating character. Pain which involves the sympathetic is dull, while that which involves the cerebro-spinal nerves is sharp and lancinating. A patient practically never recovers from general peri-

tonitis. The barriers which check it are the mesenteries. The colon is the benign area of peritonitis. The enteron is the fatal area.

The following forms are recognized in autopsies. However, the classification of peritonitis is unsettled, but traumatic, infectious, or chemical peritonitis is observed in all forms.

(*a*) Progressive fibrinous peritonitis. This is where exudates and adhesions play the rôle. With new exacerbations new exudates arise; so that many centres of septic foci may be circumscribed. Such pent-up collections of pus may be separately opened without communicating with each other or the general peritoneal cavity.

(*b*) Diffuse suppurative peritonitis. Nearly all such cases are rapidly fatal.

(*c*) A so-called dry form of peritonitis. In some two hundred autopsies on dogs, but few cases of dry peritonitis were found, and it is similar in man. The disease slowly progresses over the peritoneum. In the human I saw it a few times only in over five hundred personal autopsies. Practically excluding perforation, peritonitis occurs (*a*) at the longest range of muscular action (trauma), (*b*) at the bowel flexures, (*c*) the sphincters of the tractus intestinalis, and (*d*) at the fimbriated ends of the oviducts.

(*d*) Another form, called intestino-peritoneal septicæmia, exists. It may depend on ptomains or microbes.

Man has relatively the least amount of peritoneum of any animal. The folds of peritoneum are more ample and extensive in all other animals which I have examined, as the horse, dog, pig, coon, cow, monkey, fish, bird, turtle, frog, seal, snake, sheep, etc. The different animals vary in their susceptibility to infection and peritonitis. The horse has a peritoneum so susceptible to infection, and peritonitis with him is so fatal, that equine abdominal surgery is scarcely possible in the present state of surgical knowledge. The dog's peritoneum is comparatively the same in extent and resistance as man's. The pig is not very susceptible to peritonitis. It is well shown in spaying cows that these animals do not possess a peritoneum sensitive to inflammation.

One of the fell destroyers in mammalian life is peritonitis. When a horse becomes attacked with it, he is not expected to recover. But happily in man the majority recover.

Peritonitis ranks as one of the most important surgical conditions, on account of both its frequency and its fatality. The etiology of peritonitis rests on pathogenic microbes or their products (chemical). The various germs most intimately connected with peritonitis are the colon bacillus, streptococcus, staphylococcus, pneumococcus, and gonococcus.

Traumatic peritonitis is nothing more than the establishment of a focus of lessened resistance, with infection.

The most virulent of all pathogenic germs in peritonitis is the streptococcus. The mildest is staphylococcus. If one performs several hundred adult post-mortems, he will find local peritonitis in the pelvis of about eighty per cent. In females, about the sigmoid, eighty per cent.; about the cæco-appendix, seventy per cent.; about the gall bladder forty per cent.; and around the spleen, ninety-five per cent. With partial exception of pelvic peritonitis, the other forms of local peritonitis are due to muscular trauma.

The chief cause of appendicitis is trauma of the psoas muscle. The sigmoid and appendicular region is traumatized by the psoas muscle, the gall bladder region and that of the spleen by the diaphragm, its crura, and the abdominal walls. Muscular trauma on the tractus intestinalis makes a focus of lessened resistance and enables the rapidly multiplying germs or their products to penetrate the muscularis mucosæ, and enter the serosa. The most common cause of grave peritonitis is perforation of some hollow viscus, penetration of the abdominal wall, or infection conveyed through the blood.

The treatment of peritonitis consists in medical and surgical intervention. If it be medical, no drug equals opium in full doses, sufficient to arrest peristalsis. Rest, anatomical and physiological, is the all-important factor. This will corral the infectious atrium. The trouble, however, with opium is that its administration militates against subsequent surgical intervention; for it checks secretion.

After all, it should be noted that all cases of septic peritonitis belong to the domain of surgery. There are two methods by which surgical intervention succeeds in peritonitis, viz., drainage from the intestinal mucosa (cathartics), and draining from the serosa (incision). The best cathartics are, the mild chloride and magnesium sulphate, administered in small, often repeated doses. The best drain is the rubber tube wrapped in gauze.

The Pelvic Peritoneum lines the greater and lesser pelvic cavities. In the lesser pelvis the peritoneum intimately lines its lateral walls and floor, and invests more or less completely the contained viscera. The slippery, smooth, and elastic serosa enables the pelvic viscera to move freely, to return to normal after vast changes without loss of integrity, and to maintain the relation of physiology and anatomy among the pelvic organs. The pelvic peritoneum is a continuation of the lining of the abdominal cavity. Some deny a peritoneal covering to the ovary.

The pelvic organs appear as if thrust into the peritoneum from below, forming the peritoneal invaginations which enclose more or less of each organ. Beginning with the lower fold of the peritoneum on the anterior abdominal wall, one and a half inches above the crest of the pubis, the peritoneum reflects itself posteriorly on the summit and fundus of the bladder, covering this organ as far posteriorly as the level of the os uteri internum. The peritoneum covering the lateral surfaces of the bladder is limited by the abdominal hypogastric arteries. It covers the anterior surface, fundus, and the posterior surface of the uterus, whence it passes downward, covering the upper one-third of the posterior surface of the vagina. It then turns upward and backward to cover the rectum and sigmoid to the pelvic brim. Then, extending laterally from the border of the uterus, its two peritoneal blades enclose the oviducts, ovary and its ligament, vessels, nerves, muscles, and fœtal remnants. It then passes to the lateral pelvic walls. The diverging broad-ligament blades contain at their base the ureter, uterine artery, and pelvic brim.

In addition to investing the pelvic viscera, the peritoneum lines the lateral walls and floor of the pelvis. The peritoneum, covering the uterus, passes on each side to the lateral pelvic wall forming the broad ligaments which divide the pelvis into a posterior, larger and deeper fossa, and an anterior smaller and shallower fossa. The lowest portion of the posterior pelvic fossa is known as the pouch of Douglas, which is bounded superiorly by the folds of Douglas (utero-rectal ligaments). The peritoneal cavity is safely and easily opened through the pouch of Douglas. The peritoneum in the anterior pelvic fossa passes as low as the base of the broad ligament. The posterior pelvic peritoneal fossa is divided equally by the utero-rectal ligaments. The anterior pelvic peritoneal fossa is subdivided by the utero-vesical ligaments. The serous coat covering the uterus is the perimetrium; that covering the bladder is the perivesicum; and that covering the rectum is the periproctium.

The pelvic peritoneum rests on a large, thick, spongy, and extensive bed of snow-white subperitoneal

areolar tissue, on which the pelvic peritoneum with its invested organs glides and rests. The subperitoneal pelvic tissue allows contraction and expansion of organs, and the return to normal without loss of integrity. It is a buffer to prevent trauma, and it maintains with the aid of the pelvic peritoneum the relations of the viscera, nerves, and vessels.

The pelvic peritoneum does not completely invest all parts of the pelvic viscera. The anterior vaginal wall, the anterior surface of the cervix, the anterior surface of the bladder, the lower posterior (fourth) of the vagina, and lower portion of the entire rectum (anus) are not covered by peritoneum. The pelvic peritoneum is endowed with extensive elasticity, and freely accommodates the changing volume of viscera. Also the peritoneum is capable of being partially stripped from pelvic viscera and parietes.

When the bladder becomes distended, the peritoneum is not only dissected from the anterior abdominal wall, but also slightly from the anterior surface of the uterus. In pregnancy, the broad ligament not only becomes elevated above the normal, but the blades diverge and the peritoneum becomes drawn off the uterus. Some organs have loosely attached serosa, as the bladder and oviducts, the pelvic floor and parietes. The folds of the pelvic peritoneum form ligaments and pouches. There are six pelvic peritoneal ligaments, viz., broad, utero-rectal, utero-vesical, latero-vesical, utero-abdominal, and vesical superior.

The broad ligaments (ligamenta lata uteri) consist of (*a*) a thin layer of endothelia, permanent or temporary, on the anterior and posterior surfaces; (*b*) a mesenterii membrana propria which is the real neurovascular visceral pedicle. It is the mesodermic or permanent mesentery, carrying vessels and nerves to the viscera by means of the fibrous and connective tissue. This broad ligament extends from the lateral wall of the uterus to the lateral wall of the pelvis, immediately anterior to the sacro-iliac joint, subdividing the pelvic cavity. It is a secondary uterine support and serves chiefly to maintain in physiological and anatomical relations the contents of the broad ligament.

The two utero-vesical ligaments connect the lower portions of the uterus to the posterior surface of the bladder. They extend from the lateral portions of the uterus to the lateral and posterior surface of the bladder.

The utero-abdominal ligament extends from the cervix to the posterior abdominal wall.

The two utero-rectal (sacro-uterine) ligaments extend from the rectum (second and third sacral vertebræ) to the lateral borders of the internal os. These two ligaments being primary uterine supports must rupture or elongate before uterine prolapse or sacropubic hernia can occur.

The two lateral peritoneal vesical ligaments extend from the iliac fossa to the lateral surface of the bladder, where they join it at the line of the obliterated hypogastric arteries.

The superior peritoneal vesical ligament (ligamentum suspensorium vesicæ) extends from the summit of the bladder to the umbilicus. It covers posteriorly the urachus and the obliterated hypogastric arteries, which serve as a guide in peritoneal sections.

There are six peritoneal pelvic pouches or fossæ, viz., Douglas, utero-vesical, ovarian, paravesical, utero-abdominal, and vesico-abdominal.

The Douglas pouch, located between uterus and rectum, is bounded laterally by the utero-rectal ligaments, anteriorly by the posterior surface of the uterus and vagina, and posteriorly by the rectum. It is the most dependent part of the peritoneum; hence fluids will gravitate into it.

The utero-vesical pouch, located between bladder and uterus, is bounded anteriorly by the posterior surface of the bladder, and posteriorly by the anterior surface of the uterus.

The ovarian pouch, located between the uterus and the sacro-iliac joint, is triangular in shape, bounded in front by the base of the broad ligament, externally by the wall of the pelvis, and internally by the utero-rectal ligaments. This pouch is analogous to the ovarian pouch of animals.

The para-vesical pouch lies in the angle formed by the utero-vesical fold and the broad ligament.

The vesico-abdominal pouch exists when the bladder is distended.

The utero-abdominal pouch exists when the bladder is empty.

The pelvic peritoneum, with its folds and pouches, invests more or less intimately the pelvic viscera, maintaining them in proper relations, and facilitating perfect motion. It is relatively thicker in females than in males, and has become tolerant to peritonitis through the ages.

The pelvic peritoneum is not a dangerous region for lymphangitis (peritonitis), because it is limited in its capacity to absorb, due to relatively few stomata vera. Also fluids gravitate and remain in its most dependent portion, and visceral motion (peristalsis) being limited the infection is not widely distributed. With empty bladder, and the uterus lying in the anterior portion of the pelvis, loops of enteron lie in the pouch of Douglas. The enteron is the dangerous area of absorption (lymphangitis), but the few loops contained in the pelvis, becoming gradually infected, cease their peristalsis and throw out barriers of obstruction to the invading infection.

The pelvic peritoneum becomes infected primarily at the fimbriated ends of the oviducts, due to infection passing from the endometrium through the oviducts. Secondarily it becomes infected through the lymph and blood channels.

The etiology of peritonitis or lymphangitis must be attributed to pathogenic microbes and their products passing from the ovary, uterus, and especially from the oviducts. During the course of disease the serosa becomes reddened and hyperæmic, loses its shiny polish, leucocytes appear on the surface, the endothelia become desquamated, and an exudation appears on its surface. There is usually an endometritis, then an endosalpingitis, and finally a lymphangitis (peritonitis).

There may be scarcely any serum (dry form of lymphangitis), or there may be an abundance of serum (wet form). Should there be fluid present, the recent inflammatory lymph is usually suspended in the form of ragged flakes. The area of inflammation is coated with a reddish, elastic substance, known as fibrin, which lies loosely on some portion of the serosa (the serum may be encapsulated by peritoneal adhesion, and final absorption may occur). It extends in the form of threads and bands between opposed surfaces, or makes them adherent, binding the pelvic organs, colon, and enteron together by means of organized peritoneal adhesions. In severe septic cases, the exudation may be purulent. The chief element in the exudation is coagulated albumin, exudation fibrin, leucocytes, serum, and endothelial cells. For practical purposes there are four varieties of pelvic peritonitis, viz., (*a*) plastic, (*b*) serous, (*c*) septic, and (*d*) tuberculous.

Practically, the method by which pelvic lymphangitis becomes acquired is by the introduction of sepsis during coition, labor, abortion, or operations. Gonorrhœa produces plastic lymphangitis, but prepares the way for other forms of lymphangitis, by trauma that is due to staphylococcus, streptococcus, and tubercle bacillus. Catching cold at the monthly period means pelvic lymphangitis from sepsis forced out of the abdominal

end of the oviduct, when increased secretions have induced multiplication of germs, with perhaps raised virulence. Pelvic cellulitis generally is a result of lymphangitis passing into the subserosium, or it may be due to infection passing from the endometrium through the uterine wall into the cellular tissue at the base of the broad ligament. Tuberculous lymphangitis begins chiefly at the fimbriated extremity of the oviducts. Pelvic lymphangitis is the most serious gynæcological disease, because (*a*) it has a tendency to recur; (*b*) it produces severe pain; (*c*) it is a source of reflex neuroses; (*d*) it disturbs the mechanism of circulation and nerve distribution by traumatism of connective-tissue beds of the subserosium; (*e*) it produces atrophy of structures by fixing organs, causing an excessive local tension or slackness; (*f*) it produces adhesions binding the various adjacent viscera together, causing mechanical and functional disturbances; (*g*) it is almost incurable.

Woman suffers primarily from pelvic lymphangitis. A plastic pelvic lymphangitis may produce an exudate in size palpable only, or it may fill the lesser pelvis. The serous or purulent form may also fill the lesser pelvis with fluid or pus.

The most frequent variety of pelvic lymphangitis is the chronic plastic form whose adhesions produce fixations and dislocation of viscera, causing disturbances in anatomical and mechanical relations, impeding circulation, nutrition, and function, and causing nerve traumatism. The uterus, oviducts, the sigmoid, and the enteron may be found firmly bound together by organized cicatrizing peritoneal adhesions. A dislocated organ is one permanently fixed. As a rule, it is produced by peritoneal adhesions. Thus, after lymphangitis has swept over the pelvis, the uterus, oviducts, ovaries, sigmoid, and enteron may be found dislocated, fixed in various positions by the exudates. Some ligaments may be shortened, others lengthened, local peritoneal areas thickened, and viscera partially or completely buried by exudates. Sterility following pelvic lymphangitis is chiefly mechanical, due to separating the fimbriæ of the oviduct permanently from the ovary, preventing the transmission of an ovum to the uterus.

The Symptoms of pelvic lymphangitis are pain, and an acute or chronic course, with tenderness. The acute form may be ushered in by chill; rapid, small, wiry pulse; temperature 101 to 105° F.; nausea, vomiting, and tympanites. Constipation exists, and there may be irritability of the bladder and menorrhagia. In the chronic course there are tenderness, palpable exudates, pain, disturbances in the vesical, rectal, and menstrual functions. Leucorrhœa and menorrhagia are liable to exist. Irregular tympanites, indigestion, and anæmia, and finally neurosis play a significant part in the chronic form.

Bimanual examination discovers tenderness in the pelvis, with muscles on tension for protection, dry or moist vagina, with uterus, oviducts, ovaries with adjacent sigmoid and enteron generally bound in fixed masses of exudates. The vaginal fornices are sensitive and rigid, and all movements and pressure induce pain. Frequently the tenderness and size of the pelvic exudates prohibit examination. The most usual situation of the exudate mass is in the pouch of Douglas. The course of chronic pelvic lymphangitis of the recurrent type is serious to the patient's health, from constant irritation. The purulent form is grave while the plastic form may be recovered from. However, there is generally a residual exudate, with dislocation of viscera, giving rise to symptoms—especially pain and sterility. Pregnancy frequently cures pelvic lymphangitis by vigorous absorption during gestation. However, interruption of pregnancy is liable to occur, producing exacerbations. Pelvic lymphangitic exudates may result in absorption, encapsulation, inspissation, or cicatrization, which produce mechanical disturbances not only in adjacent but also in remote organs.

The Treatment of pelvic lymphangitis in the acute stage is: Place the patient in bed, and apply hot cornmeal poultices. For pain, give opiates and liquid diet; move the bowels by gr. i. of mild chloride every hour, for three to four hours, and ℥ ss. of magnesium sulphate every three hours. As the condition subsides, employ the vaginal (and rectal) douche morning and evening, gradually increasing from a gallon to five gallons; also increase the heat daily. Use the boroglyceride tampon twice weekly. The use of sounds, pessaries, repeated examinations, intra-uterine electricity, and massage should be avoided.

In the chronic stage employ the douche, tampon, massage, extra-uterine electricity, and general measures. Forcible reposition of the pelvic viscera, in lymphangitis, may be dangerous. Patients suffering with severe pelvic lymphangitis (peritonitis), being liable to exacerbations at menstruation, should rest in bed during the flow.

In cases resisting the reliable methods of treatment, the uterus should be removed. The ovaries, the essential of the genitals, should be left in order to avoid precipitate menopause. A patient fares better without the uterus and oviducts (the menstrual organs) than without the ovaries.

Gynæcological cases suffer chiefly from pelvic peritonitis. The pelvic peritoneum is supplied not only by sympathetic nerves but also by spinal sensory nerves, viz., (*a*) sensory branches of the ileo-inguinal, (*b*) sensory branches of the ileo-hypogastric, (*c*) sensory branches from the lower seven intercostals, and (*d*) to some extent branches from the sacral visceral nerves (third and fourth).

In certain pains of the tractus intestinalis, the seat cannot be accurately located. However, in appendicitis and pelvic peritonitis the seat of pain can be practically located. Traumatic pain of the peritoneum (non-inflammatory) is trifling, as the peritoneum on the digestive tract can be manipulated without symptoms of pain.

The non-sensitiveness of the normal peritoneum induces the Orientals, it is said, to slit open the abdomen to have a painless death. According to Hasse, the sensory nerves of the peritoneum are few. However, in an inflamed condition, the pain of peritonitis is a sad picture of a few distressful days. The pain in both general and local peritonitis is quite intense. In other organs similar conditions exist. Bone, muscle, and tendon are not very sensitive to incisions, but in an inflamed state are extraordinarily painful. Perhaps in peritonitis it is vascular spasm and vascular paralysis which are the base of the pain as in migraine. All coarse dragging or traumatism of the peritoneum is painful, as the breaking up of adhesions and ligation of peritoneal pedicles demonstrate.

The non-sensibility of the normal peritoneum and the intense pain of the inflamed peritoneum are not fully explained by the assertion that the connective-tissue cells, containing a sensory periphery, are isolated in health and in contact during inflammation.

While a pupil of Mr. Lawson Tait, he called my attention to severe pain in patieuts who possessed numerous peritoneal cysts located on the broad ligament. The cysts were perhaps remnants of previous peritonitis, and contained a yellow albuminous fluid.

Analogous, in part, are the oviducal herniæ. Since every viscus may become hyperæsthetic, the peritoneum, with an area equal to that of the skin, has extensive opportunities with its rich nerve periphery. Gubler's peritonismus is doubtless peritoneal hyperæsthesia. In clinical cases after visceral removal diffuse peritoneal hyperæsthesia persists. In the nerve periphery of the skin and mucosa we observe hyperæs-

thesia and anæsthesia. Why not, in the rich nerve periphery of the free peritoneal surface, find hyperæsthesia and anæsthetic zones?

The peritoneum invests such viscera as the spleen, stomach, enteron, ovary, cæcum, liver, and sigmoid so completely that they could scarcely be wounded without injury to itself. The kidney, right and left colon, uterus, oviducts, and bladder are partially uncovered by the peritoneum, and may be wounded without involving it. Inflammation of the viscera closely invested with the peritoneum, is followed by visceral peritonitis, as typically observed in the spleen, enteron, ovary, liver, and uterus. Viscera loosely or partially invested by peritoneum, may suffer severe parenchymatous inflammation without involving the peritoneum; as may be observed in the kidney, adrenal, right and left colon, posterior surface, oviduct, and pancreas. The loose subserous bed of connective tissue (mesoderm) on which the peritoneum rests allows it to glide about freely, and hence large abscesses may form from behind and burrow in various directions, finally discharging through the skin, without giving rise to peritonitis. The external surface of the peritoneum withstands inflammatory attacks to a remarkable degree, while the internal surface is very susceptible. Quarts of pus may be observed extending over large areas and in contact with the external peritoneal surface, for long periods, without fatal or even grave effects, while a single drop of the same pus coming in contact with the internal peritoneal surface would result in an immediately fatal peritonitis. The difference is between the structural apparatus and function of the peritoneal surface, and those of simple connective tissue. The posterior surface of the colon, right and left, or oviduct, may be perforated without involving the peritoneum, while perforations of the enteron or stomach will involve peritonitis.

Inflammation of the peritoneum, or rather lymphangitis, may lead to the formation of exudates, adhesions, and peritoneal bands, which are the cause of one-third of all intestinal obstruction. The peritoneal bands may strangulate or kink loops of bowel, fix viscera, and cause pain by checking peristalsis and visceral function. Much of the immediate and remote pain of laparotomy is due to peritoneal bands and adhesions from peritonitis, previous or subsequent to the operation. To relieve post-operative abdominal pain, reopen the abdomen aseptically and break up the peritoneal adhesions. The peritoneum is elastic and will allow very extensive stretching, if gradually performed, and still will return to normal. Examples are observed with large tumors and extensive ascites. Distention of the peritoneum may be observed in the sac of a hernia. The parietal peritoneum can be extensively torn without damage to viscera.

The great omentum is the surgeon's friend, which covers up the evil his hands have wrought. It is frequently exposed to trauma. It will quickly plug up small punctured wounds on the enteron and lateral walls of the belly. In a wound passing through the diaphragm, pleura, and intercostal spaces I saw parts of the omentum effectually plug the holes in the skin, found at an autopsy years subsequent to the injury. In another case I saw a large piece of omentum drag nine inches of transverse colon with it through an inguinal hernia. The omentum is frequently found in hernia, especially in umbilical, and in small pouches of median hernia above the umbilicus, causing considerable suffering. The omentum lies chiefly to the left side. It is an aid to diagnosis, since it fixes itself to original points of inflammatory invasions, at the hernial openings, abdominal ends of the oviducts, liver, spleen, appendix, and other points where visceral inflammation may arise. The omentum checks inflammatory invasion by surrounding it with exudates and matting organs together, and thus aiding to close visceral perforation. In gunshot perforations of the tractus intestinalis, I have observed it actually closing the wound. The omentum will nourish isolated tissue. Tumors whose pedicles have been twisted off by axial rotation may secure ample subsistence from the omentum. In hernia the omentum generally contracts adhesions to the bowel wall or sac, which thus becomes fixed; whence, by frequently dragging the omental band on the attached viscera, reflex and other disturbances will be produced. By its attachment in the hernial sac, or at the other points in the abdominal cavity, the omentum will form an arch under which bowel loops may become strangulated. Apertures should never be left in the omentum, as animal experimentation demonstrates that loops of enteron are very liable to pass through them and become strangulated. In several hundred autopsies I found the omentum covering the cæcum in some eight per cent. of subjects. It is an abdominal drain, and when it contains much fat it acts as a protector to the bowels. It prevents the bowels from becoming adherent to the anterior mobile abdominal wall.

The mesenteries are important in all abdominal and pelvic surgery, as they contain the blood-vessels, nerves, lymphatic vessels, and lymph nodes. They are the neuro-vascular visceral pedicles. The mesentery consists mainly of three layers, viz., (*a*) the middle, permanent, connective-tissue layer, containing nerves and vessels all woven together by connective tissue. This is the mesenterii membrana propria. (*b*) On each side of the mesenterii membrana propria or middle mesentery is a thin endothelial or peritoneal layer. The mesenteries divide the abdominal cavity into compartments, which aid in preventing fluids or infectious invasions from general distribution. The mesentery acts as a barrier, and each peritoneal compartment corrals its host. The mesenteron and meso-sigmoid aid in checking infections from passing upward. The mesocolon ascendens often corrals the pus of appendicitis between itself and the right abdominal wall, and with the aid of the colon transversum and ligamentum hepato-colicum circumscribes the infection which may emanate from the gall bladder. The ligamentum latum uteri frequently circumscribes the pus from the oviduct, preventing it from passing forward on the bladder, or upward into the enteronic loops—the dangerous grounds of peritonitis.

Practically, the mesenteron begins at the distal end of the duodenum, near the distal border of the pancreas, or second lumbar vertebra, whence it passes in an oblique line over the vertebral column, crossing the great vessels, and ending in an uncertain position in the right iliac fossa. The standard for the location of the distal end of the mesenteron should be the right psoas muscle. The left layer of the mesenteron is continuous with the right blade of the left mesocolon, and the right layer is continuous with the distal layer of the mesocolon transversum, and also the left blade of the right mesocolon. The left layer of the mesenteron passes over the sacral promontory into the pelvis, and also becomes the right blade of the meso-sigmoid. In several hundred personal autopsies the average length of the dorsal insertion of the mesenteron, the root, was about six inches, while the distance from the dorsal insertion of the mesenteron to its ventral visceral surface was six and one-half inches. The dorsal insertion of the mesenteron explains how hemorrhage, occurring on its right side, conducts the blood first into the right iliac fossa, while if the hemorrhage arises on the left side it will flow into the pelvis. The length of the mesenteron from spine to enteron varies in different segments of the tract from zero to ten inches, averaging six and a

half inches in women and seven in men. Practically the middle seven feet of enteron has the longest mesenteron, which allows the loops to fall into the pelvis or pass through some hernial ring (in ninety-eight subjects in one hundred).

The mesenteron is relatively long in infancy, shorter again in the second and third decade, after which it elongates every subsequent ten years, until the pronounced enteroptosis of old age exists. The root of the mesenteron and a large area of dorsal peritoneum may, after thirty years of age, gradually glide distalward, constituting visceral ptosis, which is accompanied by neurosis and deranged digestion. Herniæ are doubtless not so much due to visceral ptosis as to congenital and degenerative defects of the abdominal wall.

Apertures in the mesentery may arise, through which loops of bowel may glide and become strangulated. Mesenterial apertures are due to peritoneal defects, especially when irregular, and to trauma when slit shaped. Defective mesenterial apertures may be found about the lower ileum, due to lack of blood supply. The anastomosis of the ileo-colic branch of the superior mesenteric artery, with the right enteronic artery, circumscribes an oval area, poorly supplied with blood. It is an atrophic area with little or no fat, and the peritoneum becomes so thin that slight trauma produces an aperture. In peritonitis deformans the mesenteries may become practically obliterated. The mesosalpinx and mesometrium frequently become distorted or contracted from inflammatory processes, compromising circulation, compressing nerve periphery, and inducing trains of reflexes.

AMENORRHŒA.[1]

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Amenorrhœa may be defined as a permanent or temporary absence of the menses during the period of life at which they should be present. It has its causation in general states of the system or local pathological conditions of the sexual organs. Of the general states it may be said that the most frequent causes of amenorrhœa are those constitutional diseases which lead to the general impoverishment of the blood and to anæmia. Bright's disease is a frequent etiological factor, and in this disease the cause of amenorrhœa may be found in circulatory disturbances as well as in the anæmia always present. Tuberculosis is another common cause of amenorrhœa. Here the anæmia due to malnutrition and the exhaustive nature of the disease are the chief factors in bringing about amenorrhœa. So common a causative factor is tuberculosis, and so often is it mistaken for a result of amenorrhœa, that it is worth our while to pause a moment and consider more specifically the clinical aspect of amenorrhœa dependent upon tuberculosis.

The laity ascribe to the absence of menses a causation of pulmonary tuberculosis, and so great is their solicitude respecting the appearance of the sanguinary flow that they are continually importuning the physicians to re-establish this function, expecting thereby to turn aside or to cure the phthisis. Nothing could be more fallacious. The writer has been deeply impressed many times by the local pathological findings of cases of tuberculosis attended by amenorrhœa. He can best illustrate this subject by briefly relating the history of a case which came under his observation recently.

A young married woman, thirty-two years of age, came to the City Hospital for treatment because of the absence of menses and presence of great weakness. There were general pallor of countenance and slight cough, and also anasarca. No evidence of Bright's disease was found on examination of the urine, but an examination of the chest revealed extensive tuberculous involvement of one lung. The patient's anxiety to menstruate seemed to be emphasized by her great fear of pregnancy. There had been an absence of the menses for five months. The repeated efforts of several physicians to re-establish the function had failed. The physical examination of the pelvic organs revealed atrophy of all the organs of generation. The external labia were infantile, the vagina was small and short, the uterus was atrophied, and the ovaries were small; indeed, the general aspect of these organs was that of those possessed by a woman who had passed the menopause. This condition of the sexual organs is such as has forcibly attracted the attention of the writer upon many occasions, and is sufficient explanation of the futile efforts of many of us in our endeavor to bring about the restoration of the menstrual function in tuberculosis. The change of life which has taken place prematurely has resulted from the profoundly exhausting effect upon the system of the phthisis.

Chlorosis is another disease often attended by amenorrhœa in young women. This disease usually first manifests itself at puberty, and then only because of the unusual demand that is placed upon the circulatory and nutritive systems at the period of the secondary development of the sexual organs. While a deficient development of the arteries has undoubtedly been present from birth, yet this has not been manifested until now. The amount of hæmoglobin has been just sufficient to supply the ordinary demands, but now an unusual supply is needed. The system cannot furnish it. Anæmia results and the menses are not established; or if they have been partially established, they cease to appear.

Still another condition of the general state resulting in amenorrhœa may be found in those young girls living in an unhygienic environment, who take on rapid growth at the time of puberty. The air they breathe is impure, the food is insufficient, and their strength is taxed beyond their power of endurance. The result is anæmia, and the imperfect or retarded growth of the sexual organs; hence the absence of the menses until years beyond the time at which they usually appear.

The writer has not infrequently seen, and dares say his observations have been duplicated by many of the audience, young women who have suffered from amenorrhœa after acute attacks of scarlet fever and pneumonia. In due course of time, after the blood supply has increased and general nutrition of the body is restored, the menstrual flow is re-established.

Of the local conditions resulting in amenorrhœa I shall first mention atresia of the vagina or occlusion of the outlet from an imperforate hymen. This is a rare occurrence, but I dare say some of you have met with one or more instances of this kind. The writer is persuaded that amenorrhœa from complete occlusion of the vagina from a thickened and imperforate hymen is of very rare occurrence, inasmuch as he, after a somewhat prolonged and extensive practice, has never met with such a case. He has, however, met with one or two instances of partial occlusion of the vagina from an imperforate hymen and partial retention of the menstrual flow, but never an instance in which there was complete occlusion and retention. He once saw a marked case of uterus bilocularis with double vagina in which there was a minute opening in one

[1] Read before the St. Joseph County Medical Society, January 28, 1900.

vagina which allowed a very slow escape of the menstrual flow, so that oftentimes the vaginal tube was distended during the period of menstruation and for some time afterward.

The writer has also met with a curious case of atresia of the uterus and vagina, resulting from sloughing following the retention of a placenta. After healing, the woman never menstruated. For a little time this did not attract attention from the patient, but after a time, as the cicatrix became more dense, other troubles arose, and she sought relief. I saw her a few months after her confinement. The vagina was occluded, and there was every evidence of general atrophy of the sexual organs. I dissected my way through the tissue along the site of the original vagina until I reached the cervix uteri, which was also found occluded. No cavity could be found within that organ. The patient did not subsequently menstruate, and, in spite of the utmost endeavor, at the end of three months after the operation the vagina was again obliterated.

One of the most common causes of amenorrhœa in young women is imperfect development of the uterus or ovaries, or both, and it is surprising how frequently one who has much to do with this class of cases will encounter such imperfect development; and it is surprising, too, to note the characteristic marks that are often left upon the woman as a consequence of such imperfect development—as, for instance, in case of the absence or imperfect development of the uterus and ovaries, we will as a rule find stunted women, that is to say, women who have never reached physical perfection. We will observe it in their small hands and feet, small ears and nose, low stature, frequently in their infantile voice, and we will observe it, too, in the absence of those characteristics of anatomical development which are peculiar to the mature woman, namely, the broad pelvis and the rounded bust.

The writer has under his observation at present a patient who well illustrates these facts. She is nineteen years old, and has never menstruated. She is small, and while she has been engaged in outdoor work and has a ruddy complexion, yet she has the small hands and feet above referred to, childish voice, and general immature appearance. A physical examination shows an under-development of all the sexual organs, both external and internal. The uterus measures one inch in depth, the cervix is scarcely as large as one end of the finger. The proportionate size of the body and the cervix is nearly normal, showing that there is congenital atrophy of the organ. The ovaries, or what I took for ovaries on combined examination, are infantile. The curious thing about this case is that whereas the breasts are very nearly the size of those of a well-developed woman, yet the nipples are infantile. In other words, we have here that rare condition known as micromasia. In some instances in which there is an absence of the development of the sexual organs it will be found that the victim will possess many characteristics of the opposite sex, that is to say, in growth and general appearance. The voice is somewhat coarse, the chest is flat, the pelvis has the form of that of the male, and beard is likely to appear upon the face.

In not a few cases it will be found that in the development of the organs of reproduction there has been a blighting of the organs developed from the ducts of Müller, so that the Fallopian tubes, uterus, and vagina are either absent or rudimentary, and yet the ovaries are well developed. In these instances the woman may be well developed generally, and may possess all the external beauties of the female sex, and unless examined by a competent physician will be entirely unconscious of the extent of her deformity until united in marriage. The writer has met with two instances of this kind. The patients possessed sexual instinct and the menstrual molimen was present. There was, however, an entire absence of the menstrual flow; no vagina, and not a vestige of a uterus could be discovered upon combined examination. The ovaries, however, could be palpated through the rectum. My efforts to establish a vagina in these instances, while at first promising success, were in the end total failures.

There remains yet to be discussed another form of local lesion inducing amenorrhœa. It is that form in which there is atresia of the cervical canal, in which there are well-developed ovaries and a well-developed fundus uteri containing a cavity lined by normal mucous membrane. The atresia of the cervix may have been congenital or caused by localized inflammation, such as sometimes occurs during the progress of an attack of measles or scarlet fever, or may be due to an injury such as trauma or the application of caustics. Such cases as these are not of infrequent occurrence. In the old times of amputating the cervix for epithelioma when the thermo-cautery was employed, or when amputation was done by the knife and the stump treated by the Sims method, it was not an unusual occurrence to find after a year or two atresia of the os and the retention of the menstrual flow.

Suppression of the menses may occur in women who have been previously healthy. Not a few examples of this kind will be found in schoolgirls who are overworked or neglect to take sufficient exercise in open air. Women, too, who are subjected to prolonged mental strain are prone to become anæmic and emotional. Such women are very liable indeed to suffer from mental disorders.

Inflammatory lesions of the sexual organs resulting in suppuration are not infrequently associated with suppression of the menses. Here we may meet with perplexing difficulties in making a diagnosis. A woman presents herself complaining of slight fever, marked pain in the pelvic region, and an absence of menses. The breasts are enlarged and tender, the vagina is enlarged and purple in hue, and combined examination reveals a mass nearly filling the pelvis; and the uterus is movable with the mass—indeed, is a part of the mass. The organ cannot be isolated. The mass is elastic and boggy. The patient is evidently sick, but she has walked to the office or perhaps has travelled from a distant city.

In all my experiences as a practitioner in diseases of women, I have never encountered greater difficulties in diagnosis than are sometimes presented in such a case as this. The diagnosis arrived at after the most painstaking care has not always been entirely free from mistakes.

Recently in a patient who had been acutely ill for five or six weeks, who had had suppression of the menses for four months, in whose pelvis there was a mass of considerable size which was rapidly growing, and whose uterus was empty, the attendant physicians and myself diagnosed a double tubo-ovarian abscess. We operated through the vagina, when we encountered a three-and-a-half months' fœtus with its placenta, and all surrounded by a considerable amount of clotted blood. Fortunately our procedure was the proper one, and our efforts resulted in the rescue of the woman. In this instance there was not a clear history of rupture of the tubal pregnancy. Our diagnostic error lay in not being able rightly to interpret the meaning of a small amount of bloody serum drawn from the mass by plunging a hypodermic needle into it through the cul-de-sac. The needle-point entered the sac containing a blood clot and only a small amount of bloody fluid was obtained. This demonstrated mistake worked for me considerable good, for by the same means I have twice since

differentiated ruptured tubal pregnancy from a pus accumulation.

Double ovarian cysts are sometimes attended by suppression of menses, and if the cysts are not very large and the woman is quite fat, the physician will encounter almost insurmountable difficulties in diagnosis. In such cases the presence of fluctuation alone may be accepted as the determining point in the diagnosis. Every experienced gynæcologist has met with a considerable number of anomalous cases of amenorrhœa which are to him interesting and instructive. I will not weary you by reciting histories of many of them, but beg to present one.

Two or three years ago a young colored woman was sent to me, bearing a note from her mistress. The note ran as follows: "Please examine Fannie and write me your diagnosis. She is accused of being pregnant. She denies it and I am inclined to believe her, but her appearances are against her and she confesses to an absence of menses."

Upon external examination the abdomen was found enlarged to about the form and size of that of a woman six months pregnant. She confessed to me the absence of menses, but said she had never menstruated though thirty years old, and had not told any one, for she had a lover whom she desired to marry. She declared it was not possible for her to be pregnant. I examined her and found the tumor hard, nodular, and movable. The cervix uteri was very small, as was also the vagina. I accepted her statement that she had never menstruated, and passed a small sound into the uterus one inch. Two days later I removed a five-pound pedunculated, fibroid tumor of the uterus, and found the uterus and ovaries infantile. The tumor was subserous and pedunculated. The peduncle was not larger than the finger and not more than half an inch long, and was attached to the fundus of the uterus.

Treatment.—An efficient treatment of amenorrhœa must be based upon a correct knowledge of the lesion causing the absence of the menstrual flow. Our efforts to restore the function in Bright's disease and tuberculosis will be unavailing unless we can arrest and overcome the ravages of these diseases. Indeed, the writer would emphasize the fact that active efforts by the administration of powerful emmenagogues are harmful, for such a course is liable to result in congestion of the pelvic organs and the development of new and distressing symptoms without the hoped-for appearance of menstruation; and, furthermore, should the flow appear, it is prone to lead to greater anæmia, a condition which the attendant physician is using his best efforts to overcome.

Amenorrhœa following acute and debilitating diseases need not as a rule occasion the serious apprehension of physician and patient. Here the chief end should be to restore the health of the patient after the intensity of the attack has passed.

For the pale, anæmic, overgrown girls, the development of whose sexual organs is retarded, out-of-door sports wisely indulged in, together with the systematic administration of iron and arsenic, are generally efficient. In these cases, as the richness of the blood appears and the muscular strength develops, if the menstrual function is not established the stimulating properties of the faradic current may be utilized. Mild emmenagogues are often beneficial. Potassium permanganate in one- or two-grain doses is quite efficient. The intra-uterine application of the faradic current with the short, coarse wire and slow vibrations powerfully stimulates the muscular and circulatory activity of the uterus, and is quite an effective agent in restoring the menses when not dependent upon errors in development or constitutional dyscrasia.

Oftentimes a change of air, scenes, and surroundings will accomplish the greatest good. This is especially true in young women who are suffering from excessive mental work and worry. In all instances, hygienic laws must be observed.

The chlorotic patient may be expected to recover under the influence of appropriate treatment. Iron is the sovereign remedy, but it must be employed in conjunction with other measures.

Food rich in blood-making properties should be directed, and a high state of activity of the digestive and assimilative functions maintained.

It is highly important that the activity of the bowels should be secured. In case of constipation aloes when well borne may be counted the most efficient laxative. Scarcely less important is it that the functions of the kidneys and skin should be kept in normal condition. Tepid baths and friction of the surface of the body are beneficial, and free water-drinking between meals should be encouraged.

On account of circulatory and respiratory disturbances some chlorotic patients are unable to endure sufficient exercise. Here voluntary exercise may be supplemented by massage, Swedish movements, and surface electricity.

With the disappearance of anæmia and the oncoming of good health, the menstrual function is as a rule established. If it is not, the judicious use of the faradic current may be employed and mild emmenagogues administered.

The treatment of amenorrhœa due to occlusion of the vaginal outlet by an imperforate hymen is obvious. Incise the hymen, empty the vaginal tube, and pack lightly with gauze. Dilate fistulous tract in case of double vagina with partial occlusion of one, and dilate a stenosed os and introduce a Wylie drainage stem pessary, endeavoring by this means to secure a permanent patulency of the cervical canal.

When the amenorrhœa is due to retarded development of the sexual organs, if the patient presents herself early, before eighteen or twenty years of age, a reasonable hope may be entertained of establishing the menstrual function as a result of stimulating a growth of the reproductive organs.

Among the most efficient means to accomplish this purpose is the faradic current applied as indicated above. The prolonged administration of iron in small doses, or the iron and aloes pills, is not infrequently efficient. The use of the zinc and copper stem pessary, introduced by Simpson, is probably the most efficient mechanical means, especially in cases in which there is anteflexion of the uterus. In such cases the uterine canal should be dilated previous to the introduction of the stem pessary. There can be no doubt that while the method is often efficient, it is in some instances attended by danger to the patient. The pessary should be shorter than the uterine canal and of just sufficient size to be readily retained in the canal. If it produces the slightest pain or soreness it should be discarded.

A happy marriage, if the woman is otherwise healthy, not infrequently results in the speedy growth of the sexual system and occasionally in pregnancy. It must be remembered that in this class of patients the menopause is prone to appear early, and that miscarriage may occur in the first pregnancy, while a subsequent pregnancy may be followed by a perfectly normal gestation and delivery. In young women possessing highly atrophied uteri and ovaries we need not expect to see the menstrual flow appear, no matter what means are adopted. It is better to withhold all efforts in this direction. Occasionally in young women possessing well-developed ovaries and rudimentary organs developed from the ducts of Müller, life is rendered tolerable only by extirpation of the ovaries. This is a procedure the necessity of which is greatly to be deplored.

The Weight Curve in Infants.—Budin has given attention to the correlation between fluctuations in the normal weight increase of infants and their state of bodily health, and draws the following conclusions from his observations: A weight curve which steadily and regularly ascends is of great value as an indication of good health in infants, but can be taken only as a relative and not as an absolute sign. It often happens that children whose curve is faultless, syphilitics for example, suddenly die in the most unexpected manner. Children suffering from febrile diseases both of mild and severe grades frequently exhibit a weight curve which, instead of descending, rises steadily; these may recover, but are also liable to die. In some instances infants suffering from various disorders increase in weight suddenly and then die after two or three days; thus the author has observed an increase of 250 gm. in twenty-four hours and of 325 gm. in three days. Some of these infants suffer from a localized œdema, others urinate very slight amounts; the quantity of nourishment taken never exceeded the usual amount. This sudden and very marked rise of the weight curve in sick children is never a favorable indication, seeming rather to justify a hopeless prognosis.—*Annales de Médecine et de Chirurgie Infantiles*, June 15, 1900.

The Recognition of Embolism of the Pulmonary Artery.—Drasche reports a case of this interesting complication in which the diagnosis was made before death. The thrombus originated in the inflamed varicose veins of the lower extremities and passing into the auricle occasioned a temporary occlusion of the venous ostium. From this point it travelled into the right ventricle and lodged in the pulmonary artery, which by its gradual accretion was finally completely blocked, death resulting promptly. The symptom complex attending this casualty is sufficiently typical in the author's opinion to permit the diagnosis to be made without difficulty. The phenomena attendant on such a sudden interference with the circulatory mechanism are naturally most severe: syncope, loss of consciousness, convulsions, great restlessness and mental anguish, dyspnœa, cardiac arrhythmia, small or imperceptible pulse, cyanosis, clammy skin, and cold extremities. The physical signs exhibit the greatest variety, but a nearly constant sign is a humming thrill perceptible over the sternum in the neighborhood of the second and third intercostal spaces. At the same time peculiar sounds, rumbling murmurs that outlast the systole, are audible. In the case cited all of these were present, but subsided as suddenly as they had appeared, the patient almost entirely regaining control of herself, only to succumb fifteen hours later to another similar seizure. The author explains the temporary recovery as being due to the dislodgment of the thrombus from its site at the entrance to the auricle, while the long interval before the fatal ending corresponds to the gradual increase in size of the clot after reaching the pulmonary artery.—*Wiener klinische Wochenschrift*, June 7, 1900.

The Etiology of Multiple Sclerosis.—Under this heading Robert Gaupp discusses the question of the causation of this obscure disease. Rejecting as untenable most of the theories advanced, he considers the evidence of later years as pointing strongly toward traumatism of some sort as the primary etiological factor. Nevertheless, it is difficult to understand how a single injury can be capable of inaugurating a morbid process which often after a quasi-latent period of considerable duration continues to increase progressively for a practically indefinite length of time. It is also impossible directly to reconcile this theory with the anatomical findings, and the most rational view seems to be that either the continuous formation of some chemically toxic substance is caused, or that at the time of the injury the system at large is sufficiently disorganized to render it vulnerable to latent disease foci already present. It is in this way, perhaps, that most of the causes adduced (such as infectious diseases, acute intoxications, exposure, over-exertion, etc.) act, viz., by weakening the organism at large and particularly the nervous system. In confirmation of this view he reports at length the case of a machinist in whom all causative agencies could be excluded except a fall from a height of fifteen or twenty feet, which rendered him unconscious for a considerable length of time. Shortly after this he began to suffer from symptoms which gradually developed into those of a classical multiple sclerosis, and inasmuch as up to the time of the injury he had been perfectly well and had never been subjected to any other hardships, the author feels justified in considering the disease as a direct consequence of the trauma.—*Centralblatt für Nervenheilkunde und Psychiatrie*, June, 1900.

A Case of Unusual Cerebellar Tumor with Hydrops Ventriculi.—L. R. Morris reports a case occurring in a girl of six years. On autopsy the cerebrum presented no notable macroscopical changes except flattening of the convolutions. No tumor was visible until after a longitudinal incision through the corpus callosum and a separation of the hemispheres. Then there was exposed a brownish-red tumor, about the size of an egg, lying in the median line and touching the cerebellum. The lateral ventricles were opened and were full of a thin, reddish fluid; their surfaces were stained yellow. Projecting into the right ventricle from the foramen of Monro was a cyst, formed by the velum and filled with a bloody fluid. No further exploratory incisions were made at that time. There was about six ounces of fluid in the cranial cavity. The microscopical examination showed the tumor to have the structure of a small round-celled sarcoma augmented by repeated hemorrhages.—*Medicine*, July, 1900.

Sterility in the Male.—E. Ries makes a study of this condition, paying special attention to azoöspermia due to obstruction in the system of sperm channels. He makes two classes of cases, according to the presence or absence of changes in the cellular tissue surrounding the seminiferous tubules. The most marked of these changes is the formation of a zone of hyaline tissue around the seminiferous tubules in the place of the normal flat connective-tissue cells which form the physiological sheath of the tubules. This zone of hyaline tissue cuts off the epithelium from its supply of nourishment, normally derived from the blood-vessels of the intertubular connective tissue. Degenerative changes of the epithelium accompany the formation of the hyaline rings. Where the hyaline zone is thin we find the epithelium of the tubule either normal, even containing spermatozoa, or the spermatozoa are absent and we find only a few layers of epithelium, or even only one layer, the border-lines between the cells frequently becoming indistinct. There is, however, a distinct cavity of the tubule which is sometimes filled with spermatozoa. With the further encroachment of the hyaline zone the epithelium is reduced to a very thin, flat layer resembling endothelium, and these tubules contain nothing but a few fragments of cells. In the most pronounced cases the lumen of the tubule disappears completely, and instead of a channel lined with epithelium nothing is seen but a more or less wavy and hyaline mass of tissue with very few nuclei, without any trace of the normal testicular epithelium.—*Medicine*, July, 1900.

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THE RELATIONS BETWEEN INFLUENZA AND CHRONIC DISEASE OF THE HEART.

AN abundant experience has shown that the poison of influenza, among other evil effects, is capable of exerting a profoundly deleterious influence upon the circulatory apparatus. It is well known that especially the aged and the debilitated are prone to fall victims and to succumb to the disease, and this result, it may be readily surmised, is principally attributable to influences acting upon the heart. An interesting discussion of the cardiac complications of influenza is entered upon by Schott (*Berliner klinische Wochenschrift*, 1900, Nos. 21 and 22), who points out that several groups of cardiac lesions in the course of influenza may be distinguished: (1) those due directly to influenza, (*a*) during the febrile course, (*b*) during a relapse; (2) those occurring as sequelæ; (3) those due indirectly to influenza, through disease of other organs.

Influenza gives rise most frequently to cardiac neuroses, both motor and sensory. These are generally attributable to the action of toxins, and although this is probably the correct explanation, it has not been determined with absolute certainty. Abnormally increased frequency of pulse is often attended with diminution in arterial pressure, with dicrotism, and with arrhythmia and allorrhythmia. The frequency of pulse often bears no relation to the temperature, being disproportionately greater than in other febrile diseases. Bradycardia occurs with unusual frequency in the sequence of influenza, but likewise in association with irregularity and inequality of the pulse, although less commonly with dicrotism, while lowered arterial pressure is not rare. There may further be alternation between tachycardia and bradycardia, sometimes in consequence of exciting influences, such as excessive physical activity, emotional disturbances, overloading of the stomach, and the use of alcohol, coffee, or tea; but at other times it may develop suddenly without obvious cause. These uncomplicated cardiac neuroses are by no means always free from danger, but they may be associated with weakness of the myocardium and dilatation of the heart. As long as the patient remains at rest the heart may exhibit no deviation from the normal on auscultation or percussion, but on slight mental or physical exertion the conditions are changed, and one or both ventricles may become dilated, and the first sound at the apex may occasionally be dull or impure on auscultation. Such a condition may persist for a long time.

The sensory neuroses occur less frequently than the motor in association with influenza, although even they are quite common. Little is known of vasomotor cardiac neuroses. Cardiac pain, in the form of pseudo-angina, as well as true angina, is, however, not infrequent. A neurasthenic condition of the heart is common. As already stated, the toxins of influenza may exert a directly injurious influence upon the heart muscle, and thus readily bring about conditions of exhaustion and relaxation, and thereby frequently myocardial weakness, especially as a result of carelessness, as from getting up prematurely, and exposure to cold and wet. Such conditions, unattended with further complications, may either disappear spontaneously, or yield speedily to appropriate treatment. With an unsuitable mode of life, however, permanent injury may result, with dilatation and all of its deleterious effects, and even fatty and parenchymatous degeneration of the myocardium may occur. The dilatation may give rise to relative insufficiency of the mitral valve, with a systolic murmur at the apex, and possibly, also, to relative aortic insufficiency. Influenza, further, may be attended with acute dilatation of the heart, and sudden death may follow.

Valvular disease of the heart, in consequence of primary endocarditis due to influenza, has been recorded by numerous observers, but it is more common as a result of disease of the pericardium, the pleura, the lungs, or as a complication of acute rheumatism. Disease of the myocardium is even a more frequent result from this cause. Old persons, and especially those presenting advanced arteriosclerosis, are exposed to especial danger in this connection, and a large proportion of deaths from influenza occur in such individuals. Other disturbances in the pulmonary circulation, such as may be induced by influenza, embarrass the action of the heart in part in a purely mechanical manner, and in part through chemical influences, such as accumulation of carbon dioxide in the blood. Those suffering from universal adiposis are predisposed to such disease of the heart, even in the absence of any trace of fat heart or of vascular alteration. Influenza may convert a mild variety of glycosuria into one of moderate severity, and it may render latent mellituria active, and thus affect the heart. Influenzal changes in the heart occur with relative frequency in cases of gout. The gastro-intestinal disturbances of influenza may induce enfeeblement of the myocardium in two ways—namely, through the resultant anæmia, and through distention of the intestinal tract, with more or less marked flatulence and displacement of the diaphragm upward. It is not definitely known, although it is possible, that the toxins of influenza exert a directly injurious influence upon the state of the blood.

Influenza most readily, and most rapidly, attacks a heart already diseased, altered, enfeebled, or irritated. The danger consists, not only in derangement of compensation, but also in renewal of the endocarditic process. Patients with congenital valvular disease,

or congenital deficiency of the inter-ventricular septum, are often destroyed within a short time, or present marked derangement of compensation. In the presence of myocarditis of arteriosclerotic origin, compensatory derangement and anginal attacks of marked severity occur in conjunction with more or less rapidly progressive inflammatory processes. Fat heart may be readily converted into fatty degeneration, and the enfeeblement may be marked. Attacks of syncope of longer or shorter duration may also occur, and thrombotic or embolic vascular occlusion may result. Not only are previously existing cardiac neuroses readily regenerated or aggravated by an attack of influenza, but the toxins also impair the muscular activity of the heart, and dilatation consequently results. The latter may, however, be due to other causes, such as insufficiency of nutrition during or immediately following the febrile influenzal period, especially in consequence of too exclusive a milk diet, and also after excessive doses of antipyrin, abnormally large doses of alcohol given with especial frequency, and over-irritation of the heart. Under such circumstances the state of relaxation is all the more marked. The debilitated conditions of the heart involve sometimes the right and sometimes the left ventricle, and sometimes both. The aggravations in the conditions of the heart induced by influenza are almost unexceptionally attended with lowering of the blood pressure.

THE NEED OF UNIFORMITY IN THE STANDARDS OF MEDICAL EDUCATION.

During the current year attention has been called on several occasions in the Medical Record to the question of interstate reciprocity in medical licensing, and the best means of bringing about this most desirable event has been touched upon. On February 10th in an article "Medical Education in the United States," the opinion was given that the National Confederation of State Medical Examining and Licensing Boards was the only body fitted by its composition to deal efficiently with the matter, and that to it must be left the solving of the problem, and the hope was then expressed that at its meeting at Atlantic City a discussion of the subject in all its bearings might tend to evolve order from the present decidedly chaotic condition of affairs.

We are glad to say that this hope has been realized to a considerable extent. The Confederation met in Atlantic City on June 4th, and the reciprocity difficulty was pretty thoroughly threshed out. Drs. William Warren Potter, of Buffalo, James A. Eagan, of Springfield, Ill., E. B. Harvey of Boston, J. N. McCormick, N. R. Coleman, of Columbus, Ohio, and others took part in the discussion. The agreement was unanimous as to the need of reform in the existing State medical laws, but the consensus of opinion was that any movement to this effect should be deliberate and well considered, and that nothing should be done hastily. The National Confederation appointed an interstate reciprocity committee consisting of the following members: Dr. Spurgeon, of Indiana, chairman; Dr. Amberg, of Detroit, secretary; Drs. Harvey, of Massachusetts, Korndoorfer, of Pennsylvania, and Swarts, of Rhode Island. The section on State medicine of the American Medical Association appointed an interstate reciprocity committee of three: Dr. Motler, of Washington, D. C., chairman; Drs. Amberg, of Detroit, and McIntire, of Easton, Pa.

That interstate reciprocity is badly needed will be allowed by all, but that under the present conditions it is impossible is a fact just as indisputable. The first steps to be taken is the introduction, as far as is possible, of a uniform standard of medical education throughout the country. Mr. James Russell Parsons, the author of an excellent monograph on the subject, suggests, as a uniform standard for admission to medical practice in all parts of the United States is at present impracticable, that instead of the adoption of a separate standard for almost every political division two, or at most three, standards should answer for all. One phase of the situation is both noteworthy and satisfactory: the members of the medical profession of this country are becoming more and more alive to the incongruity, not to say absurdity, of the existing methods of medical education in the various States. After all, the remedy lies in their own hands. If they determine that the standards shall be raised and placed upon a uniform plane, all obstacles will quickly melt away.

THE "NEW YORK MEDICAL JOURNAL" CHANGES OWNERS.

The ownership of the *New York Medical Journal* has passed from the publishing-house of D. Appleton & Company to Mr. A. R. Elliott, an advertising agent of this city. We understand, however—we certainly hope—that the editorial department will remain in charge of the present editor, to whose able management for so many years the journal owes its high professional standing. This change has been anticipated for some time, for it was learned last spring, at the time of the temporary embarrassment of this old and honored publishing-house, that some of their publications, notably the *New York Medical Journal*, were financially unprofitable. Notwithstanding an actual subscription list of something over six thousand, and an advertising patronage of upward of forty pages per week, the expenses of publishing this journal were considerably in excess of the income from all sources, and the receiver, therefore, decided to dispose of the property, with the result above stated.

It will doubtless be a matter for surprise to the great majority of the profession to learn that a medical journal apparently so prosperous was financially a failure, and it will perhaps dispel the idea which seems to prevail that the profits of publishing medical journals are fabulously large. Those who have had experience in such matters know well that the publication of a medical journal is very different from that of an illustrated magazine for the general public. The latter can be sold at a price irrespective of the cost of manufacture, and thereby secures an enormous circulation, the profit on the undertaking being derived

wholly from the advertisements. The number and variety of the latter which can be secured for a monthly magazine are practically unlimited, whereas in the matter of reputable medical advertising there is a very sharply defined limit. This change of ownership of the *New York Medical Journal* may serve to impress the truth of the facts just stated upon the minds of the more or less experienced financial backers of some other of our contemporaries which are now being published at a heavy loss.

News of the Week.

Yellow Fever in Cuba. — During the first half of July there were forty-five cases of yellow fever reported in Havana, with sixteen deaths. Nearly all of the patients were newly arrived Spaniards, very few being Americans. A woman who arrived at this port last week in a steamship from Havana was found to be suffering from yellow fever and died at quarantine the day after her arrival. In a despatch to the War Department from Havana, it is reported that General Lee has obtained information that leaves no doubt about the existence of yellow fever among the troops at Pinar del Rio, and that nine deaths there last month, reported as pernicious malarial fever, are now believed to have been yellow fever. Surgeons sent to Pinar del Rio to make an inspection have reported that yellow fever exists among the troops. The despatch also says that there are five suspected cases of yellow fever among the soldiers stationed at Guanajay.

Jubilee of the St. John's Guild.—The twenty-fifth anniversary of the beginning of the floating-hospital service of St. John's Guild was celebrated last week, when the members and officers of the Guild and their friends took a trip down the bay with the children on the *Emma Abbott*, had a luncheon and appropriate exercise on board, and returned to the city later on the *Helen C. Juillard*. The first trip of the *Emma Abbott* was made on July 19, 1875. The *Helen C. Juillard* was put in commission last summer. The trained-nurse department was started in 1887, and the salt-water bathroom on the floating hospital the following year.

Infant Mortality in Brooklyn.—It was stated recently in a Brooklyn newspaper that the mortality among children under five years of age is greater in that borough than in any city in the United States, and very much higher than in Manhattan. The main reason for this difference between the two boroughs is alleged to be that there is no summer corps of physicians to visit the tenements in Brooklyn, prescribe for sick babies not under the care of a physician, and instruct the mothers in the elementary rules of hygiene.

Smallpox Outbreak in Montreal.—Owing to an outbreak of smallpox the board of health of Montreal has ordered house-to-house vaccination. Within the last two weeks there have been a dozen cases, four of which terminated fatally. They are all in the good English residence district.

The Prevention of Premature Burial.—The American Society for the Prevention of Premature Burial, which is modelled on about the same general lines as the London society of the same name, has been organized in this city. The founders of the society are Mr. Clark Bell, Dr. Thomas Darlington, Dr. Henry J. Garrigues, Mr. Cyrus B. Gale, and Mr. H. Gerald Chapin.

Measles on a Naval Training-Ship.—The naval training-ship *Newport* returned from Boston to Newport recently with several suspicious cases of measles on board. During the previous visit of the *Newport* there an epidemic of that malady developed, and the cadets sick at the time were sent to the Naval Hospital, on Coasters Island. All recovered, and the ship sailed with the belief that the sickness had entirely disappeared.

Heroic Therapeutics.—It is reported that as the result of a fall from the roof of his house speech has been restored to a man in Pittsburg who for fifty years had been unable to express himself in other than the sign language. The remedy seems an unnecessarily violent and dangerous one when it is known that hysterical disorders, as this can only be, are often readily and as efficaciously relieved by less vigorous suggestive treatment, such as bread-pills, hypodermic injections of water, applications of electricity, the laying on of hands, prayer, and other more recent and more fashionable delusions.

A New German Hospital Building will soon be erected at the corner of Lexington Avenue and Seventy-seventh Street. The cost of the new building, and of alterations to the building adjoining this site, and now used as the woman's ward of the hospital, will be $150,000.

Scholarships of the American Medical Association.—In accordance with the recommendation of Dr. Keen in his presidential address, the trustees of the American Medical Association have established a fund of $500 to be expended annually for the encouragement of scientific research, but no sum given to any individual shall exceed $100 at one time.

The Faith-Cure Fad.—It is stated in the *Medical Sentinel* that there are twice as many persons studying in the so-called schools of mental healing, faith cure, Christian science, and the like, than in all the medical schools in the country combined.

The Second Cuban Medical Congress, which was to have been held in Havana the last week in February, 1901, has been postponed to a corresponding date in 1902. This action has been determined by the resolution of the international executive committee to hold the third Pan-American Medical Congress in Havana in December of the present year.

Dr. George O'Hanlon, of King's Park, has been appointed first assistant physician at the Long Island State Hospital.

"Archives de Médecine et de Chirurgie Spéciales" is the name of a new monthly journal of Paris, established and edited by Dr. Suarez de Mendoza. It is a sort of review of reviews of the specialties in medicine.

Care of Lepers in Louisiana.—The State legislature of Louisiana has added $5,000 to the $20,000 appropriated one year ago to purchase the site and erect suitable buildings for the care and treatment of the lepers of the State. The present hospital is only leased for a definite time and is inconveniently situated. The board of control of the Leper Home intends to purchase a site as near New Orleans as possible, in order that every facility may be had for treating these unfortunates. The board applied for an increase of $20,000, but succeeded in getting but $5,000.

A Deserting Russian Naval Surgeon.—Dr. Leo Alexandroff, an assistant surgeon in the Russian navy, was sent to Philadelphia recently with a crew of sailors to man the cruiser *Variag*, which has just been built here for the Russian government. On arrival here he deserted, but was arrested at the instance of the Russian vice-consul and was held to await requisition papers. It was contended that he was simply a deserter from the navy and not from any particular vessel, and that therefore his case was not provided for in the treaty relating to deserters from naval vessels. The United States district judge, before whom the case was tried, discharged the prisoner on this ground, but the counsel for the Russian government immediately took an appeal to the United States court of appeals, and Dr. Alexandroff was held in bail pending a decision of that court.

The Spitting-Nuisance in Atlantic City.—The board of health of Atlantic City has declared spitting in public places, in cars or 'buses or any conveyance, or on the boardwalk or any sidewalk, a nuisance, and any person, persons, or corporation making, causing, maintaining, or permitting any such nuisance shall forfeit and pay a penalty of $20.

Faith-Cure in Philadelphia.—The coroner of Philadelphia has committed for trial a man under whose care death occurred in an infant seven months old, from convulsions during teething, as a result, in the opinion of the coroner's jury, of criminal neglect. The offender claimed to be one of the "children of God," believing in the "cure of disease by prayer." Hence the services of a medical man were not sought. Even incarceration was without terror, from a sense of "deliverance through faith."

Philadelphia Hospital.—Dr. Emanuel S. Gans and Dr. Milton B. Hartzell have been elected dermatologists to the Philadelphia Hospital, in succession to Dr. J. Abbott Cantrell, resigned.

Mortality Statistics in Philadelphia.—For the week ended July 21st, there were reported to the Philadelphia bureau of health 564 deaths, being 31 more than for the preceding week and 41 more than for the corresponding week of the previous year. Of this number 17 were due to sunstroke, 89 to cholera infantum, and 23 to inanition in infants. Among other causes of death are: pulmonary tuberculosis 45, gastro-enteritis 42, marasmus 34, convulsions 30, heart disease 27.

A Fertile Source of Typhoid-Fever Infection has been found in the handling of the well-rope or chain by those in attendance upon a typhoid patient. Such being the case, physicians practising in country districts should see to it that these attendants do not draw water from the well. It is easy to see how a whole family may be infected by the drinking-water when such infected hands have been literally washed in the well. Those familiar with the very common mode of raising water from wells by the bucket system will readily appreciate the force of this suggestion.—*Richmond Journal of Practice*, June, 1900.

First Steps in Medical Reciprocity.—At a regular meeting of the State board of medical examiners held at Newark, N. J., July 5th, a resolution was adopted that the board will hereafter indorse the licenses of any State board of medical examiners in the United States, in lieu of an examination, provided that the candidate for indorsement shall present satisfactory evidence of having the academic and medical education required by the New Jersey State board, and that the license presented for indorsement shall have been issued after a State examination of the same grade and kind as that required in New Jersey.

A Seasonable Procedure.—In its unbounded zeal and enthusiasm a Philadelphia homœopathic medical society continues its monthly meetings during the heated term; but temperatures of 100° and thereabouts are not conducive to a large attendance and an interested audience. So, adapting itself to the circumstances, this modern and progressive society engaged a steamboat for its July meeting, and those who were loyal and fortunate enough to attend were regaled with river breezes while listening to scientific discourse.

Typhoid Fever at a Golf Club.—Alarm has been caused among the members of a golf club near Chicago by an epidemic of typhoid fever which has claimed as victims nearly fifty persons who frequented the club's greens. Thirty-three caddies are suffering with typhoid fever and one has died. Ten employees of the club are confined to their beds, one club member has died, and three more have been stricken. The water of a well on the links was much used by the golfers in preference to the regular supply for the club, which is drawn from artesian wells. When the outbreat of typhoid fever occurred, suspicion was directed to this well, and a bacteriological examination of the water showed the presence of Eberth's bacillus.

A Day Nursery.—Plans have been filed by the Brightside Day Nursery and Kindergarten of this city for a new building, five stories in height, to be erected on Cannon Street, near Rivington.

Disease at Nome.—According to the reports of travellers returning from Nome, the sanitary condition

of that place is very bad, smallpox, typhoid fever, and pneumonia being epidemic. A Chicago physician is quoted in the papers as saying that things there "are fast approaching a frightful crisis. Everything is polluted with disease. Water is filled with filth and deadly germs. The beach for six miles is filled with disease. Here and there can be seen danger signals flying from tent poles. As the pest house is full, many smallpox patients are being cared for in their tents until the government houses are completed. People are dying within forty-eight hours after being taken ill with pneumonia. Officials at Nome are sending out orders for one thousand cots for use in hospitals that are being built. They are to have a pneumonia hospital and a separate hospital for smallpox. Outside of the regular physicians, it is almost impossible to get men to work in the pest house, even at $2.50 per hour, which was being offered."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending July 20, 1900. July 14th.—Medical Director P. Fitzsimons detached from the naval examining-board, Annapolis, Md., and ordered to duty in charge of the naval hospital, Newport, R. I., July 21st. Medical Director H. J. Babin detached from duty as president of the medical board of examiners, naval laboratory, Brooklyn, N. Y., July 25th, and ordered home and to wait orders. Surgeon L. G. Heneberger detached from the naval hospital, Newport, R. I., July 21st, and ordered to duty as member of the board of medical examiners, naval laboratory, Brooklyn, N. Y., July 25th. Passed Assistant Surgeon A. M. D. McCormick detached from the *Chicago* and ordered to the *Montgomery*. Assistant Surgeon J. R. Whiting detached from the *Montgomery* and ordered to the *Chicago*. Assistant Surgeon C. N. Fiske detached from the navy yard, Boston, and ordered to duty with marines at San Francisco, Cal., and then to duty at the naval hospital, Mare Island, Cal. Assistant Surgeon J. H. Payne, Jr., detached from the naval hospital, Mare Island, Cal., and ordered to the Asiatic station with the fifth battalion of marines. Pharmacist A. Prosperi detached from the naval academy, July 21st, and ordered home and to wait orders; retired from July 3, 1900, under the provisions of section 1,143, Revised Statutes, upon his own application, after forty years' service.

The "Archivos de la Policlinica," a medical weekly publication of Havana, has suspended publication. It was established eight years ago, and has been ably conducted by Dr. Enrique López and a staff of collaborators.

Obituary Notes.—Dr. Divie Bethune McCartee, a pioneer among medical missionaries, died in San Francisco on July 17th, while on his way to this city from Japan. Dr. McCartee was born in Philadelphia on January 13, 1820, and was the eldest son of the late Dr. Robert McCartee of this city. He attended Columbia College, and then went to the University of Pennsylvania, from which institution he received the degrees of A.B. and M.D. He began the practice of medicine in Philadelphia, but in 1843 went to China and opened a medical mission in Ningpo early in the following year. He lived in China for forty years, mastering so perfectly the official language of the country and several of the dialects that he was employed as interpreter in the local Chinese courts. The Chinese government gave him a gold medal in recognition of his services in connection with the suppression of the Macao coolie traffic, and later he received the title of consul-general for services in the Chinese legation. He afterward went to Japan and worked as a missionary there, and became so proficient in the language that his services as interpreter were made use of again by this government. He was decorated by the Japanese emperor with the order of the Rising Sun. His widow survives him.

Dr. Samuel Russell Welles died at his home in Waterloo, N. Y., July 13th. He was born in Waterloo, February 23, 1825; was graduated from Geneva College (now Hobart) in 1845, and received the degree of M.D. at Buffalo University in 1848. In 1862 he entered the military service as acting assistant surgeon in the Sixty-First Regiment, New York State Volunteers, and received a commission in March of that year. In 1875 he was elected a trustee of Hobart College, and was twice sent to the legislature from Seneca County.

Dr. Elias S. Peabody died at his home in Taylorville, Ill., on July 20th, at the age of eighty-seven years. He was born in Stonington, Conn.

Dr. Clitus S. Hoag, of Bridgeport, Conn., died on July 18th, aged forty-five years. He was a graduate of the Hahnemann Medical College, Philadelphia, in 1877.

Dr. Oswald B. Finney died at his home in Onancock, Va., on July 23d, at the age of nearly eighty years. He was a graduate of the medical department of the University of Pennsylvania in 1843.

Dr. Charles H. Mersereau died on May 2d, of heart disease, at his home in this city. He was thirty-seven years old and was unmarried. Dr. Mersereau was born in Port Chester and was graduated from the College of Physicians and Surgeons in 1884. He served two years in the Hartford, Conn., Hospital, and for several years was sanitary inspector in this city.

Dr. James S. Gillespie died of appendicitis at Philadelphia on July 19th, at the age of thirty-seven years. He was graduated from Jefferson Medical College in 1884, and became a resident physician in the Jefferson Medical College Hospital.

Dr. Thomas Story Kirkbride died of typhoid fever at Philadelphia on July 19th, at the age of thirty-one years. He was a son of Dr. Thomas S. Kirkbride, the distinguished alienist, who was for more than forty years the superintendent of the Pennsylvania Hospital for the Insane. He was graduated from the medical department of the University of Pennsylvania in 1893, and in 1894 became a resident physician in the Pennsylvania Hospital. On his return from post-graduate study abroad, he was in 1897 appointed director of laboratories in the Philadelphia Polyclinic. He was also assistant physician to the University Hospital and assistant pathologist to the Philadelphia Hospital.

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 19, 1900.

General Remarks on the Pathology and Symptomatology of Acute Pelvic Suppurative Processes in the Female, and their Treatment by Posterior Colpotomy.—Charles Greene Cumston says that an experience of more than six years in vaginal work has proved to him that posterior colpotomy is a very innocent operation, and in the highest degree conservative. It may be performed not only in cases of acute purulent lesions in the pelvis when it would be imprudent, not to say dangerous, to perform laparotomy or vaginal hysterectomy, but also in cases of chronic purulent pelvic lesions. It should be preferred in every case in which the patient is a young woman, it being the surgeon's duty to preserve the adnexa at any cost. Every suppurating pelvic collection that is accessible by Douglas' cul-de-sac is suited for posterior colpotomy and drainage. The author describes the technique of the operation.

Parturition Complicated with Suppurating Fibroids.—E. H. Stevens reports a case in which labor was normal, in spite of a uterine fibroid. Symptoms of septic infection developed, and injections of antistreptococcus serum were given. A complete hysterectomy was performed on the seventeenth day after labor. Death occurred on the twenty-first day. The author says that all the surroundings of the patient were aseptic, so that he does not see how anything more could have been done to prevent the tumor from becoming septic. As to the operation he would not hesitate to advise it in any similar case. The injection of the serum, he thinks, did no good, and probably did harm, as evidenced by a rash. There was no evidence of streptococcus infection, and therefore the use of the antistreptococcus serum was irrational.

Glandulopenile Hypospadias; Two Urethras, One Extending to the Bladder, the Other Two and One-Half Inches Long, and Terminating in a Blind Pouch.—By J. Coplin Stinson.

Milk; its Production, its Care, its Use.—By J. M. Rotch.

Medical News, July 21, 1900.

Appendicitis and Typhoid Fever.—H. A. Hare refers to two groups of cases which have never failed to puzzle him: (1) Cases in which symptoms, appearing in the neighborhood of the appendix, indicate the rapid development of appendicitis, yet in which these symptoms gradually subside and the patient passes into an attack of typhoid fever; (2) cases already well advanced in the progress of typhoid fever which develop appendicular symptoms. Histories relating to each are given. In one the symptoms were typical of appendicitis, and operation was about to be done but was postponed. At the end of a week typhoid fever was fully developed. The possibility of typhoid infection of the appendix producing appendicitis is mentioned. In a boy aged nine years, the symptoms of appendicitis disappeared under ice-bag treatment and typhoid developed. He regards appendicular trouble in the early stages of typhoid as by no means rare. Ulceration in the neighborhood of the caput coli can readily produce tenderness, resistance, and other symptoms of appendicitis. Much attention should be paid to blood examinations.

The Continued Use of the Antiseptic and Eliminative Treatment of Typhoid Fever Without Any Deaths.—T. Virgil Hubbard, when called to a case of typhoid fever, usually commences by giving the patient a capsule containing calomel, gr. ss.; guaiacol carbonate, gr. ii.; podophyllin, gr. $\frac{1}{50}$ to $\frac{1}{10}$, every two hours for twenty-four to forty-eight hours, depending on the condition of the bowels. He continues this until he has secured four or five intestinal evacuations for two successive days, and then stops administering the calomel and adds gr. ss. of menthol to the guaiacol and podophyllin. Small doses of salts or Hunyadi water are given if there is a tendency to inactivity of the bowels. Decinormal salt solution is given per rectum when the skin and kidneys fail to act well. The proper administration of calomel is the point to which he desires to call especial attention, *i.e.*, small and often repeated doses. A typhoid patient can take more mercury without purgation or salivation than the same individual in health. He has treated twenty patients without a death.

Moulds in the Stomach.—J. H. Kellogg found in seven thousand analyses mould present four hundred and fifty-seven times. The sources of moulds in food are numerous. Like various bacteria they give rise to fermentations and putrefactions. They grow in acid media. In the cases noted simple dyspepsia was present thirty-two, hyperpepsia one hundred and seventy-six, and hypopepsia two hundred and forty-nine times.

Iodide of Iron in the Treatment of Certain Forms of Infective Arthritis.—J. C. Wilson has for several years treated all cases of gonorrhœal arthritis with large doses of the syrup of the iodide of iron. Cases are reported. The subject belongs to the realm of empirical therapeutics.

A Simplified Apparatus Without Valves for the Administration of Nitrous Oxide Alone or in Combination with Ether.—By S. Ormond Goldan.

The Physiological Effects of Preparations of the Ductless Glands.—By R. H. Cunningham.

Brief Notes on Rheumatic Joints Treated by Hot Air.—By Homer Gibney.

New York Medical Journal, July 21, 1900.

Syphilis of the Brain.—J. T. Eskridge concludes a lengthy article with remarks on diagnosis and treatment. The latter is considered under the headings of prevention, general management, and anti-syphilitic medication. His experience has been that the activity of the syphilitic process is the only guide to the choice of mercury or potassium iodide. The greater the activity of the poison, the more acute and violent the symptoms, the greater the demand for mercury. On the other hand, potassium iodide apparently does more good in the chronic specific process than does mercury. He does not wish us to infer that mercury does no good in chronic syphilitic lesions and that potassium is useless in the active and acutely irritative ones. On the contrary, he believes that each may be indicated in almost any stage of intracranial syphilis; but when it is a question under which drug's influence we must first seek to bring our patient, then the acuity or chronicity of the syphilitic inflammation should guide us.

The Etiology and Cure of Hysteria.—F. Walter states that if a massive culture of the colon bacillus, the original colony of which was taken from a non-infectious source, be administered to a case of hysteria—that is to say, of the active or convulsive type—latent or post-hysterical phenomena such as paralysis being excluded, the symptoms disappear in from twenty-four to forty-eight hours and the patient is restored to health so far as the hysteria is concerned; debility or neurasthenic phenomena may remain for an indefinite period. As to etiology, two views may be propounded: one assumes the existence of a specific organism causative of hysteria not to be differentiated by our present methods from the bacillus coli communis; the other, that in the intestinal tract of predisposed subjects the otherwise harmless colon bacillus may take on toxic properties. In either event the offending organism is simply displaced by the method of treatment here advocated.

The Prevention of Colds in the Newborn.—L. B. Lockard finds the chief requisites on the part of the future mother to be a careful diet, loose warm clothing, daily exercise in the open air (omitted in the later months of gestation by most women because of a sense of false modesty), daily bathing in lukewarm water, and mental entertainment. These directions are of cardinal importance as preparing the way for the birth of a strong, vigorous child. Then, during the very first weeks of infancy, and from that time on, special attention should be paid to the clothing, and the dwelling should be kept at a proper temperature. All overstimulation in every direction must be forbidden, while careful attention must be paid to bathing and exercise.

A Brief Consideration of Gangrene and Mortification (Traumatic and Pathological) of the Extremities.—By T. H. Manley.

The Pituitary Gland as a Factor in Acromegaly and Gigantism.—By Woods Hutchinson.

Journal of the American Medical Ass'n, July 21, 1900.

Surgery of the Tear Passages.—J. G. Huizinga describes the characteristics of catarrhal inflammation, infections, and strictures of the lacrymal canal. The treatment of stricture is comparatively simple because of the ease of access. The opening into the canaliculus is not always easy for the inexperienced. If a large portion of the canal is closed, it becomes necessary to make an opening a short distance beyond the punctum near the median line just within the upper or lower border of the lid. The tendency to heal must be prevented by the daily use of a well-lubricated No. 6 probe introduced as far as the sac. In simple contraction he prefers the rapid method of dilatation. He agrees with Knapp that patients with moderate epiphora should bear their trouble without probing. Slitting the canal and converting it into a groove is as unscientific as its results are unsatisfactory. Simple dilatations of the

constricted portion of the canaliculus by means of ordinary probing alone is notoriously unsatisfactory. If after a careful examination it has been ascertained that the obstruction to the canal is of a bony nature, the treatment resolves itself into extirpation or complete destruction of the lacrymal sac, with or without excision of the lacrymal gland.

Acute Tonsillar Diseases and their Sequelæ.—J. H. Abraham describes superficial tonsillitis, cryptic tonsillitis, and peritonsillar abscess. Tonsillitis due to milk infection, to disordered stomach from overfeeding in children, and to faulty drainage is mentioned. Treatment is given at some length. The author's conclusions are: (1) All cases of acute tonsillar disease should be considered more than trivial affections. (2) Acute lacunar tonsillitis is an infectious disease. (3) Isolation should be practised in all cases of acute lacunar tonsillitis. (4) Recurring attacks of acute tonsillitis are an indication for the partial or complete removal of the tonsils. (5) A careful systemic examination and treatment should be applied during and after an attack of acute tonsillitis.

The Differentiation of Chorea and the Disorders Simulating it.—Augustus A. Eshner finds that in chorea we have a suggestion of an infectious process, although the cause has not been fully determined. Various irritations which play a part in the forms of spasmodic tic have no bearing upon true chorea. The apparent relations between chorea and rheumatism are still obscure. Mircoli concludes from investigations that both are dependent on infection with pyogenic cocci which do not give rise to suppuration. The distinctions from habit chorea, mimic spasm, senile chorea, hysteria, torticollis, nodding spasm, etc., are pointed out.

Value of the Angiotribe in Vaginal Cœliotomy.—J. H. Carstens refers to the difficulties of removal of the ovaries by the vaginal route and points to the great aid of the angiotribe in these operations. The instrument he prefers, that of Thuman, has a narrow blade of great strength and is provided with a small handle lever instead of a wheel. It is less difficult to apply and holds in exact place better than others he has tried.

A System of Personal Biologic Examinations the Condition of Adequate Medical and Scientific Conduct of Life.—By George M. Gould.

Recent Progress in the Roentgen-Ray Method of Diagnosis.—By Charles Lester Leonard.

Laryngology and its Relations to General Medicine.—By J. Solis-Cohen.

Human Temperature in Disease.—By Norman Bridge.

Obstetrics and Gynæcology.—By W. E. B. Davis.

Sarcoma of the Stomach.—By George Dock.

Philadelphia Medical Journal, July 21, 1900.

Peritonitis in the Fœtus.—J. A. Porter reports a case of somewhat difficult labor occurring in a woman twenty-five years old. The child gave one or two unnatural respiratory movements and died, all attempts at resuscitation being in vain. The abdomen was very large; the peritonal cavity was found to be filled with a brownish-green fluid. The intestines were matted together with soft lymph adhesions, and the mesentery and peritoneum were deeply congested.

A Case of Primary Adenocarcinoma of the Gall Bladder with Secondaries in both Adrenals, Melanosis of Skin (Addison's Disease?), Vitiligo, and Hypertrophy of the Pancreas. By Alfred Scott Warthin.

A System of Personal Biologic Examinations the Condition of Adequate Medical and Scientific Conduct of Life.—By George M. Gould.

Three Cases of Tuberculosis of the Skin due to Inoculation with the Bovine Tubercle Bacillus.—By Mazyck P. Ravenel.

A Bacteriologic Résumé of the San Francisco Plague.—By Ernest S. Pillsbury.

Are Consanguineous Marriages Injurious to the Race?—By Lawrence Irwell.

British Medical Journal, July 7 and 14, 1900.

Some Unusual Sequelæ of Epityphlitis.—A. E. Barker gives a series of cases showing that when we delay to operate the pause must not be too protracted. There is often unnecessary haste, but in many other instances delay is a terrible mistake. The first case illustrates the development of subphrenic abscess as the result of epityphlitis, a complication probably more frequent than is commonly supposed. Sonnenburg met with this complication nine times in six hundred cases operated on by himself. The second case also emphasizes the danger of lung complications from either extension of the inflammation around the cæcum upward to the under surface of the diaphragm, or of infarcts lodging in the lung and producing an abscess there. The third case shows the disastrous local results of leaving a perityphlitic abscess too long unopened, and the way in which the resulting "artificial" anus may be brought to heal. The fourth case illustrates a form of ulceration due to concretion in the appendix with which the author was before unfamiliar, and that it may open up adjacent small intestine without the formation of an abscess. The fifth case shows almost the same course of events, in which an appendix inflamed, but without any concretion, and nearly ulcerated into the colon. Other cases illustrate the dangers from adhesions following inflammation of the appendix.

The Use of Borax and Formaldehyde as Preservatives of Food.—W. D. Halliburton urges that the use of foreign substances as preservatives of food be replaced by the more wholesale use of cold transportation and storage on the grounds that: (1) An antiseptic is inimical to the life of the organisms that cause putrefaction; it cannot, therefore, be harmless to the vital processes in the higher animals. (2) Numerous clinical observations have been recorded which show that dyspeptic and other troubles follow the use of foods which have been treated with commonly employed preservatives like borax. (3) Even if, as in the case of boric acid and borax, the poison is not cumulative, the continuous passage of foreign substances through the kidney cannot be beneficial to those organs. He has conducted experiments with artificial digestive mixtures to test the action of borax and formaldehyde, these being the preservatives usually employed. The tests are given at some length. These experiments appear to the author to prove conclusively the injurious effect produced by even minute quantities of certain preservatives on the activity of the enzymes concerned in ordinary digestion, and to furnish a cogent reason why the use of these substances should be prohibited for the preservation of food materials.

Two Cases of Concealed Accidental Hemorrhage.—A. E. Larking finds concealed hemorrhage more rare and fatal than placenta prævia. In both cases reported there was absence of hemorrhage from the vagina, and the amniotic fluid was so scanty that very little effect would have resulted from rupture of the membranes. The uterine contractions were sufficient to stop the hemorrhage. In the second case there was sudden death in convulsion. Few of the symptoms, such as loss of sight, noises in the head, hallucinations, sighing respiration, and imperceptible pulse, were present in this case.

The Nature and Treatment of Puerperal Infection.—T. E. Mitchell says some of the worst cases of puerperal fever he has seen have occurred after perfectly natural labor, when no digital examination or manipulation at all had taken place. Some cases originate in the impossibility of inducing many working-class patients to observe the ordinary rules of post-partum cleanliness. Quinine should be given in large doses in septicæmia (gr. xii.) as an initial dose. Vaginal douches and exploration of the uterine cavity for retained secundines are also recommended.

A Combined Recto-Vaginal Opening in the Human Subject.—J. G. Modlin relates a case in which on separating the vulva a movable septum was seen formed by the posterior vaginal and anterior rectal walls. The appearance was that of the muzzle of a double-barrelled gun. The steps of an operation for relief of the condition are given. It was successful, and defecation, previously causing very great pain and always hemorrhage, was rendered more natural.

A Large Multilocular Ovarian Tumor.—F. A. Baldwin gives with illustrations the history of a tumor which caused death without operation, and which was found to consist of several cysts, in all weighing one hundred and fifty-eight and one-half pounds, and containing eighteen gallons of fluid.

Conjunctival Diphtheria.—H. E. Smith tells of a case in which the diagnosis was suspected and at once confirmed. Such cases may readily pass unnoticed and infection be spread without the original source being recognized.

Notes on Seventy-Two Consecutive Cases of Removal of Goitre by Operation (Extirpation or Enucleation).—By James Berry.

Impaction of a Bean in the Air Passages: Tracheotomy: Expulsion through the Wound: Recovery.—By Bruce Hamilton.

Case of Extrauterine Gestation Ruptured at Mid-Term Treated by Abdominal Section.—By J. B. Hellier.

A Case of Acute and Chronic Torsion of the Ovarian Pedicle in the Same Subject.—By Albau Doran.

A Note on a Series of Cases of Epidemic Cerebro-Spinal Meningitis.—By Henry Handford.

The Croonian Lectures on Degeneration of the Neuron.—By Frederick W. Mott.

An Address on the Importance of Post-Graduate Study.—By William Osler.

Separation of Chondro-Sternal Junction without Fracture.—By S. Gross.

Antistreptococcus Serum in Erysipelas.—By A. W. Harrison.

Schools and Diphtheria Infectivity.—By Frank M. Burnett.

Opium in Pneumonia.—By H. Bowen Williams.

Weil's Disease.—By J. H. Marsh.

The Lancet, July 14, 1900.

On the Confusion of Two Different Diseases under the Name of Rubella (Rose-Rash).—C. F. Dukes says that all authorities admit without reservation that there is one disease known as scarlet fever, a second as measles, and a third as rubella (German measles). He has recently observed a series of cases which leads him to believe that under the symptom-complex of the latter disease as at present regarded, there are really included two distinct affections. The second he speaks of as the "fourth disease." From his study of the series alluded to he claims for this "fourth disease": (1) that although its resemblance is so close to scarlet fever in many features, it cannot possess any affinity with that disease inasmuch as both diseases occurred concurrently in the same epidemic; (2) that some of the sufferers had both diseases in the same epidemic; (3) that one patient had scarlet fever followed by the "fourth disease"; (4) that several had the "fourth disease" followed by scarlet fever; (5) that although the "fourth disease" has been confused with rose-rash and regarded as a mere variety of rubella, this conclusion is fallacious, since nearly one-half the cases in an epidemic had already had rose-rash within a year or two, which, according to Cullen's established law, is incredible. He purposely refrains from attaching a name to the disease in order to avoid the anomalous description of the same disease under an indefinite number of terms, as in the case of its ally, which has been variously designated as "rubeola notha," "rötheln," "rubella," "German measles," "epidemic roseola," and "rose-rash." The distinguishing features of rubella, of the "fourth disease," and of scarlet fever are found in the tables appended.

Case of Pancreatic Diabetes due to Calculi.—E. W. Phillips records the case of a man aged fifty-one years, who when first seen was passing blood in defecation, had a rectal discharge which stained his clothing, and was much weakened and emaciated. The urine contained sugar; specific gravity 1.024; no albumin; five pints were passed in twenty-four hours. He died some seven months later. Autopsy showed that the pancreas was hard and its duct was filled with calculi and calcareous matter. The largest mass was situated in the head of the pancreas and was tubular in shape; the next largest was at the splenic end; a third could be felt in the posterior part of the head; the entrance of every branch duct was plugged with concretions. No communication could be found between the pancreatic and common duct or with the duodenum. The substance of the gland was hard but it was not enlarged. It was examined by the Clinical Research Association, and the report was as follows: "The pancreas shows great increase of fibrous tissue in parts with atrophy of acini and glandular tubules. A section of moderately large duct shows much shed epithelium from catarrh." The colors of the calculi and débris were chiefly yellowish-white and dark gray mixed.

On Immunity against Proteids.—W. Myers experimented on rabbits, using crystallized egg-albumen from the white of fowl's egg, serum-globulin from sheep, serum-globulin from the bullock, and Witte's "peptone." The results of the experiments cannot be given here in detail. It may be noted that with the peptone, strong support is given to the view that the production of immunity is due to processes of assimilation, and they also explain a physiological point which has long been a subject of discussion. When injected into the circulation peptone disappears very quickly from the blood-stream. Practically nothing is known as to the fate of the peptone which thus vanishes. But clearly this disappearance of peptone is exactly paralleled by the disappearance of the tetanus toxin from the blood-stream. In both cases we produce by immunization a specific anti-substance.

A Note on the Results Obtained by the Anti-Typhoid Inoculations in the Beleaguered Garrison at Ladysmith.—From statistical tables, A. E. Wright shows that the proportion, on the one hand of attacks, and on the other hand of deaths, from typhoid fever was seven times smaller in the inoculated than in the uninoculated. And it may be borne in mind that if the number (no doubt a considerable one) of men who had previously suffered from typhoid fever had been subtracted from the number of the uninoculated, as might quite legitimately have been done, the statistics would have borne an even more favorable aspect.

Illustrations of Vasectomy or Obliteration of the Seminal Ducts Relative to Hypertrophy of the Prostate and Bladder Atony.—By Reginald Harrison.

Impaction of a Bean within the Air Passages; Tracheotomy; Expulsion through the Wound; Recovery.—By Bruce Hamilton.

The Commoner Neuroses of Childhood, their Pathology and Treatment.—Second Ingleby lecture, by O. J. Kaufmann.

Chronic Empyema of the Frontal Sinus, with Notes on the Treatment of Fourteen Cases.—By Herbert Tilley.

A Case of Addison's Disease; Treatment with Suprarenal Extract; Death.—By E. G. Trevithick.

The Importance of Post-Graduate Study.—An address by William Osler.

Degeneration of the Neuron.—Fourth Croonian lecture, by F. W. Mott.

Münchener medicinische Wochenschrift, July 3, 1900.

The Atropine Treatment of Intestinal Obstruction.—Batsch strongly advises the use of atropiue in large doses (gr. $\frac{1}{2}$ hypodermically) in all cases of intestinal obstruction before deciding on laparotomy. The atropine treatmeut is to be persisted in as long as the patieut's life is not in immediate danger, but careful supervision is necessary lest operation he deferred till the prognosis has become hopeless. In illustration three cases are cited, two of which were relieved by the drug alone, while in the third the abdomen was opened and recovery followed the section of a strangulating adhesion.

The Demonstration of Bile Pigment in the Urine in Cardiac Diseases.—Ott comments on the yellow discoloration of the skin often accompanying chronic cases of heart disease, and gives a series of twelve in which bile pigment was found in the urine by the Huppert-Salkowski test, proving that it is a true jauudice. It is of importance to note that Gmelin's reaction gave a negative result in every one of these cases, and furthermore that even the more delicate test employed fails in the presence of notable quantities of blood pigment or albumin.

Venesection in Heat Prostration.—Klein relates the case of a stoker on a transatlantic liner who suddenly collapsed owing to the extreme heat, and was brought on deck unconscious and in a state of most violent convulsions. All the other available therapeutic measures having failed, and the patient being apparently about to succumb to respiratory and cardiac paralysis, venesection was tried as a last resort. About eight ounces of blood was allowed to flow, with instantaneous relief of the symptoms and subsequent recovery.

A Severe Case of Uræmia Cured by Venesection.—Hoesslin succeeded in saving the life of a uræmic patient *in extremis* by removing thirteen ounces of blood from the circulation. The attempt was not made until every other means of stimulation had been resorted to without avail, but the good effects of the operation were speedily apparent, and under digitalis the patient made an uucomplicated recovery.

A Foreign Body in the Eye, its Orientation by Means of the Roentgen Rays, and Extraction with the Magnet.—By Mock.

Experiments on Disinfection of the Hands.—By Paul and Sarwey.

This Year's Influenza Epidemic in Freiburg.—By Clemens.

A Simple Incubator for the Practitioner.—By Walz.

Deutsche medicinische Wochenschrift, July 5, 1900.

A Contribution to the Study of the Cytolytic Sera.—Schütze considers that the property exhibited by the blood serum of certain animals, of causing the destruction of the blood cells of other animals when brought into contact with these either in the circulation or in the test tube, is due to the presence

of two substances. One of these, the 'intermediate body," possesses an equal affinity for the cellular elements, and the second, or "end body," and by acting as a sort of go-between enables the latter to produce its effect on the cells in question. It has been found possible to produce sera which have a cytolytic action on cells other than those of the blood (*e.g.*, the ciliated tracheal epithelium of the ox), and the hope is advanced that it may perhaps be feasible to manufacture a substance which shall exert this effect on the cellular components of malignant new growths. Working toward this objective point the author has made a number of experiments on rabbits and guinea-pigs, and sums up his results as follows: (1) The serum of normal guinea-pigs after having been subjected to repeated injections of hæmolytic rabbit's blood acquires an antihæmolytic property, *i.e.*, the ability to check or prevent the destruction of the blood cells of guinea-pigs. (2) The production of the antihæmolytic serum depends entirely on the presence of the "intermediate body," the "end body" taking no part in this action. (3) It has not yet been possible to produce an emulsion of normal guinea-pig organs (liver or kidney) which should exhibit properties similar to the hæmolytic rabbit serum, and be able to affect the cellular elements of the organs with which they have already been treated.

Subphrenic Abscess Resulting from a Traumatic Suppuration of the Pancreas.—Strohmayer relates the case of a middle-aged laborer who, after suffering for a month from indefinite symptoms accompanied by great cachexia and general debility, suddenly had an attack of extreme dyspnœa and died in collapse. The autopsy revealed an extensive subphrenic abscess which had perforated the diaphragm on the right side and discharged a great amount of pus into the pleural cavity. The abscess antrum also communicated with a suppurating focus surrounding the head of the pancreas, which seemed to be its place of origin. The only explanation of the cause of the lesion seemed to be a severe blow received in the epigastrium three months before. This is supposed to have produced contusion and hemorrhage of the pancreas, the damaged area later being invaded by intestinal germs and suppurating.

Enucleatio Bulbi, its Substitutes, and a Consideration of Sympathetic Ophthalmia.—By Schmidt-Rimpler.

Experience with a Morphine Substitute.—By L. Nied.

My Experience with Photo-Therapy.—By Strebel.

Berliner klinische Wochenschrift, July 2, 1900.

Is the Increase of Blood Cells in High Altitudes an Apparent One or Not?—A. Gottstein and G. Schrader discuss this question in the light of comparisons made of the same specimen of blood at different altitudes. They consider the instrument in which the chamber containing the portion of blood to be examined is a slit-shaped cavity, a more reliable one than the Thoma-Zeiss instrument, which has for so long a time been employed for this purpose. They find that the higher the altitude the greater the number of corpuscles seems to be. The same specimen will present variations, the cell count increasing as the altitude rises. This is the case with the Thoma-Zeiss instrument, but this variation does not obtain with the slit instrument. From these results the authors conclude that the former is liable to error dependent on the atmospheric pressure, which at the lower level exerts a greater force on the fluid layer in the chamber and so forces out a certain number of cells which are not so influenced by the lighter pressure at the higher altitude.

A Contribution to the Therapeutics of Aspirin.—P. Zimmermann has used this remedy in some thirty cases of rheumatism, neuralgia, exudative pleurisy, and renal inflammation. The daily dosage ranged from 2.5 gm. to 4 gm. It was well borne by all the patients, generally acting as a powerful diaphoretic and causing a fall of temperature. It answered well in certain rheumatic cases in which the salicylates were not well borne. It did not depress the heart, and the presence of valvular incompetency did not seem to be any contraindication to its employment. Some benefit was also obtained in chronic rheumatism. It was used for its diuretic effect in pleurisy and renal disease. It acted well in the former but failed in the latter. Zimmermann considers it a valuable addition to the list of agents to be given in rheumatic states.

The Composition of Renal Calculi.—L. Spiegel gives the analyses of fifty-five cases. In fourteen of these the main ingredient was calcium oxalate, and in a like number calcium phosphate. Nothing can be learned from the peculiarities of the urine in a given case as to the probable composition of the calculus, except that he has found that in cases in which the oxalate is the essential ingredient there is more apt to be a continuous acid reaction.

The Treatment of Pulmonary Tuberculosis in Hospitals and Among the Poor.—By Dr. Burghart.

Causes and Local Beginnings of Pulmonary Tuberculosis.—By Dr. Aufrecht.

Experience with Aspirin in Private Practice.—By A. Dengel.

The Present Status of Bacteriology.—By Dr. Baumgarten.

Brain Anatomy and Psychology.—By L. Edinger.

French Journals.

Some Pyrexias of Hot Countries.—E. Legrain gives notes upon the fevers of hot climates and the influence exerted upon them by quinine. The two great classes are intermittents and febrile affections not corresponding to the various types of malaria. The study is based on three hundred cases. He finds it possible from a single access to determine the type of intermittent. A number of conclusions are drawn as to the changes in type, the only stable type being the quartan. Intermittent fever gives no mortality. It can be arrested at will for a determined period by means of a single dose of quinine appropriate to each case. No other exotic pyrexia reacts in the same manner in respect to quinine.—*La Presse Médicale*, July 7, 1900.

Intestinal Syphilis.—Professor Fournier looks upon specific affections of the intestines almost as curiosities, having observed in all not more than a dozen instances. Diarrhœas of tertiary syphilis seem quite frequently to recur at longer or shorter intervals. They may also occur quite late; he has seen them in persons whose infection dated back from nineteen to forty years. Greater confidence is placed in mercury than in the iodides; still, mixed treatment does well, although protoiodide pills or Van Swieten's solution will effect a cure. Inunctions or subcutaneous injections seem to constitute the treatment of choice.—*Journal des Praticiens*, July 14, 1900.

Diagnosis and Treatment of Cutaneous Actinomycosis.—Lenoir and Claisse report the case of a butcher who frequented abattoirs where infection was made possible. The first signs were in the floor of the mouth in the form of a pseudo-ranula; afterward swelling of the cheek showed characteristic yellowish discharge and granules. Although iodide of potassium is almost a specific, treatment is protracted. Six months were required to bring about decided improvement under as large doses as could be tolerated.—*Journal des Praticiens*, July 14, 1900.

Achondroplasia.—Pierre Marie gives an exhaustive account of this defect of development of the human skeleton in adolescence and adult age. The article is freely illustrated and supplied with a bibliography of cases reported above the age of ten years. It must be admitted that the affection may be of hereditary origin. It remains for future investigators to show whether the lesion of the cartilage is primordial or a dystrophy of general cause. At present facts are lacking for a decision of this question.—*La Presse Médicale*, July 14, 1900.

The Edinburgh Medical Journal, July, 1900.

The Morbific Agent and the Reparative Effort.—Andrew H. Smith, of New York, asks if it would not be a gain to both pathology and practice if a direct interaction between the morbific agent (noxa) and the reparative effort were recognized, the conception of an intermediate so-called inflammatory process being abandoned. He thinks the conception of inflammation as an active process is erroneous and unfortunate in its influence upon medicine. The noxa, he says, may be active, the tissues may be active, but the inflammation never. "It is simply a name, not a force. It can do nothing. The collision of two armies is called a battle, but the battle is not an entity apart from the armies. Much less can it join forces with one of them and help on the fight against the other. Yet this is what inflammation is supposed to do when it is credited at one time with opposing the noxa and helping forward the reparative effort, and at another time with attacking and destroying the tissues." Furthermore, the energy that initiates the "inflammation" is the energy that maintains it, and if we withdraw this energy, the noxa, the "inflammation" will cease. Medical science has too long rested under the incubus of this name, and the author urges that the entire doctrine of "inflammation" be abandoned, and that the phenomena ascribed to this process be assigned to new relations, in accordance with recent advances in pathology, and especially in bacteriology—advances that have rendered obsolete a conception handed down to us from remote ages. In the matter of nomenclature, this proposal would involve doing away with the termination "itis." As most of the phenomena heretofore included under the term "inflammation" are manifestations of the

local action excited by a micro-organism, or by a poison circulating in the blood, such action may be expressed by a termination affixed to the name of the organism or poison, if the same can be determined, or to the organ or part affected, in case the particular infecting organism or poison is not identified. We have a universally accepted precedent for the first-named use in the case of *tuberculosis*, and the use of this termination might be extended to the action of other organisms. Thus, *streptocosis* would express an infection by the streptococcus, *staphylocosis* an infection by the staphylococcus, *gonocosis* an infection by the gonococcus, and so on, a localizing adjective being used to denote the seat of the affection. Infection by an undetermined organism would be *microbiosis*, or *bacteriosis* as a general term, or it would be expressed by adding the termination to the name of the part in the same way as "itis" is now employed. Thus, *pericardosis* would denote simply infection of the pericardium; *pericardial pneumocosis*, infection of pericardium by pneumococci. We should have, also, *scarlatinosis* (renal, glandular), and *rheumatosis* (articular, endocardial), expressing the local action of a poison in the blood.

If a general term is still demanded as a substitute for "inflammation," it would be necessary to employ at least three words to express different kinds of noxæ, acting in different ways, and leading to essentially different results. These might be *traumosis*, to include wounds and injuries; *toxosis*, to include the local action of poisons in the blood; and *bacteriosis*, to include the action of micro-organisms. But the matter, Dr. Smith says, is one of great practical importance, and not simply one of nomenclature. So long as inflammation presents itself before us as something to be combated, so long we are tempted to look away from the continuously acting morbific agent, and at the same time to ignore the effort that the tissues are making for their own defence and repair. In striking at the *ignis fatuus* of inflammation, we overlook our real enemy, and are liable to injure our friend. For example, if we treat the inflammation in a furuncle by application of cold, we may succeed for a time in diminishing the swelling, redness, heat, and pain, but the noxa in the form of bacteria will still be there, and we shall certainly have to deal with it in the end. If bacteria are at work in the appendix vermiformis, and we are very successful in combating the inflammation by our local and general treatment, we may succeed in preventing the effusion of lymph that would have walled in the infected area, and be rewarded by seeing our real enemy in possession of the entire field of the peritoneum.

Or, once more, if we have a multitude of colonies of pneumococci growing in the exudate which is occupying the air cells of a portion of lung, and we seek to control the inflammation by means of arterial sedatives, we may find a little later that we have only diminished the power so sorely needed to propel the blood through the obstructed lesser circulation, and added to the danger that our patient will succumb to failure of the right heart.

Finally, in doing away with the idea of inflammation we shall be on the road to a more exact diagnosis, for we should then be driven to discriminate in our language between conditions as unlike as sclerosis of the tympanum and hip-disease, or as ulcer of the cornea and diarrhœa. Then the use of a less exact designation would be a confession of failure to arrive at the more precise one.

Some Results of Antistreptococcus Serum.—F. J. Harvey Bateman prefaces a report of three cases with a consideration of the many difficulties in the way of arriving at definite conclusions with reference to the beneficial results of antistreptococcus serum. The first arises from uncertainty as to the number of varieties of streptococci. Then, in many cases the causation of the disease is complex, the origin often lying in a mixed infection. Still another reason for doubt as regards orrhotherapy in general is to be found in the frequent absence of any bacteriological proof of the nature of the infection. And finally there is the undeniable fact that many instances even of grave microbic infection undergo spontaneous recovery. This has been frequently the case as regards streptococcal disease, and the consideration must render many minds sceptical as to the beneficial effects of antistreptococcus serum. In two of the three cases reported it was definitely established that the disease was due to the presence of streptococci. In the first case the effect of the serum was early manifested, and the temperature, which had been fluctuating considerably, came to normal within ten days of the commencement of the administration of the serum. In the second case the serum was not employed until the patient had been under treatment for six weeks, and it was necessary to continue its employment for a considerably longer time. As regards the third case, although every means had been adopted in order to arrive at a correct diagnosis, the real cause of the disease remained obscure. The employment of antistreptococcic serum, therefore, in this instance was resorted to simply on the chance of the infection being due to streptococci, and it was not surprising that the results of treatment were unsatisfactory.

Persistence of the Arterial Duct and its Diagnosis.—G. A. Gibson reports a case of this condition, and from a study of it and of four other cases which have come under his care during the last few years he notes the following points upon which, he thinks, the diagnosis of persistent ductus arteriosus may be founded with perfect confidence. There may be no dyspnœa, cyanosis, œdema, or other evidence of disturbance of the general circulation, and the recognition of the lesion may depend entirely on the presence of a few physical signs. Inspection may fail to yield any facts of diagnostic importance; palpation usually reveals the long thrill following the apical impulse, and enduring beyond the recoil of the blood on the semilunar cusps, which may be felt during the thrill; percussion may not show any enlargement of the cardiac dulness; but auscultation gives convincing evidence of the lesion in a murmur which may be regarded as almost pathognomonic. Beginning distinctly after the first sound, it accompanies the latter part of that sound, occupies the short pause, accompanies the second sound, which may be accentuated in the pulmonary area, or may be, and often is, doubled, and finally dies away during the long pause.

Clinical Notes on Cases of Beriberi.—J. O. Affleck reports six cases of beriberi which have been under his care during the past five years at the Edinburgh Royal Infirmary. All these cases, except one, occurred in seafaring men, and all were in persons who had come from tropical or subtropical regions. Each case presented the characteristic features of a peripheral neuritis, and, in addition in most of them there was more or less œdema of the legs. The treatment included rest, the employment of sodium bromide and nux vomica, and a generous diet, under which the patients improved quite rapidly. In three cases a bacteriological examination of the blood was made, but with a negative result.

Acute Infantile Intussusception, with Special Reference to Treatment by Primary Laparotomy.—By W. Blair Bell.

Two Cases of Agoraphobia Cured by Hypnotic Suggestion.—By Charles Lloyd Tuckey.

The Therapeutics of Disorders of Menstruation.—By H. Macnaughton Jones.

A Case of Retroverted Gravid Uterus.—By G. R. Fraser.

Zeitsch. f. Diatet. u. Physik. Therapie, vol. iv., No. 3.

The Assimilative Processes in Chronic Rheumatism.—While Weisz considers that the attempt to formulate a specific diet as being necessary or indicated in chronic rheumatism is far-fetched, he believes that the question of feeding is of great importance and may be made a valuable therapeutic aid. In general he groups the cases into those suffering from obesity and those whose weight is steadily decreasing. In the first class the most important indication is to cure the joint disease itself, though the various obesity cures may be of service in seconding the process. Very much more frequent are cases exhibiting various degrees of emaciation. In these what is essentially a stuffing process must be resorted to, and the patients encouraged to consume as much food of all sorts as possible.

The Therapeutic Application of Natural Animal Gastric Juice.—Mayer discusses the theoretical considerations which justify the supposition that the gastric juice of dogs would be of value in treating achylia in man, and then describes the Pawlow-Shumow-Simanowski operation by means of which large quantities of secretion may be obtained from the animals. Experiments with this agent have already been made in France, where it is known and commended under the name of "gastérine." The author's clinical observation is limited to one case, but in this the results were encouraging, and he advises further experimentation.

The Treatment of Vesical Neuroses.—Auerbach thinks that properly executed massage and gymnasties are of great value in the treatment of irritable bladder not due to organic lesion. The manipulations and movements are described in detail and have for their object the improvement of the nervous and muscular tone of the pelvic contents.

A Comment on Professor A. Poehl's Dissertation on "The Osmotic Pressure of the Body Fluids in its Relation to the Origin and Persistence of Morbid Processes."—By Korányi.

The Influence of the Newer Food Preparations on the Intensity of Intestinal Decomposition.—By Lewin.

An Experimental Contribution to the Dietetics of Hyper- and Hypochlorhydria.—By Buch.

Massage Baths.—By Preiss.

Reviews and Notices.

A Manual of Operative Surgery. By Lewis A. Stimson, M.D., Surgeon to the New York and Hudson Street Hospitals, etc., and John Rogers, M.D., Surgeon of Gouverneur Hospital, etc. Fourth and revised edition. Illustrated. Philadelphia: Lea Brothers & Co. 1900.

It is hardly necessary to do more than to record the appearance of another edltion of this work, which already is very favorably known. This edition is improved by some condensation and the elimination of a number of obsolete illustrations, and in its present form is an excellent handbook of the subject. The descriptions of operations are terse and to the point, but in some departments the necessary entailment has interfered with completeness, so that the book can hardly be used as a work of reference. The illustrations are very satisfactory, and the general appearance and make-up of the book are excellent.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Vol. IV., 1900. Edited by Andrew J. McCosh, M.D., and W. Gilman Thompson, M.D. New York: Trow Directory Printing and Bookbinding Company. Pp. 223.

This neat little volume contains many interesting articles on various medical and surgical subjects as noted in the wards of the hospital. Among them may be mentioned: The Surgical Treatment of Ascites due to Cirrhosis of the Liver; A Case of Dermatitis Exfoliativa; Remarks on the Surgery of the Biliary Passages; A Contribution to the Surgery of the Testicle; Report of Ten Cases of Subphrenic Abscess; Empyema; Report of Twenty-eight Cases of Suppurative Hepatitis; Statistics of One Hundred Cases of Cancer of the Breast; Heart Murmurs and Heart Lesions, and many other interesting articles.

The Cell in Development and Inheritance. By Edmund B. Wilson, Ph.D., Professor of Zoology, Columbia University. Second edition, revised and enlarged. New York: The Macmillan Company. London: Macmillan & Co., Limited. 1900. Pp. 483.

Although the author states that he has not covered the whole subject of cytology, he is to be congratulated in the very efficient manner in which he has managed his selections and discarded the non-essential, although interesting matter. His work is a model of conciseness without lacking clearness. The theories, experiments, and data are all presented in a most interesting way, and the scientific standard attained is very high. This edition differs from its predecessor chiefly in being brought up to the times, in its being enlarged, and in the addition of fifty or more illustrations. For medical men who are willing to depart from the more directly practical studies of their profession this work will prove extremely interesting. The bibliography and indexing are worthy of the highest praise, while the glossary makes the work more easily handled by those not thoroughly conversant with the technical terms of the biologist.

Forty Years in the Medical Profession—1858–1898. By John Janvier Black, M.D., Member of the College of Physicians of Philadelphia; Member of the Delaware State Medical Society, etc. Philadelphia: J. B. Lippincott Company. 1900. Pp. 498.

Dr. Black has given us a most pleasant account of his impressions as a medical man, his thoughts on the causation and theories of disease, the different methods of treatment, and how the changes have taken place during the last forty years, in all of which time he has been active as a general practitioner not only in doing his simpler duties as a physician, but also philosophizing upon all he saw. The book is written for his professional brethren, and to them it cannot fail to appeal as most interesting and instructive, for the author has let no important advance in his art escape him, and his long service therein seems to have added zest to his work rather than to have tired him.

Chemistry and Physics: A Manual for Students and Practitioners. By Walton Martin, Ph.B., M.D., Assistant Demonstrator of Anatomy College of Physicians and Surgeons, New York, and William H. Rockwell, Jr., M.D., Assistant Demonstrator of Anatomy College of Physicians and Surgeons, New York. Edited by Bernard B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York; Visiting Surgeon Bellevue Hospital, New York. Illustrated with 137 engravings. Philadelphia and New York: Lea Brothers & Co. Pp. 374.

The authors have succeeded in giving a very satisfactory synopsis of the subjects treated, with a special view to the book's adaptability to medical students. It is not intended as a work for physicists and chemists, but merely as an introduction to knowledge which it is necessary for the practitioner to apprehend at least, and as such contains enough and even more than enough for all practical purposes.

Diseases of the Eye. By Edward Nettleship, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. Revised and edited by William Campbell Posey, A.B., M.D., Ophthalmic Surgeon to the Howard and Epileptic Hospitals, Philadelphia; Assistant Surgeon, Will's Eye Hospital; Fellow of the College of Physicians of Philadelphia; Associate Member of the American Ophthalmological Society, etc. Sixth American from Sixth English edition. With a Supplement on Examinations for Color-Blindness and Acuity of Vision and Hearing, by William Thomson, M.D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. With 5 colored plates and 192 engravings. Philadelphia and New York: Lea Brothers & Co. 1900. Pp. 560.

This well-known text-book again appears in its sixth edition in a form adapted to American readers by an American editor. Although the book has been thoroughly revised, the text has been altered as little as was consistent with the recent advances made in the knowledge of the subjects treated. The appendix is supplied with full details regarding the examination of applicants for army, navy, and merchant marine of the United States, and formulæ, test types, etc. The popularity of the work is bound to be sustained by this new and improved edition.

The Annual of Eclectic Medicine and Surgery (1897–1898). Vol. VIII. Edited by John V. Stevens, M.D., Professor of Diseases of the Nervous System in Bennett Medical College, Chicago. Cincinnati, Ohio: The Scudder Bros. Company.

This is a report of papers and proceedings from the States having eclectic societies. The volume was somewhat delayed in publication. There are 507 pages exclusive of index, well bound and containing full-page portrait illustrations of physicians from different sections. The frontispiece is a portrait of Dr. Buchanan, who died in 1899. The papers are for the most part brief.

Transactions of the Luzerne County Medical Society.

This is Vol. VII. of the society's reports, but nothing shows in what State Luzerne County is located. On page 180 the number of deaths in Wilkes-Barre is given, so it is presumably Pennsylvania. There are a number of good papers and a picture of cancrum oris.

Membership Directory of National Medical Societies of the United States. New York: E. R. Trott. 1900.

This book contains the names and addresses of officers and members of the nineteen national associations. An index to the whole makes the search for a given name easy. The directory will be of value to the layman as a mailing-list or when looking for an eminent specialist or consultant. Yearly editions will be necessary.

Untersuchungen ueber die Moeller Barlow'sche Krankheit. Von Dr. J. Schoedel und Prof. C. Nauwerck. Jena: Verlag von Gustav Fischer. 1900.

The authors here present in a brochure of one hundred and sixty pages the individual work of Moeller, Barlow, and others referred to in a bibliography containing one hundred and thirty-nine items. The pathological anatomy of the affection is carefully studied, and the authors present five personal cases with history, comments, and conclusions. The question is presented in as well elaborated a report as one could desire, and will undoubtedly be read with interest by all engaged in practice among children.

Traité de Médecine. Publié sous la direction de MM. Bouchard, Professeur à la Faculté de Médecine de Paris, Membre de l'Institut, et Brissaud, Professeur à la Faculté de Médecine de Paris, Médecin de l'Hôpital Saint Antoine. Deuxième Édition. Tome IV. Paris: Masson et Cie. 1900.

The fourth volume of the second edition of this excellent system of medicine is devoted to diseases of the mouth, pharynx, stomach, pancreas, intestine, and peritoneum. The diseases of the mouth and pharynx are treated of very satisfactorily by Dr. A. Ruault in an article of some one hundred and fifty pages. About half the volume is taken up by a complete treatise on diseases of the stomach by Dr. A. Mathieu, who is also the author of the article on diseases of the pancreas in the same volume. The third contributor is Dr. Courtois-Suffit, who writes on diseases

of the intestine and peritoneum. The volume is a notable addition to the rapidly increasing literature of diseases of the digestive tract.

Ricerche sulla Presenza della Zucchero nelle Orine delle Donne Gravide e Puerpere. Par Dottor Giuseppe Cristalli. Napoli: Tipografia Forense Commerciale. 1900.

In this monograph Dr. Cristalli studies the question of glycosuria in pregnancy and the puerperium, and records the results of a number of personal observations. He distinguishes carefully between lactosuria and glycosuria, the former being an almost constant condition in the puerperal period, while the latter is, though not very rare, much less frequent than lactosuria. The one is of no pathological importance whatever, the other of a much more serious nature.

The Pathology and Surgical Treatment of Tumors. By N. Senn, M.D., Ph.D., LL.D. Second edition, 718 pages, illustrated. W. B. Saunders, Philadelphia. 1900.

The second edition of this book is as admirable as the first. The work has been revised; an additional chapter on sarcoma of the decidua has been added, together with many new excellent illustrations. The author still adheres to the Cohnheim hypothesis concerning the origin of tumors, and rightly considers as unproven the causative relation between bacteria and the growth of carcinoma.

Transactions of the American Dermatological Association, Twenty-third Annual Meeting, Philadelphia, May 30 to June 1, 1899. Official report of proceedings, by George Thomas Jackson, M.D., Secretary. Paper, 176 pages. The Rumford Press, Concord, N. H. 1900.

There are fewer good illustrations in this than in several of the society's recent reports, but aside from this the volume compares fairly well. The quality of the papers is of the usual rather high order. If the printer would put the title of the various papers at the head of the page instead of monotonously repeating "Amer. Derm. Assn.," it would materially aid the reader and increase the attractiveness of the reports.

Progressive Medicine, Vol. I., 1900. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, bound in cloth, 404 pages, 36 engravings and a colored plate. Lea Brothers & Co., Philadelphia and New York. Issued quarterly.

The author has been assisted in his work by Charles A. Holder, of the Jefferson School. There are presented in this volume the surgery of the head, neck, and chest, infectious diseases, including acute rheumatism, croupous pneumonia and influenza, diseases of children, pathology, laryngology, rhinology, and otology. The contributors are Da Costa, Packard, Blackader, Hektoen, Turner, and Randolph. There is an excellent colored plate in illustration of Koplik's spots, and points of interest are to be found in each department. As a year-book the defect stands out that so few branches are covered in each quarterly issue.

Le Lesioni Traumatiche dei Centri Nervosi. Par Dott. Salvatore Salinari. Roma: Il Giornale Medico del Regio Exercito. 1900.

This is a treatise of three hundred and twenty pages on injuries of the brain and spinal cord and their meninges, which was the Riberi prize essay for 1898. The author is a surgeon-captain in the Italian army, and naturally devotes a large part of his work to gunshot wounds and their treatment in the field.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In twenty volumes. Vol. XIX., "Malaria and Micro-Organisms." New York: William Wood & Company. 1900.

To this important volume there are but four contributors. Their names, however, carry a conviction of their ability to give in the eight hundred pages covered by their contributions all that is at present known of these most interesting topics. There are eleven beautifully executed plates on heavy glazed paper, which serve as frontispiece illustrations of the article on Malaria by Ettore Marchiafava and Amico Bignami of Rome. This in itself makes a book of over five hundred and twenty pages, going into every phase of the question to which of late so much interest has attached. Simon Flexner, of Philadelphia, contributes the greater portion of the text on Micro-organisms, dealing first with the history and technique of bacteriology, then considering at length bacilli and cocci and other forms. Eugene L. Opie, of the Johns Hopkins University, follows with Protozoa, arranged according to classes and orders; the whole subject is made as concise and clear as is consistent with scientific accuracy. As a whole, the work is one of great interest, and the part played by the mosquito in transmitting malaria, now attracting such general interest, is found here freely discussed.

Diseases of the Genito-Urinary System: A Thorough Treatise on Urinary and Sexual Surgery. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School, etc. New York: The Macmillan Company. 1900.

The author finds that most recent works on genito-urinary affections have been written from a purely venereal or dermatological standpoint, or the special articles relating to the kidneys and bladder in works by many writers have been prepared by general surgeons rather than by those professing special skill in genito-urinary affections. He finds the attempts made by venereal specialists to write on surgical topics usually disappointing. The author has therefore sought to avoid the shortcomings enumerated, and has written from the purely surgical standpoint, giving his individual views and methods freely. Whether the term "thorough" in the title will stand an exacting test is questionable.

Traité de Médecine et de Thérapeutique. Publié sous la direction de MM. P. Brouardel et A. Gilbert. Tome septième: Maladies du Nez, du Larynx, de la Trachée, des Bronches, et des Poumons. Paris: J. B. Baillière et Fils. 1900.

In the list of contributors to the present volume we note the names of Cartaz, Castex, Barbier, H. Barth, P. Claisse, Mosny, L. Landouzy, H. Triboulet, Grancher, Balzer, Méry, and Le Noir. In such a treatise not much that is new can be looked for. Suffice it to say that the various articles display an acquaintance on the part of their respective authors with the most recent advances in diseases of the air tract, and can be accepted as representative views of the present-day school of clinical teachers in France.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BARTHOLOMEW HOSPITAL SITE—THE CHARGE AGAINST THE WAR HOSPITALS—COMMISSION PROPOSED IN PARLIAMENT AND ADDED TO—CONAN DOYLE ON THE STATE OF BLOEMFONTEIN—KNIGHTHOOD—SUNDAY FUND—DEATH OF PROFESSOR D. J. LEECH—COLLEGE OF SURGEONS ELECTIONS.

London, July 6, 1900.

On Monday the Prince of Wales presided at a special court of the governors of St. Bartholomew's Hospital. The report of the almoners and treasurer gave the story of futile negotiations for the purchase of part of the site of Christ's Hospital, now removed to the country. In December, 1893, the governors of the latter agreed to sell an acre and a half of the land to St. Bartholomew's at a price to be fixed by arbitration, but up to this time it has been impossible to get them to fulfil their agreement. To end the deadlock a sum of £117,000 has been offered and declined, and it was moved that if this be not accepted the aid of Parliament be sought. The Prince expressed deep regret that Christ's Hospital had not thought fit to stick to their engagement, and "the scanty courtesy, to say the least of it, with which they have treated us." He trusted that the charity commissioners would back up the claim of St. Bartholomew's, and that Parliament would not refuse what is for its benefit. The resolution was carried unanimously.

Medical questions have been forced into the background by the general news of danger and death in all directions from China to New York, where the terrible catastrophe from fire opened the week with a thrill of horror which penetrated to the remotest telegraph station.

One medical question has, however, made itself heard, but chiefly because it is far more than a medical—it is a national question. Is the army medical service a failure? Are the statements of Mr. Burdett-Coutts, which I mentioned in my last, true in substance? The committee suggested by Lord Roberts and accepted by the government will have the responsibility of investigating and pronouncing upon the charges against our war hospitals. Meanwhile the newspapers are flooded with correspond-

ence and interviews. Of course very opposite views are expressed. Sir W. Thompson and Mr. Conan Doyle and other able surgeons at the front repudiate any charge of neglect or incapacity of the medical staff as distinctly as Sir W. MacCormac and Mr. Treves have done. Here it is right to say that Mr. Coutts indignantly repudiates the idea that he has attacked Lord Roberts or any officer whatever, or the personnel of the Royal Army Medical Corps. As to the latter, he agrees with all observers that they have nobly done their duty under great difficulties, and some at the cost of their lives. *The Times*, too, has written in the same sense.

The proposal of Lord Roberts to send out a small commission to inquire—"one or two medical men and some man of common-sense"—having been accepted by the government, the names of the proposed commission were submitted to the House of Commons last night. They were Dr. Church, president of the Royal College of Physicians of London; Professor Cunningham, of Dublin; and Lord Justice Romer. No sooner had Mr. Balfour stated the names than Mr. Labouchere moved the adjournment of the House in order to denounce the composition of the commission. The presence of two doctors to inquire into charges against doctors and the medical service he vehemently opposed. He was seconded by Mr. Burdett-Coutts, who thus largely discounted his profession that he did not blame the department. Mr. Balfour pointed out that the medical men proposed had no connection with the army, but the feeling of the House had been excited and it was obvious a larger commission would be preferred. Therefore, though against his own judgment, he agreed to add two members.

At the meeting of the cabinet to-day it is supposed the subject of the war hospitals will be considered. There is some fear that one, if not two, of the proposed gentlemen may decline to act in consequence of the remarks made in the debate. I hope they will not withdraw, but will consider how exciting were the charges made by Mr. Coutts, and how the tension in the House only reflected that outside. The question is not one for party—it is a national one.

Mr. Conan Doyle has sent home a letter from which extracts appear in the newspapers to-day, and which is a valuable contribution to the evidence, inasmuch as it was written at Bloemfontein before the charges of Mr. Coutts were made, being dated the 5th of June. In this letter he points out the crisis caused by the terrible epidemic of typhoid, and says that, being confronted with a task demanding four times more men than the department had, the only way to meet it was for the men to work four times as hard. "This is exactly what occurred and the crisis was met. In some of the hospitals orderlies were on duty for thirty-six hours in forty-eight." Then he tells how these orderlies, "not picturesque figures, are patriots facing danger twelve hours of the twenty-four, just as real and far more repulsive than the scout or the gunner." Further, anticipating the adverse criticism likely to be made after the war, he says the captious may quote cases of overcrowding or hardships, and asks, "How can it be otherwise when a department sufficient for two army corps has to provide for the wants of two hundred thousand men with typhoid raging among them?"

Conan Doyle will be read by the great public, and his words weighed against those of sensational correspondents. He, like every reasonable man, wishes the truth and the whole truth to be known—even if the War Office should have to be sacrificed with all its red tape. If any one is to blame, let him be called to account; but no one department can bear the burden of the War Office's shortcomings.

Dr. Hector Cameron, of Glasgow, and Dr. Philipson, of Newcastle-on-Tyne, have been knighted.

Surgeon-General Jameson and Sir William MacCormac have received honorary degrees from Dublin University.

The Hospital-Sunday fund has reached at present only about £31,000, so that there is certain to be disappointment to the optimists. One church, at Lancaster Gate, made the largest collection ever received for the fund by a single congregation—the amount being £1,519.

I regret to announce the death of Dr. Leech, professor of materia medica at Owens College, on the 2d inst., in his sixty-first year. He was well known in London, and his work will be known to you. In Manchester he is mourned as a distinguished citizen, always ready to help the advance of education, the public health, and general progress. He had filled most of the chief offices in the Victoria University, and for some time represented it in the General Medical Council. For some years he edited the *Medical Chronicle*. You will remember his Croonian lectures in 1893 on the nitrites and allied compounds.

Mr. A. Cooper and Mr. Tweedy were yesterday re-elected to the council of the Royal College of Surgeons. Dr. Ward Cousins and Mr. Pearce Gould were chosen to fill the other vacancies. There were twelve candidates for the four vacancies.

Clinical Department.

HÆMOPHILIA IN THE NEGRO

By LOUIS BUCK, M.D.,

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I WISH to add to literature two more cases of hæmophilia in the negro, one that of a man aged thirty years, the other that of a woman aged twenty-four years. In the latter (which was the second attack she had) plugging of the nares was kept up for three days, but when the plug was removed hemorrhage recommenced. Then plugging was again resorted to for four days more, which had the desired effect.

In the former case suprarenal extract with plugging was tried with but temporary success, the hemorrhage returning in three hours. The same procedure was again performed, with the same results. Then I administered internally gr. x. calcium chloride in solution every three hours, combined with anterior and posterior plugging of the nares, when I had no further trouble.

EXTRAVASATION OF URINE FOLLOWING STRICTURE OF LARGE CALIBRE.[1]

By JOSEPH E. BISSELL, M.D.,

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THE following case illustrates a point easily overlooked at times. The fact that a stricture of moderate or even large calibre may remain unnoticed and still lead to disastrous results is worth recalling to your attention in a brief way.

The patient, J. Y——, forty-one years of age, was brought into the hospital on the afternoon of May 3, 1900, with a temperature of 105° F., pulse of 124. The history, as well as it could be obtained, is as follows: He had been ill three weeks. His illness began with a chill and rise of temperature. He has had, as far as we could learn, irregular chills since, with loss of appetite, occasional vomiting, pain in the abdomen; at times delirium. He complained principally of the pain all over the abdominal region. The bowels were somewhat loose. He was able to pass his urine at normal intervals in normal quantity, and without pain. He has had two attacks of urethritis, the last several years ago. He lives in a malarial district. He told the house physician that he had either malaria or typhoid fever, his doctor was not certain as yet which. On examination, the surface of the abdomen below the level of the umbilicus was found to be tender and boggy, extending into the left loin and into both groins, where it was reddened and at points fluctuated. The scrotum was swollen, discolored, and œdematous, and on the lower portion was a patch of gangrene the size of a trade dollar. The perineum was moderately swollen and there was a fluctuating swelling, most marked to the left of the median line. The perineal region was not especially tender, neither was the abdominal wall. He says his doctor had passed a catheter a few days before without trouble, and while in hospital he passed voluntarily without much pain or difficulty a pint of cloudy, bad-smelling urine. This being examined was found to contain some pus and albumin, and was of high specific gravity.

The man was at once taken to the operating-room. A 26 French sound was passed with a little difficulty into his bladder. It was obstructed slightly at about four and one-half inches, and a bougie à boule de-

[1] Read before the Medico-Surgical Society of New York City, Friday, May 18, 1900.

tected a decided contraction at this point of 24 and 25 mm. The sound was then replaced, an external urethrotomy performed, and this stricture divided; a tube, carried through the opening along the urethra into the bladder, brought out about a quart of ammoniacal urine. Just behind the perineo scrotal junction and to the left of the median line was a fluctuating tumor containing urine and pus, communicating with the urethra behind the stricture. A probe carried forward in its cavity went under the skin and superficial fascia of the groin and under the fascia of the abdomen in all directions, showing the undermining done by the urine escaping at this point from the urethral canal. The other tissues of the abdomen, the scrotum, perineum, and even into the lumbar region, were incised and drained. A tube was left in the bladder through the perineal wound. The patient's temperature and pulse within a few hours fell to nearly normal, and he appeared to be improving rapidly; but in about twenty-four hours after the operation he had a chill, his temperature and pulse rose rapidly, and he died septic inside of thirty-six hours from the time I first saw him. The infiltration had extended even into the tissues of the back from his left side.

The case is interesting because of the extensive extravasation, in spite of the fact that he was passing his urine at regular intervals, notwithstanding that an ordinary catheter passed into the bladder with little or no difficulty, and that there was no sudden or complete rupture at any part of the urethral canal. An indifferent or careless observer would thus be very easily misled as to the disease and its gravity.

Extravasation of urine following stricture of large calibre is not uncommon and is very easily explained. Following a chronic urethritis after a localized point of inflammation has set up a plastic exudation extending to the submucous structures, new connective tissue forms, and as a result becomes an obstruction in the canal. This obstruction need not be circumferential to accomplish its object. It is a dam in the way of the normal outlet. The urine is forced forward by pressure from the bladder and the deeper perineal muscles. The tissue immediately posterior to this hyperplastic spot, being softer, yields gradually. The epithelial protective layer is damaged, a tiny laceration; then slight ulceration occurs, infiltration of a more or less infective urine takes place, followed by a folliculitis, a periurethritis, and a follicular departure from the urethra, into which is constantly being absorbed urine containing pyogenic bacteria, and the rest is easy. This process is a very slow one, taking weeks, months, or even years before much impression is made. The condition is continually made worse if the stricture or obstruction happens to be, as it usually is, at about the end of the most dependent portion of the urethra and in a straight line from the bladder, so as to receive the direct propulsive force of the muscular efforts to expel the urine. Having thus got out into the layer of cellular tissue, the decomposing fluids and gas work their way in the direction of least resistance under the fascia, through interstices of the superficial fascia at its pubic attachments, to the inguinal region, along the abdominal wall and into the cellular tissues of the scrotum at the same time, the fascia often, as in the case reported above, being dissected from the aponeurosis of the superior oblique in various directions and long spaces, even extending into and beyond the lumbar region. Infection in this case possibly occurred at the passage of the catheter.

The treatment is simple, direct, and imperative. Perineal swelling without external injury means urinary infiltration, always excepting the recto-vesical abscess, which at times extends along this region. The only safe course in such a case is a prompt and generous incision into it and drainage of the urethra and bladder. By such treatment urethral extravasation can always be prevented and, after it has begun, relieved. If the extravasation is not too extensive, or the treatment too long delayed, the prognosis is always good. At the operation the urethra should be cleared of all strictures by an internal urethrotomy.

Applications of hot bichloride-of-mercury gauze 1 : 6,000, or carbolic gauze 1 : 40, to the perineal region and the other affected tissues will be of great assistance to deplete and drain the infiltrated structures.

POISONING BY OIL OF WINTERGREEN.

By B. PILLSBURY, M.D.,
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I REPORT this case since I find, among such records as I have examined, but one case of poisoning by oil of wintergreen, that one ending in recovery. Gilbert G——, a middle-aged farmer, took by mistake for whiskey two ounces of oil of wintergreen at 4 P.M. He went about his work, but in two hours began to have a copious diarrhœa, which continued constantly until his death. His daughter, with rare good judgment, gave him mustard as an emetic, the whites of a dozen raw eggs, milk, and very little water. It was not till near 9 P.M. that a doctor arrived. He found the patient sweating prodigiously, feeling as if on fire inside; pulse 100, not intermittent; the skin was aflame. On the following day the skin was still intensely red, and the victim was harassed by a terrific itching. In the afternoon the pulse was still non-intermittent, but running as fast as possible. The odor of oil of wintergreen was perceptible in the fecal evacuations. Death occurred from exhaustion forty-one hours after the wintergreen was taken.

EXTRAVASATION OF URINE.[1]

By JAMES R. HAYDEN, M.D.,
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THE serious nature of urinary extravasation is so apparent that I trust a brief report of the following cases may possibly be of interest, especially to those who are called upon to treat this grave and oftentimes fatal complication of tight urethral stricture.

CASE I.—Scrotal extravasation. The patient, a man sixty-nine years of age, has had gonorrhœa twice, the first attack thirty years ago, the second attack fifteen years ago. He says he has been troubled with more or less difficult, frequent, and painful urination for the past ten years, but has never had complete retention. Twenty hours before admission and without apparent cause he was suddenly seized with intense pain in the perineum, and in a short time the scrotum began to swell and became very tender. He then had a constant and intense desire to urinate, but was able to pass only a few drops, after violent and prolonged straining.

Examination on admission: Patient entered Bellevue Hospital in a state of collapse. Temperature, 102° F.; pulse, 90 and feeble; respiration, 16. The urine is purulent and ammoniacal. The scrotum is three times its normal size, blanched, shining, and œdematous, and very tender on manipulation. There is no swelling in the perineum, penis, or pubic region, although the perineum is sensitive if touched or pressed upon. There is a dense, fibrous, and filiform

[1] Read before the Genito-Urinary Section, New York Academy of Medicine, March 21, 1900.

stricture situated about the middle of the bulbous urethra. The prostate is somewhat enlarged in the rectum, but not tender.

Treatment: The patient was etherized, and an external urethrotomy performed. The stricture having been freely incised, a No. 30 French sound was passed from the meatus. No urine was found in the perineum, the tissues of which looked perfectly normal. The bladder was explored and drained by means of a large perineal tube. Several deep incisions were then made from the top to the bottom of the scrotum, and a large quantity of foul, decomposing urine liberated. The sloughing scrotal tissues were freely irrigated with peroxide of hydrogen and hot saline solution, dressed with moist saline gauze, and supported. The patient's condition now became so precarious that he was given a saline infusion and the usual stimulants hypodermically. He rallied nicely and made an uneventful recovery; and now, one and a half years after the operation, he urinates normally, passing a practically clean urine and taking a full-sized sound with ease. In this case sounds were passed every other day, and the bladder and urethra were irrigated morning and evening.

Case II.—Extravasation into spongy body. The patient, forty-three years of age, has had gonorrhœa several times, the first attack fifteen years ago, the last one two months ago. He has had more or less difficulty in urination for several years, but never complete retention. Ten days after the onset of the last attack of gonorrhœa, he began to have frequent, painful, and difficult urination day and night, which was followed in a few days and without apparent cause by a hard, tender swelling in the perineum, which gradually crept forward along the under surface of the penis.

Examination on admission: Temperature, 102° F.; pulse, 100; respiration, 32. There is a thick, purulent urethral discharge. The urine is ammoniacal, very cloudy from pus, and is passed in drops after much effort. There is a fibrous stricture two inches from the meatus, which admits with difficulty a filiform guide that passes unobstructed from this point to the bladder. The perineum is very tense and bulging, caused by the swelling of the bulb of the corpus spongiosum, which swelling is sharply limited to the spongy body and extends to within two inches of the meatus. The glans is normal. The swelling is very tender, dense, somewhat fluctuating, and yields on aspiration a thin, bloody, ammoniacal, and urinous fluid.

Treatment: The patient being etherized, the stricture was cut with a Fluhrer-Maissoneuve urethrotome, and a full-sized sound was passed from the meatus to the bladder, showing the rest of the canal to be free from stricture. External urethrotomy was then performed for bladder drainage. The corpus spongiosum was freely incised along its entire length, and a surprisingly large amount of thin, bloody, purulent, and ammoniacal urine liberated. The incisions were freely irrigated and dressed as in Case I., the patient having the same local and internal treatment. In eight weeks the patient was discharged from Bellevue Hospital, all wounds having cicatrized, the urethra taking a full-sized sound, and the patient urinating normally. The urine was acid in reaction, and clear, but contained a few light flakes.

The point of interest in this case is, that although the stricture was situated near the meatus, the break in the urethra must have occurred in its bulbous portion, as the extravasation began there and extended slowly forward to the stricture, but did not invade the glans itself, probably on account of the involvement of the corpus spongiosum by the stricture tissue, as the whole thickness of that spongy body was hard and dense at this point.

Case III.—General extravasation. The patient, thirty-seven years of age, eight years ago had a very severe attack of gonorrhœa, from which he says he has never recovered, as ever since that time there has been an increased frequency of urination. Five years ago he had complete retention of urine following alcoholic excess; this was relieved by catheterization. For the past few months he had been urinating every fifteen minutes during the day and hourly during the night, each act being accompanied and followed by tenesmus, during a recent and severe attack of which the patient noticed a bleeding and painful mass protruding from the rectum. Five days ago, after a more violent and prolonged attack of tenesmus than usual, two swellings suddenly appeared, one above the symphysis pubis and another in the perineum. After forty-eight hours these swellings became very hard and painful, and the integument over them was reddish in color. The patient was now in such distress that he entered Bellevue Hospital.

Examination on admission: The patient is poorly nourished, thin, and anæmic. Temperature, 102.4° F.; pulse, 110 and feeble; respiration, 24. The urine is cloudy, alkaline; specific gravity, 1.020; albumin twenty per cent.; no sugar or casts. There are considerable pus, red blood cells, and bladder epithelium. There is a firm, dense, filiform stricture, situated at the bulbo-membranous junction. The anterior abdominal wall, from the symphysis pubis to the umbilicus and between the iliac spines, is dark red in color, œdematous, and tender, and gives a gaseous crepitation on pressure. The scrotum and perineum are in the same condition, except that the skin of the scrotum is shining and blanched. The penis is normal. The rectum is prolapsed, bleeding, and held tightly by the sphincter.

Treatment: The patient was etherized, the sphincter dilated, and the prolapsed gut reduced. An external urethrotomy was then performed, the stricture thoroughly divided, and a full-sized sound passed from the meatus. The bladder was drained by a large perineal tube. The perineum was filled with greenish-black gangrenous and sloughing tissues, from which exuded pus and ammoniacal urine, giving rise to a most horrible odor. As much of these tissues as possible were liberally cut away, and the perineum freely incised on either side of the urethrotomy cut. The same treatment was applied to the scrotum, whose tissues were infiltrated with decomposing urine and in a sloughing condition. Longitudinal sections were then made over the infiltrated abdominal area down to the muscles, and a large quantity of foul gas, pus, and ammoniacal urine liberated. The sloughing tissues and fat in the prevesical space were then removed through the incisions, all of which were thoroughly irrigated, drained, and lightly packed with strips of gauze. The dressings were changed and wounds irrigated every three hours, day and night, for the first few days.

Immediately after the operation, the temperature rose to 104.4° F., the pulse became very feeble, and the patient passed into a condition of extreme shock. He was infused with saline solution, a quantity of which, with a few ounces of brandy, was injected hot into the rectum. He was also stimulated hypodermically. The patient rallied slowly but steadily after the operation, the temperature and pulse gradually becoming normal. The same local and internal treatment was employed as in Case I. On the fiftieth day after operation all of the wounds were healed, and the patient was passing a clear urine naturally.

From a study of the above cases, which have been selected as illustrating the usual forms of urinary extravasation, we are warranted in drawing the following conclusions, in regard to the treatment of this condi-

tion: (1) The location of the stricture or strictures, and their immediate relief by internal urethrotomy, external urethrotomy, or a combination of both; (2) through bladder drainage by means of a large perineal tube, passed through the external urethrotomy wound; (3) free incisions into all areas of extravasation, with liberation of urine, gas, and gangrenous tissues, and their copious irrigation; (4) through drainage and frequent irrigation of these incisions, with change of dressings, which should consist of moist saline gauze and hot saline solution, rather than iodoform, bichloride, or carbolic, on account of the possible toxic effects of the latter, on a subject who is already in a more or less precarious condition; (5) frequent urethral and bladder irrigations, together with the occasional passage of full-sized sounds, and internal medication to keep the urine in a normally acid condition.

ALVEOLAR SARCOMA OF UTERUS.[1]

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FANNIE K——, twenty-one years old, cigarmaker, not married, was first seen by me at her home on October 9, 1898. She gave no history of previous sickness or abdominal trouble, except that she never menstruated, but had nose-bleed pretty regularly every month. Her present trouble began about a week previously with a severe attack of abdominal cramps, which was only temporarily relieved by an enema and free movement of the bowels. The cramps returned promptly with pain and tenderness all over the abdomen.

Examination showed a temperature of 104.6°; pulse, 120. The whole abdomen was distended, tense, and very tender. There seemed to be some induration in the right iliac fossa, but this could not be definitely ascertained on account of the tenseness of the abdomen. The bowels had not moved in a couple of days. There was no vomiting, but nausea was present. A vaginal examination was not permitted, and the rectal examination was so painful as to prove unsatisfactory. There was a very sparse growth of hair on the genitals. The breasts were normal.

Although no diagnosis could be made, appendicitis was suspected, and the patient was transferred the same evening to the Beth Israel Hospital to be ready for operation should it be found necessary. At the hospital I put her on small repeated doses of calomel, followed by a high enema, which gave a good fecal result, and by the next morning her temperature was down to 100.5°, and pulse to 102. She vomited some dark-colored fluid this day. Her bowels were kept free with salines and enemata, and within a few days her condition was very much improved. After one week's stay in the hospital and until she left, her temperature remained between 99° and 100.5°, and pulse 90 to 104. The tympanites and abdominal tenderness subsided, so that on external palpation a smooth symmetrical central tumor could be felt occupying the site and about the size of a four-and-a-half months' gravid uterus. Of course this suggested either untruth as to previous history, and pregnancy, or uterine retention of the menstrual flow, and in either case a coexistent pelvic inflammation. She positively refused to allow any vaginal examination or any operation, and left the hospital October 25th rather than submit to examination.

Almost three weeks later, on November 13th, she applied for readmission to the hospital, willing now to submit to any treatment found necessary. She had become worse after leaving the hospital, and was bedridden most of the time. Her abdomen was very large and almost filled now with the uterine tumor. Defecation and micturition were both painful. Both legs were œdematous. She was much emaciated and exhausted. Temperature, 101.3°; pulse, 128. Vaginal examination disclosed a normal virgin vagina, an impervious cervix as far as the finger could judge, and a large abdominal tumor occupying the site of the uterus, which was supposed to be that organ distended with retained menstrual blood, complicated with surrounding inflammation secondary to that condition. This examination was made on the table under anæsthesia immediately before the operation, in which Dr. A. Brothers was kind enough to assist me.

The patient being in the Trendelenburg position, an incision was made in the median line between the umbilicus and pubes. The hand introduced into the abdominal cavity felt a large, smooth, soft median tumor filling the whole pelvis and extending upward to a point half-way between the umbilicus and xiphoid. The transverse colon lay across the upper portion of the tumor and was firmly adherent to it. The anterior abdominal wall below a transverse line midway between the umbilicus and pubes was firmly adherent to the growth. Posteriorly also in the pelvis the whole lower portion of the tumor was adherent. To ascertain the contents of the tumor, an aspirator needle was introduced, which gave only a few drops of blood-stained serum. A large cannula gave the same result. Incision into the tumor showed that it was composed of soft grayish tissue interspersed with small serous collections, some clear, some bloody, evidently a malignant growth.

The abdominal incision was enlarged to the upper limit of the tumor and downward to the pubes; the adherent transverse and descending portions of the colon were with difficulty separated from it, and the fundus of the tumor was delivered through the incision. The attempt was made to extirpate the tumor entire, that is, including the uterus, but this proved impossible on account of the very extensive adhesions. The whole length of the uterine sac was incised, and after scooping out about one-third of the tumor piecemeal the rest was enucleated in one mass. The abdominal cavity, then the tumor cavity were flushed out with hot saline solution, and the abdominal incision was closed to somewhat below the umbilicus. The redundant uterine sac was cut away and the circumference of the remainer stitched to the circumference of the remaining peritoneal opening, leaving the peritoneal cavity open at its upper angle, where a strip of gauze was introduced for drainage. The tumor cavity was packed with iodoform gauze.

The patient was in very poor condition after the operation, necessitating all manner of stimulation, but she was brought around and within a few days was comparatively much improved, though she had to be constantly stimulated. Œdema of the legs disappeared, and pain with stool and urination subsided.

The tumor promptly began to grow again, and in spite of repeated removals of new growth gradually filled up the pelvic sac again, and about three weeks after the operation it began to protrude through the wound. During the fourth week the woman began to decline again, and died of exhaustion on December 20th, five weeks after operation.

Pathological examination of the tumor by Dr. H. T. Brooks: "Complex neoplasm of embryonal origin frequently designated as 'blastoma.' It is very closely related (this one) to alveolar sarcoma, though there are also some areas much like adeno-carcinoma."

The points of special interest in the case are: (1) Whether uterine retention of menstrual flow was the cause of the subsequent malignant growth. (2) The

[1] Specimen presented at a meeting of the Eastern Medical Society, December, 1898.

rapidity of the growth of the tumor, which in three weeks from the time she left the hospital till she returned grew from the size of a four to four-and-one-half months' pregnant uterus to that of a full-term uterus. (3) The repeated attacks of surrounding peritonitis simulating other intra-abdominal inflammations, and likely to be mistaken for them.

A CASE OF ENORMOUS ELEPHANTIASIS.

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THE patient, a Russian Jewess of the lower class, found her way into the clinic at the Milwaukee Medical College, and was exhibited there before a large audience by Professor Earles.

She was born near Kieff, in southwestern Russia, twenty-six years ago, and lived there until coming to Milwaukee some sixteen months since. The family history is negative. Parents, two brothers, and two sisters—one of the latter older than herself, all the rest younger—are living and well. She herself had nothing more serious than the ordinary sicknesses of childhood up to twelve years of age, and was a lively, romping girl.

At the age of twelve she attended a wedding and danced all night, and during the next few days, when cold and wet weather prevailed, was running about barelegged. As a result she was sick abed for some days with fever and headache.

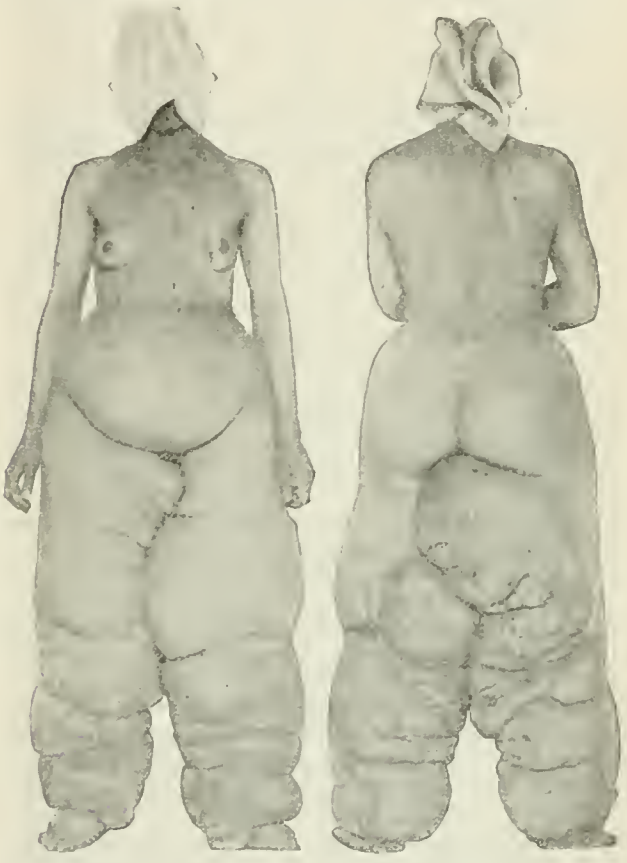
A subcutanous abscess—attributed to the strain of dancing and the subsequent exposure—formed on the inner side of the right knee, was evacuated, and discharged for some time, but finally healed, leaving a small scar, which can still be seen. For six months after this she was as well as ever; then there was noticed a beginning thickening of the skin of the right foot, and it has increased slowly but steadily up to the present time, involving progressively the foot, leg, and thigh. The enormous mass on the upper right thigh she thinks has developed within the past year. Local physicians treated her with medicines and bandaging, in hopes of checking the process, but without success. Specialists in Kieff were consulted. One advised a "let-alone" policy, saying nothing could be done, and that she could live to old age with the disease; another advised a course of hospital treatment; while a third wanted to amputate—the process having at that time not gone above the knee. As the family wealth was at low ebb the let-alone plan was adopted. Three years ago the girl was married!—she explained to me in bad German that "Er hat gewusst, dass das rechte Bein ein bischen dick war," and eight days later she noticed thickening of the left foot and leg. Her husband packed his bundle and stole away to America soon afterward. The process must have been much more rapid in the left than in the right leg, as it has already overtaken and even a trifle outstripped it in measurements.

Sixteen months ago the patient emigrated with her family, coming directly to Milwaukee, and by some hook or crook—her jargon gets too deep for me at times—managed to recapture her recreant husband, and he now lives with her, and follows the profession of rag-picker.

Her present status, aside from the elephantine condition of her legs, is one of good health. Lungs, heart, digestion, and sexual functions are normal; she suffers no pain, and although greatly inconvenienced by her deformity and easily fatigued upon exertion, she does not seem to realize her misfortune so keenly as would one of a higher order of intelligence; she even laughs and jokes about herself.

She performs the duties of her cellar home, and ekes out a pittance by running a sewing-machine, doing piece-work for some sweat-shop. Her gait is waddling and slow, but she mounts street-cars and climbs stairs with tolerable ease. On the street, one's attention would be attracted to her first by her gait, and then by her great breadth across the thighs. Her figure reminds one of the old days when hoop-skirts were in fashion.

As to the clinical appearance of the disease, a detailed description is unnecessary, as the illustrations speak for themselves. I had hung up a white sheet for a background, but finding it a poor contrast to the figure in the prints, it occurred to me to soak the films again, outline the figure with a sharp knife, and scrape the rest of the emulsion off. This left the negative outside the figure very thin and transparent, giving a perfectly dark background so that the body stands out like a statue. One of the side views is unfortunately



somewhat blurred, owing to a slight movement during exposure.

Her measurements are as follows: Height, 5 feet; weight, 248 pounds; chest girth, 32 inches; waist girth, 28½ inches; right thigh, 38 inches; left thigh, 39 inches; right calf, 31 inches; left calf, 29 inches; ankles, 29 inches.

The color of the masses low down is dark red, gradually shading off above to normal flesh tints. The consistency is of board-like hardness below, but above the knees the skin is doughy and œdematous. Some of the fissures are deep enough to conceal the better part of one's hand, and as might be expected the moisture and attrition tend to the production of eczema, although the really excellent care and cleanliness exercised by the patient keep it at a minimum. Tactile, pain, and heat sense are everywhere perfect.

The toes and borders of the feet are normal, and there is quite free ankle motion. She wears low-cut, soft leather shoes, and the stockings might be mistaken for coffee-sacks. No nether undergarments are worn.

Knee action allows flexure at a right angle, and the skin over the patellæ is not very much thickened.

Hip action is perfect. She can stoop and touch her toes with ease—in fact, always stands while pulling on her stockings. The genitalia are only slightly involved. The labia majora are somewhat larger than normal, and their posterior juncture and the perineum are warty. Urination and defecation are easily accomplished. Coitus, she says involves "viel trouble! viel trouble!" The buttocks are perfectly normal, the growth stopping short at the subgluteal fold, but the lower abdominal wall is quite œdematous, and on the right side over Poupart's ligament several tortuous dilated lymph-vessels appear like welts on the skin. Repeated blood examinations have shown no filariæ and no noticeable blood changes.

1130 State Street.

COMPLETE RECOVERY FOLLOWING A SEVERE COMPOUND FRACTURE OF THE SKULL.

By G. REESE SATTERLEE, A.M., M.D.,
NEW YORK.

This case is reported by the permission of Dr. C. T. Parker, the attending surgeon of the J. Hood Wright Memorial Hospital, who was absent at the time and asked me as house surgeon to treat it.

The patient was brought into the hospital by ambulance about 8 P.M., November 4, 1899, having been struck on the head by a stone from a blast. He was a driver, and was found some distance from his wagon. When I saw him, he was conscious, but slightly irrational. Examination showed a large lacerated scalp wound over the right parietal region. Underneath this, close to the interparietal and about two inches back from the coronal suture, was a depressed fracture the size of a fifty-cent piece. A number of small fragments of bone were seen at the bottom of this embedded in the brain tissue in places where the dura had been torn. A large amount of hair and dirt was ground into the cortex with the bone fragments. This corresponded to about the upper part of the motor area of the brain. There was free arterial hemorrhage from the left ear. There were no paralyses nor any symptoms of cerebral compression.

As the patient suffered from considerable shock, he was treated for that, and his wound was cleansed and dressed temporarily. Three hours after entrance, having recovered from shock, he was taken to the operating-room, and under ether the wound was thoroughly cleansed, and the depressed bone was elevated and removed. The hair and dirt were carefully picked out under a continuous stream of decinormal salt solution. On removing the fragments of bone and dirt, the dura was found to be torn badly, and one fragment when dislodged opened up a large ragged tear in the superior longitudinal sinus. This lodgment of bone explained why there had not been a severe hemorrhage previously, and it undoubtedly saved the man's life.

On removing the piece of bone, there was a profuse venous hemorrhage, which amounted to over a quart before it could be controlled. About one inch of the sinus had been torn away and macerated so that it was at first impossible to find the ends. Finally, however, the proximal end of the sinus was packed and the hemorrhage checked. No more fragments of bone being found, a dry gauze dressing was applied. The patient was put to bed, stimulated freely, and given morphine.

The next day at 9 A.M. the left arm and leg became paralyzed. The dressings, being saturated with a bloody discharge, were changed. Retention of urine occurred at 7 P.M. Thinking that the paralysis might be caused by a blood clot on the cortex, I removed the packing and about a pint of very dark blood flowed out, necessitating repacking; no blood clot over the cortex could be found.

On November 6th the left leg was stiff and the reflexes on that side were exaggerated; urination became voluntary. The dressings were soaked with serous fluid.

On November 8th there was a free serous discharge from the wound and from the left ear, accompanied with much thirst and epistaxis. The patient was then placed in a sitting posture to prevent the loss of cerebro-spinal fluid.

On November 12th the packing in the longitudinal sinus was slightly loosened and a wet aluminum acetate dressing was applied to soften the adhesion. On the next day the gauze packing was removed, leaving a sinus about an inch and a half long, at the bottom of which arterial pulsation was very distinct A small strip of gauze was inserted. There had been absolutely no signs of infection or of suppuration. There had been but slight elevation of temperature, and no delirium since the first night.

On November 19th there was a slight protrusion of the brain substance above the outer table of the skull. The top of the head was shaved and a skin flap was drawn over the protrusion and strapped down by adhesive plaster. On the 25th the sinus was nearly healed, the protrusion was reduced by means of the shaving and strapping every day, and the wound was granulating nicely.

On the 28th the paralysis in the extremities was unimproved.

On December 5th the patient was sitting up in bed and had a slight amount of motion in the left lower extremity.

On the 9th he had a limited amount of motion in the left upper extremity.

On the 19th he walked around the bed with assistance. From then on he improved rapidly, and on January 6, 1900, about two months after the injury, he walked without difficulty and was discharged from the hospital cured.

Since that time I have seen him frequently, and he is perfectly well in every respect. He is working hard as a driver, has no weakness in any of the extremities, but has a slight tingling sensation in the tips of the fingers of the left hand. The wound is healed and there is a good firm cicatrix. He has neither headache nor vertigo. His eyesight is excellent. There is some deafness in the left ear.

136 Madison Avenue.

A PECULIAR DELUSION.

By W. MOSER, M.D.,
BROOKLYN, N. Y.,
PATHOLOGIST TO ST. CATHERINE'S AND ST. MARY'S HOSPITALS, AND ASSISTANT ATTENDING PHYSICIAN TO THE GERMAN HOSPITALS.

Many of us have delusions, but we do not necessarily require the services of the neurologist. Medico-legally, neurologists themselves sometimes differ as to the significance of a given delusion. Certain delusions or false beliefs are characteristic of a certain disease or form of insanity; as, for instance, the "delusions of grandeur" in general paresis. Here the unfortunate is laboring under the false belief or delusion that he owns the earth, or, as I recall a case seen more than ten years ago, the individual had the delusion that he was the "king of Ireland." In the same way the "delusions of persecution" suggest paranoia.

Certain delusions pertaining to the individual's health are sometimes called "hypochondriacal delusions" and sometimes classed as "neurasthenic," or the delusion may be more pronounced and suggest melan-

cholia. The form of delusion to which I wish to call attention is one in which the patient does not believe himself to be afflicted with some particular malady, but labors under the peculiar delusion that there are reptiles in the abdomen. This patient has been under observation for more than two years, and comes regularly to St. Catherine's Dispensary to have me either destroy or expel the snakes, lizards, and blindworms which inhabit her abdomen. The peculiarity of this delusion is that her menagerie is made up of reptiles and excludes all other animals. There is not merely a delusion or false belief of the presence of reptiles in her abdomen, but the patient distinctly feels their heads and insists that they are alive. Whether this is a case of melancholia or a distinct psychological phenomenon, I am unable to say. I fear she will retain this menagerie in her abdomen until her mind is forever set at rest.

These psychological phenomena or delusions are not infallible signs in diagnosis, but sometimes are a great aid in prognosis.

Therapeutic Hints.

Tuberculosis.—Drugs containing iodine are the best aids to immunity. They are best given by inunction. The essential oils, and especially peppermint and thyme, unfit the tissues as soil for the propagation of bacilli.—F. L. Flich.

℞ Oil of thyme,
Oil of eucalyptus,
Oil of cinnamon.....āā ♏ lxxx.
Oil of olives (steril.)..... ʒ iiiss.
Iodoform..... ʒ i. gr. xv.
Bromoform..... ♏ xxx.
M. S. Empty 45 minims by means of a long curved syringe into the trachea.

—Mendel.

Pernicious Anæmia.—

℞ Fowler's solution..... ʒ iiss.
Acid phosphate..... ʒ iij.
Bone-marrow extract.....ad ʒ viij.
M. S. Dessertspoonful after each meal

J. N. Danforth.

Laxative Electuary for Children.—

℞ Tears of manna..... 25 gm.
Calcined magnesia,
Washed flowers of sulphur.....āā 50 "
White honey..... 20 "

In habitual constipation one or two soupspoonfuls in a cup of hot milk. For a purgative effect three or four spoonfuls.—Ferrand.

Enterocolitis (Muco-Membranous) in the Adult.—Castor oil is the best laxative. As a succedaneum:

℞ Magnes. calcin.,
Sulphur. loti,
Potass. bitart.....āā 20
S. A teaspoonful before each meal.

—G. Sée.

℞ Podophyllin,
Euonymin.....āā 0.40
Ex. bellad..... 0.20
Ext. hydrastis canad..... 1.
M. ft. pil. No. xx. S. One or two at dinner.

—G. Lyon.

Picric-acid enemata, 1 in 120.—Chéron.

Large enemata of oil.—Fleiner.

In the attacks of paroxysmal pain repose in bed, hot compresses, belladonna by the mouth, or morphine under the skin.

Nervous Insomnia.—Render a tumblerful of sour curds and whey alkaline with bicarbonate of sodium; sweeten and grate nutmeg on the top. Give hot.

Stomach Lavage.—

℞ Sodii biborat..... ʒ ij.
Creolini..... gr. iv.
Acidi salicylici..... gr. xviij.
Thymolis..... gr. iv.
Use in washing once a day after a clear-water lavage by means of a siphon tube.

—Rosenheim.

Otalgia.—

℞ Quin. sulph..... gr. xviij.
Potass. iodid..... gr. xxxvi.
Sacch. alb..... gr. xlv.
M. ft. chart No. vi. S. One twice a day.

When acute give antypyrin in initial dose of gr. xvi. with half this quantity every hour subsequently. In chronic forms:

℞ Zinci oxidi,
Rad. valerian.,
Ext. hyoscyami. alc.....āā ʒ ss.
Pulv. et ext. glycyrrhiz..... q.s.
M. ft. pil. No. c. S. One a day, and increase from one a day up to thirty, then decrease.

—Politzer.

Whooping-Cough.—Pure turpentine and sweet oil should be applied to the chest night and morning until distinct redness is produced.—*Journal des Praticiens.*

Rachitis.—

℞ Phosphorus..... 0.01 cgm.
Ol. morrhuæ..... 1,000. gm
Saccharin..... 0.10 cgm.

—Kassowitch.

Painful Periods.—Menstrual pains are said to be relieved by

℞ Codein..... gr. ss.
Chloral.,
Ammon. brom.....āā gr. viij.
Aquæ camph..... ʒ i.
For one dose. Repeat.

Foul Breath.—Retained secretion behind the plica tonsillaris is a frequent cause. Exclude a dental, nasal, œsophageal, or respiratory-passage origin. Give antiseptic gargles.—Fraenkel.

Repair of Old Lacerations.—The Emmet operation and all denudation methods of the vaginal orifice, which are the operations in almost universal use today, fail to restore in any degree the real pelvic floor. They are suitable in lacerations of the so-called perineal body, but not when the muscles are torn. The method which I wish to present involves a resection of a portion of the pubo-rectalis muscle so as to shorten up the pelvic floor. It is performed as follows: When laceration of the perineum is present, the denudation of this part is made in the usual manner. If this body be intact the denudation is omitted. An incision is then carried up each lateral wall of the vagina from 3 to 5 cm., a little posterior to the centre. The vaginal wall is raised in a flap each way from the incision. The edge of the muscle can now usually be felt, and an incision parallel therewith is made through the perivaginal connective tissue, exposing the muscle, which may easily be dissected out with the handle of a scalpel, blunt dissector, or the finger, ventrally as far as the symphysis and dorsally until it curves around posterior to the rectum.—M. L. Harris, in *The Canadian Practitioner and Review*, April.

Appendicitis.—There is a general agreement as to high mortality in severe acute cases under any treatment, the successful issue of mild cases regardless of treatment, the freedom from danger of the interval operation in chronic cases, and the large percentage of relapses after one attack. While purgatives may cut short a mild attack they may cause perforation in crit-

ical stages. Opium is safe but not curative. Literature abounds with ridiculously contradictory assertions which a statistical study should obviate.—H. H. YOUNG, *Maryland Medical Journal*, April.

Dysmenorrhœa.—The spasmodic element can be eliminated by belladonna. If pain continues after a few doses it is because mechanical or congestive elements are present, since the neuralgic element is to a great extent eliminated by the drug. A suppository containing one or two grains of the extract is the best way to administer, repeated every two to four hours.—WILLIAM MURRAY.

New Instruments.

A POCKET AND CANTEEN FILTER.

BY ROSWELL O. STEBBINS, D.D.S.,
NEW YORK.

THIS filter is constructed of aluminum. First, a very finely perforated metal disk acts as a strainer; second, a disk of specially prepared filtering-paper will eliminate all decayed vegetation and other solids held in suspension or solution in the water. To the pocket filter is attached a tube of pure rubber, through which water may be sucked slowly, yet freely enough to quench thirst readily.

The canteen filter is attached to the end of an aluminum tube, which is passed through a cork as

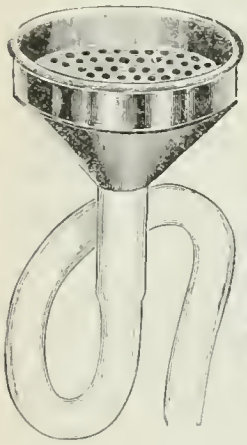


FIG. 1.

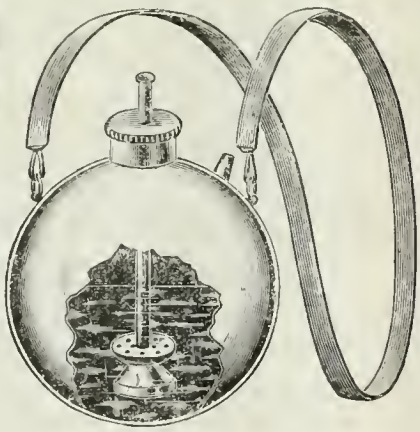


FIG. 2.

shown in Fig. 2. A disk with holes of moderate size is placed above the filter to prevent any large substance from passing into the canteen while it is being filled with water.

AN INSTRUMENT FOR DETERMINING THE OBSTETRIC CONJUGATE.

BY ROBERT R. ROME, M.D.,
MINNEAPOLIS, MINN.,
PROFESSOR OF OPERATIVE OBSTETRICS, MEDICAL DEPARTMENT, UNIVERSITY OF MINNESOTA.

THE subject of pelvimetry is of importance to every physician who may be called upon to officiate at the birth of a human being. We may perhaps truthfully say that abnormal conditions are on the increase, but we are being provided with artificial aids to overcome these abnormal conditions. There was a time when the finger and its nail was the sharpest and only curette at our disposal. But the ingenuity of man has made a finger of steel mounted with a nail of metal which can be introduced and manipulated where the finger of man is forbidden to enter. There was a time when the hand of the obstetrician was the only aid at his command with which to effect a delivery. Now we have forceps of all forms made to fit the presenting part of the child, making artificial delivery safer and easier to all concerned.

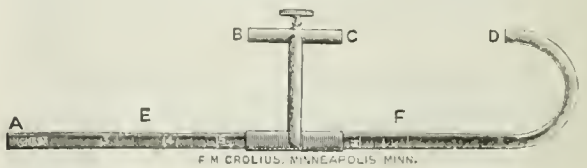
Baudelocque made use of his fingers to estimate the obstetric conjugate; he gave us an instrument with which to estimate the diameters of the pelvis externally; much suffering and many lives have been saved by the faithful use of that instrument. We can determine by external pelvimetry whether we are dealing with a justo-major, a justo-minor, a simple flat, a rachitic flat, a Roberts, a Naegele, or a normal pelvis. But Baudelocque's fingers, employed to measure the distance from the promontory to the subpubic ligament or the diagonal conjugate, from that measurement a guess being made of the true or obstetric conjugate, must be replaced by an instrument of precision.

The instrument about to be described I believe will fill a long-felt want. It has the three elements combined which will recommend it to every practising physicians, namely, simplicity, accuracy, and practicability.

External pelvimetry leaves us to guess at the thickness of the bony structures, *i.e.*, the last lumbar vertebra and the symphysis pubis. When the fingers are employed as taught by Baudelocque all that can be determined with any degree of accuracy is the diagonal conjugate, and from this we are to subtract two-thirds of an inch, providing the following "ifs" are present: if the diameter is the longest side of the scalene triangle, if the symphysis is of normal thickness, if the symphysis is of normal height, if the symphysis forms the normal angle with the pelvis, if the sacrovertebral articulation or joint is of normal thickness. Should any one of these "ifs" deviate from the normal standard we have introduced an error into the problem, and the answer will be incorrect.

The instrument I have devised is twelve inches in length, and the semicircle described by the hook is two and one-half inches in diameter. The shaft is hollow and oval, while the hook is round. The shaft is provided with an inch scale on one side and a centimetre scale on the other. The sliding T-bar is provided with a set-screw with which it can be made firm when necessary.

How to use the instrument: First find the height of the symphysis, *i.e.*, from subpubic to suprapubic ligament or tissues; at about the upper third of the total height make a mark; this corresponds to the thickest portion of the pubic bone. Bring the patient well over the edge of the table, flex the knees and thighs, and support them. Lubricate the fingers of one hand, introduce them into the vagina, retract the perineum by continuous and firm pressure, lower the arm and elbow so as to give an upward direction to the fingers in the vagina. Now request the patient to raise the hips, and follow the hollow of the sacrum until the middle finger is firmly fixed on the true sacral promontory. Slide the shaft along the palmar surface



of the fingers until the end *A* is made to take the place of the end of the middle finger, the latter being moved a little to one side. The shaft being held in position by the index and middle fingers, slide the T-bar toward

the symphysis until the end *B* is made to press firmly on the mark previously made. Turn the set-screw and remove the instrument. Note carefully the number of inches or centimetres from the end *A* to the end collar nearest the end *A*.

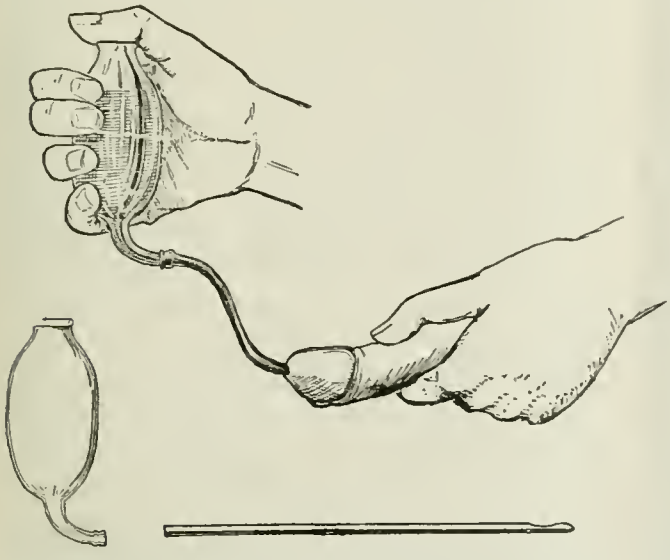
Reverse the instrument; pass the hook into the vagina with the end *D* upward and back of the pubic bone. Steady the instrument in this position while the T-bar is moved toward the symphysis until the end *C* is made to press firmly on the mark as before. Now turn the set-screw. Read off the thickness of the symphysis on the scale provided for that purpose. Loosen the screw; slide back the T-bar before removing the instrument in order to avoid bruising the soft parts about the pubic bone. Subtract the last measurement or thickness of the symphysis from the first measurement, and the difference will be the true or obstetric conjugate.

A GLASS HYDROSTATIC-PRESSURE IRRIGATOR FOR THE URETHRA OR BLADDER.

By ROBERT COLEMAN KEMP, M.D.,

NEW YORK.

In the injection of solutions into the urethra with the hand syringe for gonorrhœa, etc., especially if the treatment is carried out by the patient, there is always the danger that, through too forcible or irregular pressure, the fluid may pass too far up the canal and carry infected material to the healthy parts. Unfortunately this accident is by no means extremely rare, and as a result we may have posterior urethritis, and with it associated epididymitis, seminal vesiculitis, etc., or even a gonorrhœal cystitis. The question of the proper instrument for irrigation is always important, and there are catheters with a back flow (the current directed toward the meatus), double-current instruments, and such devices. Some advocate gentle irrigation with the fountain syringe hung very low, so as to secure but light pressure. There is always a tendency to elevate such a reservoir, it seems to me, higher than it should be, and the force seems too strong. In the accompanying illustration I present a cheap and simple glass irrigator for the urethra, which can



also be employed to wash the bladder by gentle siphonage. It consists of a glass bulb—preferably annealed to secure strength—the capacity of which is ℥ iiss.–℥ iii. The bulb is drawn out into a curved outflow tube at the bottom, to which a small soft-rubber catheter is to be attached.

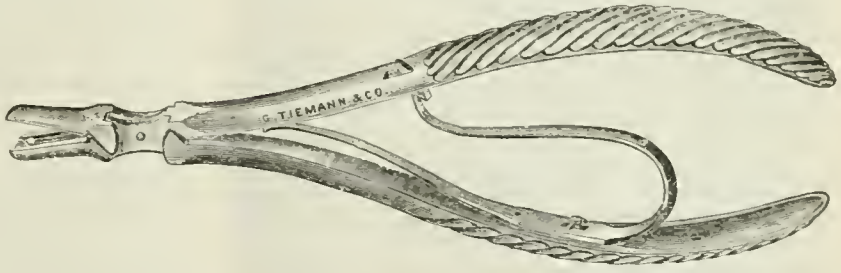
An opening of small size may be cut in the catheter about half an inch from the eye on the opposite side, the edges of this heated over a flame, and quickly wiped with the wet finger, to transform it into a velvet eye. Thus we secure an outflow on both sides of the instrument. The catheter may be cut by the physician the length he desires the irrigation to pass into the organ, allowing sufficient length in addition for proper elevation of the bulb. There seems to be just sufficient pressure to wash around the tip of the catheter and flow back and out of the meatus. The position employed is well shown in the illustration. If it is desired to wash the bladder, the return flow is secured by lowering the bulb below the bladder level, and if necessary starting the flow by siphonage—with a little water remaining in the bulb—just as in lavage. A simple hydrostatic irrigator may be improvised as follows: Take a cheap glass syringe (sharp pointed) and unscrew the end cap, removing this and with it the piston and plunger. Attach the catheter to the point of the syringe. Fill this with solution and control the flow with the thumb as before.

A NEW NEEDLE HOLDER THAT WILL NOT BREAK NEEDLES.

By W. H. LUCKETT, M.D.,

NEW YORK.

The accompanying one-half-size cut is an excellent illustration of a new needle holder or forceps, the chief claim of which to originality lies in the construc-



tion of the jaw. The average needle holder has, when grasping an ordinary surgical curved needle, three points of contact with the needle: two points of contact, the power and the resistance, are on the concave, and the third point of contact, the fulcrum, is on the convex surface between the power and resistance, thus making a lever of the first class, so that the needle frequently breaks, when tightly grasped, or else, if loosely held, it turns in the holder.

I have labored, therefore, to construct a holder that will not make a lever of the needle, and have accomplished this by raising a flange of softer metal around the edges of the surfaces of the jaw, so that it will grasp the needle at four points of contact: two on either side of the needle and almost directly opposite each other.

The direction of the force exerted by the holder being through the needle from opposing points, renders it impossible to break the needle. Considerable trouble was encountered by the makers, G. Tiemann & Co., in finding metal of the proper malleability for the flange. The detachable spring catch has been placed sufficiently far forward that it can be manipulated by the thumb.

Medical Items.

Enteric Fever among Soldiers.—A writer in the London *Lancet*, commenting on the British Army Report for 1898, and speaking of enteric fever among soldiers, says: "A glance at the daily journals is unfortunately sufficient to show the important rôle which disease and notably enteric fever occupies in the history of the South African war. This fever is a veritable scourge of armies in the field, and this has been even more the case with the expeditionary armies of other military powers than ourselves. We find abundant evidence of the prevalence of enteric fever in the report under review—at Ladysmith, Pietermaritzburg, Wynberg, King William's Town, and Simonstown, for example, long before the arrival of the British expeditionary force had taken place in that country, and we are therefore not required to have recourse to the theory of any fresh introduction of the disease there by the newly arrived troops. As the subject is one of vast importance in relation to the diseases incidental to war service and camps, we need make no apologies for dealing with it, more especially, as we said on previous occasions, it is a generally recognized fact, be the explanation what it may, that there is an increased liability to contract typhoid fever at certain periods of life; in other words, that there exists an enteric-fever age period which includes the time during which soldiers are serving with the colors in all short-service armies. But a still more powerful predisposing cause is recent arrival in a tropical or subtropical climate, especially during the hot season. As far as India is concerned this susceptibility or vulnerability of the European constitution to enteric fever in fresh arrivals is at its maximum during the first year, markedly declines the second and third year, and is, practically speaking, nearly exhausted between the third and fourth year of Indian service. It is not, of course, pretended that these are the only disease factors, for if the real cause of enteric fever be the bacillus of Eberth and Gaffky, then it follows that the presence of the specific germ or micro-organism is indispensably necessary to its production, but this bacillus must in that case be much more widely distributed in nature than our present knowledge would lead us to suppose, in order to account for all the enteric fever that occurs; or, to put it in another way, the number and extent of the infected areas on the surface of the globe must be greater than has hitherto been thought to be the case."

Railway Hygiene in the United States.—An investigation made in Massachusetts with reference to certain infectious diseases in 1891 showed that smallpox, diphtheria, scarlet fever, and measles were relatively more prevalent in the towns situated on railway lines than they were in those towns not so connected. Out of 2,298 deaths from smallpox which occurred in twenty years in that State, only thirteen occurred in towns not directly on some line of railway communication. The same fact was noted, though in a less marked degree, in regard to diphtheria, scarlet fever, and measles. Undoubtedly there are many cases of persons having unrecognized infectious disease travelling on railways; hence, measures are necessary to provide, first, for the thorough cleansing and disinfection of cars and their furnishings, especially of sleeping-cars, at the ends of their respective routes or lines of travel; second, for a careful supervision of the water-closets on the trains, and that they are not allowed to be used at or near the stations in cities and towns. It is quite practicable also, and desirable, to require that some disinfectant of recognized potency be added to the water used for flushing purposes when such is provided; third, the water supply, the food supply, and the ice-supply used on long lines for dining-cars and lunch rooms at stations should receive careful supervision. It is also desirable that the milk used on dining-cars and at stations should be procured of stated parties, and that they should be held responsible for its quality and for the cleanliness of the dairies from which it is obtained; fourth, measures are necessary for the exclusion of persons sick with infectious diseases, from public conveyances (cars and steamers), and if this is impracticable to provide for their isolation in separate cars or compartments.—"Public and State Hygiene in the United States," by SAMUEL W. ABBOTT.

Marriage of First Cousins.—Mr. Jonathan Hutchinson says: "There is nothing likely to be prejudicial to offspring in a consanguineous marriage *per se*, but if there be in the family any definite tendency to such diseases as tuberculosis, cancer, or insanity, there is a risk that it may be intensified. On the other hand, if the family has a good life history, then there may be greater security in such a marriage than in one with a stranger whose antecedents may probably be less well known.

Deaths from Sunstroke at Aldershot, says the *British Medical Journal*, aroused a great deal of interest among members on both sides of the House of Commons. It would seem that some 18,000 men were paraded for the field day on June 11th, and that in consequence of the excessive heat no fewer than 28 men were received into the hospital, of whom 4 died while 29 others were injuriously affected. The troops covered in their march some fourteen miles, and wore the ordinary field cap. This afforded insufficient protection, and the commander-in-chief has ordered that helmets should be worn in hot weather and that troops unprovided with helmets are not to take part in exhausting operations. There were also regrettable defects in the provision of food and water for the men. The whole incident exhibits, members think, a lapse from common sense and ordinary prevision, which strong measures should be taken to prevent in the future.

Malaria in Canada.—Professor Adami, of McGill University, Montreal, supplies an interesting report to the *British Medical Journal* of the tropical and subtropical diseases of Canada. Referring to malaria he says: "With regard to malaria, just as in Great Britain, even to the middle of this century, cases occurred with considerable frequency, more especially in the Fen districts and in Lincolnshire, so here in Canada during times within the memory of old inhabitants I am informed that malaria was not infrequent along the St. Lawrence, even in the neighborhood of Montreal. Now, however, it is only in the most southerly portion of Canada, namely, in the peninsula of Ontario between the great lakes, that malaria is met with, and there not to any great extent. So far as I can learn, members of the genus Anopheles are still present. Some other conditions, however, than the presence of the hosts of the malarial micro-organism would seem necessary for the persistence and propagation of the malarial germ; and when the extraordinary abundance of lakes and large bodies of water throughout Canada is called to mind and the relatively small proportion of the country that has undergone full drainage and full cultivation, the gradual disappearance of the disease becomes a problem difficult to solve. For myself, during the seven years I have been pathologist to the two largest hospitals in Montreal in succession, I have come across but one case of malaria in one who had not been out of the country; this was in an old Red Indian who came from Ontario. Taking into account the enormous

numbers of mosquitos present throughout Canada during the early summer months, and the fact that the further north one goes into Labrador or into Alaska the greater becomes their number, until in some regions during the months of June and July it is almost impossible to live on account of them, Canada should supply a very good ground for the study of the relationship of mosquitos to the conveyance of more than one form of disease."

An Old Argument for Alcohol.—The London *Spectator*, referring to the recent temperance congress, says: "Humanity owes everything worth having to the races which use alcohol. The drinking races have not only conquered but moralized the world. The Jew drank and gave us monotheism and Christianity, the Greek drank and gave us literature and art. The Roman drank and gave us law, the Teuton drank (hard) and gave us the passion of freedom. What have the two great races which rejected alcohol—the Hindoo and the Arab—done to counterweigh the benefits conferred by their drinking rivals?"

The Hospital Scandal in South Africa.—*The Hospital* says: "It is impossible to read without distress, and indeed without the strongest sense of indignation, the revelations made in *The Times* of the 27th inst. by Mr. Burdett-Coutts in regard to the hardships to which our sick soldiers in South Africa have been exposed—exposed, we fear, recklessly and almost wilfully in consequence of the want of foresight displayed by the central administrative authorities, who ought to have known what all experience has taught, that sickness would certainly throw a far more serious strain than wounds upon the medical organization. No doubt we have now in South Africa a far larger force than was contemplated when the war began; but those who sent the men out ought surely to have had the foresight to send out the necessary equipment in addition, and it ought not to have been possible for such horrors to have come into existence as those which Mr. Burdett-Coutts details so graphically as having been seen with his own eyes. No one can doubt that the men on the spot were struggling manfully to meet the terrible strain of supplying the wants of the twenty thousand sick who now occupy the whole track of the army. More than half of these sick, we are told, are down with typhoid fever, and those who know best what care, what cleanliness, what constant attention are required to prevent infection spreading far and wide, will recognize not only the terrible hardships to which our unfortunate soldiers are being exposed, but the serious danger which hangs over the whole expedition from the unchecked extension of this disease. We will not now enter into the details of the horrible neglect which Mr. Burdett-Coutts lays bare, but we will join with him in saying that the whole series of events ought to have been foreseen and provided for. That fever has always been the scourge of South Africa, that Bloemfontein is always a typhoid town, and that this town would of necessity become a point on which our troops would concentrate in large numbers was always known."

The Famine in India.—The London *Spectator* says: "We are happy to record that the famine in India approaches its termination. The monsoon though late has brought copious rains throughout India, and in a few weeks cultivation will be possible. The money-lenders, secure of a future crop, will recommence making advances by which seed at all events may be secured, while the State, we hope, will render assistance in the collection of cattle. The extinction of beasts is a terrible addition to the weight of the calamity. There are still, we believe, men who say that a famine of this kind is all the fault of the system of taxation in India, which, as we quite admit, though not too heavy is wanting in elasticity; but as a matter of fact, the heaviest blow has fallen upon districts still taxed only by their native rulers—Guzerat, Rajpootana, and Kattiawar. There is grave reason to fear that in the wide regions under the first and second names the loss of population from the famine and its sequelæ—cholera, fever, and typhoidal disease—will not be less than one-fifth of the whole, while the destruction of beasts will be in yet greater proportion.

A Plea for Antitoxin.—It is a stock argument with the antivivisectionists against the value of diphtheria antitoxin that the use of this remedial agent has neither lessened the number of cases nor diminished the death rate from diphtheria. It is perfectly obvious, however, that more successful treatment of an infective disease does not necessarily mean a diminished incidence of that disease. No one, it is to be presumed, not even the most pronounced antivivisectionist, would deny that the plague in India is more successfully treated—*i.e.*, that the percentage of recoveries is greater—during the present epidemic than it was in the Middle Ages; but it is to be doubted if the incidence of the disease in many districts is less than it was in former times. The antivivisectionists always quote the death rate, and not, as should be done, the case mortality; if the latter be taken, statistics practically without exception show the great reduction in mortality brought about by the use of diphtheria antitoxin. But this very reduction in mortality brings with it a danger to the community. If the individual who is suffering from diphtheria dies, he is done with, and there is little risk of the spread of the disease from the cadaver. But if he recovers diphtheria bacilli will be present in the throat for a shorter or longer period, even for many months, and while they are present there is always the risk of those with whom he comes in contact contracting the disease. Paradoxical though it may seem, therefore, the greater the number of recoveries, theoretically the greater the number of cases, and so it will be unless isolation be vigorously carried out until all risk of infection is past. A high mortality is really a natural "stamping out" system and would tend to diminish the incidence of the disease.—Dr. Hewlett, in *Treatment*, April.

The Results of the Open-Air Treatment of Phthisis in the Berlin Homes.—Elkan gives the results of the treatment of consumptives in the Malchow Sanatorium for men and that of Blankenfelde for women; 5,581 patients stayed longer than fourteen days, the average time being forty-nine days. The average increase in weight was 4.8 kgm. He divides the patients into classes: class A consisting of those in whom no bacilli were found, the only physical signs being those of an apical catarrh; 1,245 belonged to this class, and of these 876 greatly improved, the lung signs disappearing; in 359 the physical signs persisted, but the patients were able to go back to work; and in 40 no improvement occurred; in all these last some complication was present. Class B, including those patients in whose sputum bacilli were discovered and in whom the signs of the disease were well marked, numbered 2,519; of these 1,047 were much improved, 1,171 were improved, 259 showed no change or were worse, and 6 died. In class C, including those cases in which either laryngeal phthisis or intestinal tuberculosis had been present before admission, there are 659 patients, and of them 198 are recorded as having improved greatly; 310 as having improved, 147 as not having improved, and 4 as having died. Class D comprised 729 cases in which the fever was persistent. Of these 106 patients greatly improved, 306 partially,

294 did not improve, and 23 died. On the strength of the above figures the author points out how essential it is that only early cases should be admitted to sanatoria, the only suitable cases being those in which there is a reasonable prospect of more or less complete cure.—*Quarterly Medical Magazine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended July 20, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Illinois, Chicago	July 7th to 14th	2	
Kansas, Wichita	July 7th to 14th	2	
Louisiana, New Orleans	July 7th to 14th	11	5
Shreveport	July 7th to 14th	3	
Maryland, Baltimore	July 7th to 14th	1	
Massachusetts, Fall River	July 7th to 14th	1	
Nebraska, Omaha	July 7th to 14th	2	
N. Hampshire, Manchester	July 7th to 14th	1	
Ohio, Cleveland	July 7th to 14th	29	
Pennsylvania, Philadelphia	July 8th to 16th	1	
South Carolina, Greenville	July 7th to 14th	1	
Utah, Salt Lake City	July 7th to 14th	2	
Washington, Tacoma	July 1st to 7th	1	
Smallpox—Foreign and Insular.			
Brazil, Bahia	June 2d to 9th	2	
England, Liverpool	June 23d to 30th	3	
London	June 23d to 30th	16	
France, Lyons	June 16th to 23d	..	1
Paris	June 23d to 30th	..	4
Roubaix	May 1st to 31st	..	1
Greece, Athens	June 23d to 30th	4	2
India, Bombay	June 2d to 12th	..	12
Italy, Genoa	June 8th to 16th	3	
Mexico, Vera Cruz	July 1st to 7th	..	9
Scotland, Glasgow	June 22d to July 6th	170	3
Switzerland, Geneva	June 8th to 16th	1	
Yellow Fever.			
Africa, Goree Dakar	May 30th to June 16th	3	2
Colombia, Barranquilla	June 23d to 30th	9	6
Cartagena	June 22d to 20th	11	9
Cuba, Havana	June 27th to July 4th	..	5
Santa Clara	June 26th to July 7th	7	
Mexico, Cordoba	July 1st to 8th	Reported.	
Progreso	June 23d to July 8th	3	2
Cholera.			
India, Bombay	June 5th to 12th	..	72
Plague.			
Arabia, Aden	June 8th to 16th	3	3
Australia, Sydney	June 3d to 16th	14	6
India, Bombay	June 5th to 12th	..	117
Japan, Osaka	June 13th to 19th	1	
Shidzuoka	June 13th to 19th	1	

Non-Hygienic Gymnastics.—Mr. Buckham writes an interesting article on this subject in the current number of *Harper's Monthly Magazine*, some of which we here quote. From various competent sources we have received warning that the abuse of the body among athletes is increasing functional disease and shortening the average life of males. Suspicion that something was wrong first arose when it began to be observed that college athletes upon reaching middle life experienced in a majority of cases what has been called the premature decay of physical endurance. There seems to be among them a marked collapse of vital energy, a tendency to functional weakness and disorder, an inability to endure hard labor, either mental or physical. Men of slighter physical development who had not indulged in indoor gymnastics of the upside-down and violent type, retained, it was observed, at the same age with their formerly athletic fellows sound and active bodies and an unimpaired capacity for solid work. . . . Physicians have found in nearly all cases of vital exhaustion from excessive physical development enlargement and weakness of the heart with a tendency to acute heart disease. The lungs also seem often to have suffered some deterioration of cellular tissue, so that pulmonary consumption is not an infrequent disease with adult athletes. Generally speaking, the trouble seems to be a slow physical decay due to the early exhaustion of a vital energy which was intended to supply the body for seventy years or more, and to the disintegration of tissues which have been stimulated to abnormal development. Some physicians have gone so far as to pronounce this excessive enlargement of special muscles and parts of the body a diseased growth, something like a hard tumor, and they say that in the end the result will be the same as with other diseased growths—a pernicious anæmia. Indoor athletics—that is, gymnasium practice, especially when applied chiefly to the development of one set of muscles for competitive purposes—is extremely injurious from the fact that it is almost always carried to excess, and evidences its excess by the increasing malformation or disproportion of the body. The gymnast with huge shoulders and spindling hips and legs is a good and not infrequent example of the abuse of physical exercise. Anything like specialization in physical development ought to be strenuously avoided by one who wishes to retain throughout life a symmetrical body kept in perfect health by orderly and harmoniously exercised physical functions.

Athletics Barred from Chicago University.—The College of Physicians and Surgeons of Chicago after an animated debate has decided henceforth to refuse recognition to athletics, and no longer gives official sanction and support to the college football team, which has taken so prominent a part in intercollegiate athletic competitions. This step has been taken because experience has taught the faculty that college athletics have a demoralizing and disturbing influence on the students and interfere with the educational work of the college.—*Sanitarian.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Transactions of the Medical Society of the State of California. 8vo, 616 pages. Illustrated. Published by the Society.

Surgical Anatomy. By John B. Deaver, M.D. 8vo, 709 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

A Dictionary of Medicine and the Allied Sciences. By Alex. Duane, M.D. 12mo, 646 pages. Lea Brothers & Co., Philadelphia, Pa.

A Treatise on Appendicitis. By John B. Deaver, M.D. 8vo, 300 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

A Manual of Surgical Treatment. By W. Watson Cheyne and F. F. Burghard, M.D. 8vo, 305 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Manual of Clinical Diagnosis. By Charles E. Simon, M.D. 8vo, 558 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

Transactions of the American Association of Obstetricians and Gynæcologists for the year 1899. 8vo, 371 pages. William J. Dornan, Philadelphia, Pa.

Medical Directory of the City of New York. 12mo, 314 pages. Published by Medical Society of the County of New York.

Chirurgie du Rein et de l'Urétère. By V. Rochet. 12mo, 367 pages. Illustrated. G. Steinheil, Paris.

Traité de Chirurgie Clinique et Opératoire. By various authors. Vol. ix., 955 pages, 8vo. Illustrated. J. B. Baillière et Fils, Paris.

Händereinigung, Händedesinfektion und Händeschutz. By Dr. Carl S. Haegler. 8vo, 210 pages. Benno Schwabe, Basel.

Grundriss der orthopädischen Chirurgie. By Max David, M.D. 8vo, 212 pages. Illustrated. S. Karger, Berlin.

Die Urogenitalmuskulatur des Dammes. By Dr. Otto Kalischer. 8vo, 184 pages. S. Karger, Berlin.

Fliegenlarven als gelegentliche Parasiten des Menschen. By Erich Peiper. 12mo, 76 pages. Illustrated. Louis Marcus, Berlin.

Dermatohistologische Technik. By Max Joseph und Georg Loewenbach, M.D. 12mo, 125 pages. Louis Marcus, Berlin.

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CANCER OF THE STOMACH AND INTESTINES.

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THE recent advances in surgery have much improved the results of operations for cancer, both by lessening the immediate mortality and by increasing the chances for ultimate cure. This paper will be limited to the consideration of cancer of the stomach and of the intestines, omitting the rectum.

A. According to Heimann's statistics collected from the general hospitals of Prussia in 1895 and 1896,[1] cancers of the stomach form twenty-one per cent. of all cancers. Of men afflicted with cancer the tumor is located in the stomach in thirty-two per cent., and of women so afflicted in thirteen per cent. it occurs in that organ.

The first question which arises is, whether operation offers a chance for cure of cancer of the stomach, and it is difficult to answer this question by any complete statistics. Wölfler, however, in his review of the subject for the German Congress of Surgeons in 1896,[2] was able to find fourteen patients who had been submitted to pylorectomy for carcinoma, alive and well two years after the operation, and ten others from four to eight years, making a total of twenty-four patients on record who remained well from two to eight years after the operation. These figures are certainly encouraging, and the fact that they are constantly and rapidly improving of late years indicates that before long we shall be able to state definitely the proportion of cases in which the patients are likely to remain well after the operation.

The second question is: What is the danger of resection for these tumors? Wölfler finds a mortality of thirty-one per cent. in one hundred and seventy-three operations performed by Billroth, Czerny, Gussenbauer, Kocher, Mikulicz, and others of the best German surgeons in recent years. Some operators have had a mortality of only twenty-five per cent., and some have had a series of many consecutive cases without a death owing to the improvements in technique. Carle and Fantino in fourteen cases lost only three, a mortality of about twenty-one per cent.

The next consideration is the decision as to what cases are suitable for the removal of the tumor without too great risk of life, and with a hope of effecting a cure. Some surgeons have laid down very strict rules for the limitation of the operation of resection of the stomach for these tumors, considering it justifiable only when the tumor is small without involvement of the glands and without adhesions—a limitation which would almost completely debar the surgeon from this operation. The cases of Schlatter, Richardson,[3] and others show that large tumors involving the entire stomach may be removed with an immediate successful result, and without serious interference with nutrition by reason of the loss of the organ, and that a reasonably long duration of life can be expected in such cases.

In the well-known case of Schlatter the patient survived in good condition for a year after the operation. The mere size of the tumor, moreover, is not an indication of such extensive involvement of the glands or of such extensive adhesions as to forbid operation, for several of these very large tumors have now been operated on and found free from both complications. In fact, this evidence shows that tumors of the stomach may reach a large size and involve a large part of the organ without forming such extensive adhesions as would prevent their removal, and without extensive infection of glands. We may, therefore, reject a limitation of the operation of resection based merely on the size of the tumor.

We may also reject the second limitation mentioned above—the presence of adhesions. The modern technique enables us to remove portions of the colon, of the liver, and even of the pancreas in these operations without seriously increasing the risk. In fourteen operations Carle[1] removed portions of pancreas in three cases. It might be thought that this secondary involvement of other organs would greatly increase the liability to recurrence, but some of these cases will be found among those of longest survival after recovery from the operation. There is, therefore, no reason for excluding these cases from operation, and there is even a chance for a radical cure if the patient's vitality is sufficient to bear the shock of the prolonged and complicated operation.

Finally we come to the restrictions imposed by the presence of enlarged glands in the neighborhood of the tumor. Even in this third and most serious limitation experience has shown that the same chance of error exists as in operations for cancer with enlarged glands elsewhere. The glands, although enlarged, may not be carcinomatous, and even when the glands are infected with carcinoma a wide removal may be successful, and may guarantee the patient against a return of the disease. The cases in which the glands are involved afford naturally the least prospect for a cure, but they are by no means hopeless. For instance, in four of his fourteen cases Carle found that the glands were enlarged, but examination after removal proved that they were not carcinomatous.

We must conclude, therefore, that no absolute rule can be laid down limiting the removal of these tumors and that each case should be judged upon its own merits, just as is done in cancer of the breast and of other organs. Here, as elsewhere, there will be favorable and unfavorable cases, and the surgeon must draw the line between them for himself, and must be allowed to remove the tumor even in the unfavorable cases if in his judgment such an operation is to the advantage of the patient by insuring him a longer life or greater comfort during his life. The fact is also to be noted that the majority of the patients who die from recurrence after pylorectomy not only enjoy a longer or shorter period of freedom from all symptoms, but ap-

[1] Archiv für klin. Chirurgie, vol. lvii.
[2] Transactions, vol. xxv., p. 96.
[3] See Robson, Lancet, 1900, i., p. 842.

[1] Archiv für klin. Chirurgie, 1898, lvi., 221.

pear to lose strength gradually, finally dying with less suffering than those who have not been operated upon.

If a patient with cancer of the stomach is to have any chance whatever of a cure by operation, and even a chance of coming through the operation of resection successfully, an early diagnosis of the condition is indispensable. To make this early diagnosis is really the principal difficulty in the treatment of these cases. Let us study the symptomatology of the disease. We may divide cases of cancer of the stomach into those with a tumor and those in which no tumor can be felt. When a tumor is present, it will usually be possible to determine its connection with the stomach by the usual methods of examination by palpation, distention of the stomach with air or water, and distention of the large intestine in a similar way. The tumor may even be discovered accidentally before any stomach symptoms have developed. It will be much more difficult, however, to determine whether the cases are so far advanced that even an exploratory laparotomy is not worth while, or whether there is still a chance for successful removal. As will be understood from the remarks previously made about the impossibility of placing strict limitations upon the radical operation, the writer would advise an exploratory laparotomy if the patient is in good condition, even if the tumor is of large size and somewhat fixed in the abdomen. It is impossible to determine the real condition of affairs without opening the peritoneal cavity and examining its contents.

The cases in which no tumor can be felt are much more difficult of diagnosis, and unfortunately this class includes a very large proportion of cases of cancer of the stomach. The tumor in the first stages may be very small, may be concealed under the ribs or adherent to the lower surface of the liver, so that it is impossible to reach it by palpation. In such cases the diagnosis must be made from the history, symptoms, and the chemical and other examinations of the stomach. From the history and symptoms one can only make a guess at the real nature of the case in the early stages, for characteristic vomiting is a very late symptom. The physical examination of the stomach can at best only show dilatation of the organ, and dilatation also is a late symptom. The modern methods of the chemical examination of the contents of the stomach are of much more assistance, although not absolutely reliable. In a general way it may be said that the majority of cases of cancer of the stomach show an absence or a great reduction of the quantity of hydrochloric acid normally present in the stomach contents. They also show the presence of lactic acid and a great reduction of the gastric digestive power for albumen. There is, furthermore, a decided impairment of the muscular function of the stomach, which results in retention of its contents, even if no stenosis of the pylorus be present. No symptom or group of symptoms, however, can be absolutely relied upon to prove the existence of a cancer, and very careful study of the signs found and all the symptoms of the case is necessary in every case. Some authorities (Hemmeter) lay much stress upon the microscopical examination of fragments in the washings of the stomach which may be detached by the friction of the eye of the stomach tube, and upon the presence of the Oppler-Boas bacillus in the stomach contents.

As an example of the manner of using these various signs, take a case with symptoms of stenosis of the pylorus: if in such a case the hydrochloric acid is increased, the stenosis is probably due to a benign cause; but if it is decreased or absent, the cause is probably malignant. If in any case there are no symptoms of stenosis, but the hydrochloric acid is reduced, a special study should be made of the motility of the stomach, and if this is found to be impaired, the probability is in favor of a cancer. It is by the intelligent use of these various symptoms in connection with each other that a diagnosis is to be made—not by blind reliance upon a single symptom or group of symptoms as pathognomonic of cancer. According to Hemmeter,[1] if rapid emaciation takes place in a patient with stomach symptoms, and it is found on examination that hydrochloric acid is absent and lactic acid is present in the contents of the stomach, while the power of digesting albumen has been reduced under thirty per cent. of the normal, and the Oppler-Boas bacillus is found, and if the patient shows no improvement after three or four weeks of medical treatment, one may be sure that carcinoma is present.

The whole aspect of the question of the treatment of cancer of the stomach has been revolutionized by the rapid modern development of the surgical treatment of the benign conditions of that organ. Formerly it was said that an exploratory laparotomy would not render the patient worse or immediately endanger his life if it should reveal a condition which could not be relieved by operation, or if the suspected cancer was shown not to be present. But now we may truthfully say that if no cancer is found it is probable that some other serious lesion will be discovered, which can be cured by operative methods, and which may be incurable otherwise. To give an idea of the possibilities of the surgical treatment of benign conditions of the stomach we may quote the report of Petersen from Czerny's clinic at Heidelberg,[2] in which fifty-five cases of pyloric stenosis, seven cases of gastric pain and vomiting, three cases of hæmatemesis, and one case of atonic dilatation were subjected to operation. The operations done consisted in the excision of gastric ulcers, pylorectomy, pyloroplasty, gastro-enterostomy, separation of adhesions, and divulsion of a narrow pylorus. We may also quote Carle and Fantino's report[3] on forty-one cases of operations for benign stenosis of the pylorus with dilatation of the stomach, including cases of spasm of the pylorus and of muscular atrophy of the stomach. In these cases pyloroplasty was done fourteen times, in three cases the pylorus was stretched, and in twenty-four cases gastro-enterostomy was performed. These reports claim good results and indicate how wide the field of surgical methods has become in the treatment of gastric disorders, supporting the assertion that if the exploratory laparotomy should show that the supposed carcinoma is not present the surgeon will probably find some lesion which he may treat successfully. In any case with serious gastric symptoms, therefore, the surgeon need not hesitate to advise an exploratory operation, even if there is only a suspicion of malignant disease. He is no longer forced to wait for a positive diagnosis, and, when that diagnosis is finally made, to find himself too late to be of service.

The modern indications for operation in cases of suspected malignant disease may be stated somewhat as follows: (1) The presence of a tumor; (2) dilatation of the stomach; (3) obstructive vomiting; (4) marked chemical changes in the gastric contents, even if other symptoms are slight; (5) hæmatemesis; (6) severe gastric pain. It will be seen that the above list of indications might lead to the discovery of benign as well as of malignant lesions, but in such a case a cure could be obtained the more easily and the operation would be the better justified.

With reference to one non-malignant lesion which occasionally simulates cancer—ulcer of the stomach—there is a special consideration to be noted. There can be no doubt that cancer is very often preceded by a chronic ulcer of the stomach, or develops directly

[1] Medical Record, October 21, 1899, p. 577.
[2] Deutsche medicinische Wochenschrift, 1899, p. 387.
[3] Archiv für klin. Chirurgie, 1898, lvi., p. 1.

upon the base of such an ulcer. The evidence in favor of this view accumulates constantly. Rosenheim reported[1] that in fifty successive cases of cancer of the stomach under his care he found four cases in which there was evidence of a previous ulcer. He remarks that in all of these cases hydrochloric acid was present even in the advanced stages of the malignant disease. This would make eight per cent. of the cases of cancer of the stomach due to a preceding ulcer. Hauser, quoted by Boas, says that in five to six per cent. of the cases of carcinoma of the stomach the growth develops from an ulcer or the scar of an ulcer. Thiersch[2] was one of the early observers of these cases, but instances have multiplied much more rapidly recently. Karg[3] reports such a case treated by resection, and the patient was well (having gained fifty pounds in weight) three years later. Mikulicz[4] mentions five cases in which the symptoms were those of ulcer, but carcinoma proved to be present, as was shown in two cases by microscopic examination after resection, and in three by a truly malignant course after operation—one case of the latter being treated by excision and the others by gastro-enterostomy.

Mathieu[5] has recently reported three cases in which symptoms of ulcer of the stomach preceded the development of cancer by two, ten, and twenty-four years—by far too long to allow of the hypothesis that the disease was malignant from the first.

In three cases of my own the same condition existed, the symptoms previous to operation being as follows:

Case I.—William J. E——, steward on board steamship, twenty-eight years old, born in the United States, single. He was admitted to St. Luke's Hospital August 2, 1899. Members of the mother's side of his family are said to have had stomach trouble. He had all the diseases of childhood, and smallpox when a child. He has had no rheumatism, tuberculosis, or syphilis. He is very moderate in using alcohol; smokes considerably. He had exceptionally good health until the present illness began. In 1893 he had "bush fever" in South America. For ten years he has had constipation. The stomach symptoms began five years ago, with distress after eating and poor appetite, but sometimes he had a voracious appetite. Eructations of gas relieved the distress. Three years ago he began to vomit after eating, only two or three times a week at first, then oftener. He has never gone more than six days without vomiting since that time. Now he usually vomits two or three times a day, and a large quantity at a time. Once he says he brought up a gallon. He has noticed in the vomited matter food which he had eaten three or four days before. Mucus is present in the vomitus, but no blood or coffee-grounds material. The distress and pain are now less than they were six months ago. For eighteen months he has been using the stomach tube, evacuating and washing the stomach regularly. Fluids agree best with him. He was a hearty eater before his illness, but there is no history of overeating. He has lost fifty pounds in weight.

August 2, 1899, physical examination: The patient is a tall man of large frame, emaciated, weighing only one hundred and six pounds, but of good color, and with firm muscles. The heart, lungs, and liver are normal. The stomach descends to the umbilicus when distended, and its walls appear to be thickened. Its capacity is about fifty fluidounces. In the right hypochondriac region a tumor can be felt in the abdomen, about one and one-half inches in diameter, rolling upward and downward under the hand, and disappearing when the stomach is distended. The tumor is not tender or painful. Two small nodules can be felt on its surface. Chemical examination of the stomach contents after a test breakfast showed: hydrochloric acid much reduced, total acidity reduced. There is some mucus, no bile. Starch digestion is unusually good. There is some fermentation and acetic acid is present. Urine is acid, 1.020 specific gravity, with no albumin.

On August 5, 1899, pylorectomy was done by Kocher's method. There was an uninterrupted recovery. Twenty-three days after the operation he weighed one hundred and twenty pounds, and thirty-one days after one hundred and thirty-five pounds, having gained in that time just twenty-eight pounds. On November 5th he reports weighing one hundred and sixty-eight pounds, able to eat everything except fruit and the more fibrous vegetables.

The pathologist of the hospital reports that the tumor is a pure carcinoma, in spite of the very long history of pyloric obstruction.

Case II.—Louisa K——, twenty-eight years old, married, born in Germany. She was admitted to St. Luke's Hospital July 31, 1899. Family history is negative. The patient had measles and mumps in childhood. Four years ago she had some internal operation for uterine displacement (?). Considers her health previously good. The menstrual function was normal. She has been married four years, and had one child born fifteen months ago (now dead), with normal labor and convalescence. After birth of the child she had dull pain in the epigastrium and the left inguinal region after eating, with some nausea. She brought on vomiting by tickling her throat with her finger, and sometimes saw blood in the vomited matter, which was watery and slimy. She has been seriously affected about three months. Her appetite is good except when pain is present. She has had left lumbar pain, sometimes worse after eating. The bowels are regular. Her principal complaint is the lumbar pain, which occasionally radiates to the shoulder. She has not noticed the tumor.

Physical examination: The patient is of medium frame, fairly nourished, and appears anæmic. There is a slight systolic cardiac murmur over the base. The lungs are normal. The abdomen is generally tense. A hard tumor about half as large as the fist can be felt just above and to the left of the umbilicus, apparently attached to the rectus mucle. The tumor is tender on pressure and dull on percussion. Distention of the colon reveals it lying below and partly beneath the tumor, below the level of the umbilicus. The stomach appears to descend to the umbilicus. The tumor can be moved when the abdomen is relaxed, but is immovable if the muscles are tense. It does not move with respiration. The mass appears rather flat, and there are no nodules to be felt. It cannot be felt in the loin. The liver can be mapped out one inch below the edge of the ribs. The genitals are practically normal. The temperature was practically normal up to the date of operation, occasionally reaching 100° F. The bowels were regular. The urine was acid, specific gravity 1.018, containing a few pus cells and epithelial cells. There was some nausea (perhaps due to iodide of potassium given experimentally) and sufficient pain to make the patient sleepless. There were 14,000 leucocytes. No examination of the stomach contents was made. An exploratory incision was determined on.

On August 12, 1899, the operation was performed under ether anæsthesia. A vertical incision was made directly over the tumor through the left rectus muscle. The latter was found infiltrated and the peritoneum thickened over an area about two inches in diameter, and the stomach was adherent at this point. The anterior stomach wall was thickened to a full inch. After separating the adhesions, a small but very hard

[1] Deutsche medicinische Wochenschrift, 1890, p. 308.
[2] Münchener medicinische Wochenschrift, 1886, No. 13.
[3] Centralblatt für Chirurgie, 1898, Beil., 126.
[4] Berliner klin. Wochenschrift, 1897, p. 523.
[5] Semaine médicale, 1897, p. 291.

apparently carcinomatous gland was found above the ulcer on the lesser curvature of the stomach. The thickening in the stomach extended almost entirely across the anterior wall of the stomach near its middle, leaving the pylorus free with about two inches of healthy stomach between it and the mass. Resection was decided upon and carried out on the same plan as in the first case—Kocher's method with use of the Murphy button. In this case, however, the portion of stomach removed measured five inches across. The lower line of excision passed through the stomach one inch from the pylorus, the upper about two inches from the œsophageal opening (on the lesser curvature). The stomach was dilated, hence the remaining organ after the operation was about half the size of a normal stomach. There were no adhesions except those described, and no other glands were found enlarged. Examination of the piece removed was made, and an ulcer nearly three inches in diameter was found, with an immensely thickened base. The posterior wall of the stomach was healthy. The stomach contained a dark red, thick fluid of intensely fetid odor. A little pus formed in the wound, apparently originating in the abdomen, but caused no rise of temperature or pain. It was discharged on the eleventh day, and the opening healed by granulation. The patient felt no hunger until about two weeks after the operation. She was not weighed until the thirty-second day after the operation, and then weighed eighty-seven pounds. She weighed one hundred and five pounds three weeks later. The pathologist reports carcinoma in the tumor and in the lymphatic gland removed.

(Cases 1 and 2 are quoted from the report in the *Yale Medical Journal*, January, 1900.)

Case III. (shown to New York Surgical Society February 28, 1900).—Julia C——, thirty-eight years old, married; employed at housework; born in United States. Admitted to St. Luke's Hospital October, 1899. She was never pregnant, and had enjoyed previous good health. Four years before admission she began to be troubled with eructations—"heart-burn." Her symptoms increased, but there was no actual pain in the stomach. Nausea and vomiting set in two years before admission, and gradually the vomiting became so complete that only fluids were retained, and the patient lost ninety pounds in the last year. She now weighs only one hundred and twenty pounds, although of large frame. Six months and three months ago, and again lately, she has had attacks of "coffee-ground" vomiting. A small tumor was felt at the pylorus. Examination of the stomach contents showed the hydrochloric acid slightly diminished, lactic acid absent, and digestion of proteids reduced.

On October 28, 1899, pylorectomy was done by Kocher's method. In the portion removed an ulcer two and one-half inches in diameter was found on the anterior wall, with a greatly thickened base, the latter having occasioned the pyloric stenosis as it extended to the pyloric ring. The patient made a good recovery, and on March 5, 1900, weighed one hundred and sixty pounds, being able to eat everything. The pathologist reports that the base of the ulcer is carcinomatous, but some enlarged glands removed with the tumor were free.

It is not surprising that the frequency of the association of chronic ulcer and of carcinoma has not been brought out sooner. When the study of carcinoma of the stomach depended upon post-mortem examination, or even upon operations performed in cases with well-developed tumors, it was impossible to say if any other pathological changes had preceded the malignant disease, for the latter would by that time have destroyed any evidence of the previous lesion. It was only with the development of the modern methods of diagnosis in stomach diseases, and especially of the modern surgical treatment of benign lesions of the stomach, that the coexistence of an ulcer and a beginning carcinoma was likely to be discovered. The clinical history will show more often than has been realized that a grave lesion of the stomach must have preceded the cancer by years. But this history cannot be relied upon entirely, for many cases of chronic ulcer run a latent course like those described above, and give no sign until pyloric stenosis develops.

The practical outcome of these consideration is that every patient who gives evidence of serious stomach trouble should be carefully studied and an accurate and early diagnosis made if possible. This study should include a careful physical examination of the abdomen, in order to determine the presence or absence of a tumor, and the outlines of the stomach and colon should be ascertained by distending these organs with air or water. It would also include a chemical examination of the stomach contents and a microscopic examination of the solid particles found in the washings. With a little tact patients can be induced to submit to the use of the stomach tube and the necessary manipulations. We are not doing our duty if we prescribe medical treatment which will merely relieve the most urgent or annoying symptoms—rather should we use those symptoms to persuade the patient to undergo a thorough examination. To neutralize the acidity of the stomach with alkalies, relieve the pain by anæsthetics, or control the vomiting by fluid diet in such cases, without trying to discover the cause of these symptoms, is not merely foolish temporizing, it is criminal neglect.

If the indications for operation mentioned above—the presence of a tumor, vomiting, dilatation of the stomach, or chemical changes—are found, operation should be advised even if the diagnosis is not altogether certain, in the expectation that an exploratory operation will not merely settle the diagnosis, but will probably reveal some definite lesions which can be relieved by surgical procedures. These indications for operation are worthy of consideration even in cases in which the symptoms are not very serious, but are obstinate, and persist in spite of thorough treatment by drugs, diet, and lavage. If the diseases have advanced too far for a chance of cure by radical operation, it may admit of palliative measures, such as gastro-enterostomy, which will prolong life and make its end less distressing. Even if the case is one of very long duration and seems unfavorable for a radical cure, there is still a possibility that the laparotomy may reveal a condition in which thorough extirpation of the tumor may have some chance of permanent success. Streit[1] reports fifty-four cases of cancer of the stomach examined post mortem in which he found that even at that late period, when the disease had caused death, the local conditions would still admit of successful resection in twenty-five per cent. of the cases.

Gastro-enterostomy has its limitations as well as resection. Heimann[2] found that about fifty per cent. of the cases of cancer of the stomach submitted to operation in Germany in 1895 and 1896 were treated by gastro-enterostomy. Gastro-enterostomy overcomes the consequences of the obstruction of the pylorus or of dilatation of the stomach through muscular atrophy. The operation acts by providing a free outlet from the stomach and by accomplishing drainage of the large pocket formed by the dilatation. It has, therefore, two favorable effects—first it improves nutrition by enabling the food to pass on into the intestine for absorption; and, secondly, it drains the stomach and thus limits the fermentation and lessens the absorption of poisons produced by this decomposition. The performance of gastro-enterostomy, however, will have

[1] Deutsche Zeitschrift für Chirurgie, xxvii., 410.
[2] *Loc. cit.*

little or no effect when pain is the prominent symptom of the cancer, for the reason that the pain seldom if ever originates in the stomach itself in these cases, but is generally due to the pressure of the enlarged retroperitoneal glands on the nerves, and is naturally not affected by drainage of the stomach. There are certain other contraindications to gastro-enterostomy, namely, such excessive weakness of the patient as to make death probable from the shock of the operation, and such extensive disease as to leave no point free at which the outlet can be made. Wölfler[1] found in one hundred and forty-nine cases of gastro-enterostomy performed for cancer, collected from the German clinics, a mortality of thirty per cent. The longest survival after operation was two and one-quarter years, the average interval before death being only six months. Murphy reported[2] sixty-one cases operated upon by his button method, with a mortality of forty-six per cent., but this is a list of all recorded cases and should not be compared with Wölfler's series, selected from certain first-class clinics.

The weak condition of patients with cancer explains the high rate of mortality—certainly three times as great as the mortality of the same operation performed for benign lesions of the stomach. It also explains why the palliative operation has almost as high a rate of mortality as the operation for the removal of the tumor, for resection is undertaken only in patients in the earlier stages of the disease, who are in much better condition than the average patient submitted to gastro-enterostomy. Yet in spite of the high mortality the operation is well worth the danger it involves, for it relieves the patient of the harassing vomiting and the sensations of starvation, and obtains for him a much more comfortable and gradual sinking of his strength without seriously annoying symptoms.

B. **Carcinoma of the Intestine.**—Not long ago carcinoma of the intestine and of the stomach would have been classed together from a clinical point of view, both occurring in organs consisting of a muco-musculo-peritoneal canal containing digestive material, and differing only in the more active chemical changes of the upper end toward the stomach and in the more active bacteriological life of the lower part. They have now, however, assumed very different positions, because the advances made in the chemical examination of the contents of the stomach have rendered much assistance in the diagnosis of the gastric lesions, while our knowledge of intestinal diseases has not progressed so far. Malignant tumors of the intestine, with the exception of those in the rectum, are quite rare. According to Heimann, 8.5 per cent. of all cancers occur in the intestine, but nearly three-quarters of these are situated in the rectum. The scope of the present paper does not include the lower rectal tumors, as they should be studied rather in connection with pelvic disease, or with external tumors, but the tumors higher up in the rectum have the same characteristics as those of the sigmoid flexure. Sarcoma of the bowel is rare, nearly all its malignant tumors being carcinoma. The sarcomata are found more frequently in the small intestine than in the large, but are so rare as to be of little surgical importance. Primary carcinoma of the small intestine is also rare, the great majority of these tumors occurring in the large intestine. Even in the large intestine there are certain portions in which the tumors are especially likely to grow, the most common situations being the sigmoid flexure, the splenic flexure, and the ileo-cæcal region.

Carcinoma of the large intestine is found in two very different varieties. In the first variety tumors of a considerable size are formed, and such tumors are apt to be of colloid material. They are most frequently found in the neighborhood of the ileo-cæcal valve, but do not obstruct the passage of the bowl materially in spite of their size.

The other form is the annular tumor, which is far more common than are the large colloid masses. The annular tumor contains a large proportion of fibrous tissue in its structure and the intestinal wall involved in it is contracted, so that instead of producing a tumor-like mass, the diseased parts are actually smaller than before. These annular growths invade the epithelium first, spreading in a ring-like manner round the inner surface of the bowel, and the multiplication of the epithelial cells is accompanied by an abundant growth of connective tissue, forming a dense fibrous stroma. Its growth is slow, the epithelial changes invading the healthy tissues at the edges of the annular lesion, and spreading upward and downward, constantly widening the annular band. The connective-tissue stroma in the submucous coat contracts and cuts off the blood supply at the centre of the lesion, causing a tendency to sloughing in the epithelial cells and the production of a ring-like ulcerated surface in the centre of the annular band. Where the ulcer is deepest there are few epithelial cells, its base being mostly formed of fibrous tisue, with a granulating surface. The central portion of the growth continues to contract by virtue of the cicatricial property of the fibrous tissue and makes an annular stricture of the bowel at this point, which projects internally into the lumen like a diaphragm, while externally it forms a groove by drawing the outer coats of the bowel inward, with the appendices epiploicæ and the mesentery. At this stage the outside of the bowel appears on inspection to have had a constricting thread tied tightly around it, making a groove which is almost concealed by bunches of fat made up of the appendices and mesentery, which are drawn toward it. When the affected bowel is palpated, a small hard thickening is felt in its wall, which is the annular growth, but if any considerable tumor is present, the bulk of the mass is made up of the appendices and other parts drawn into it by its contractile power, and not of the new growth itself. A longitudinal section of the bowel shows very clearly the narrowing of its lumen by the drawing in of all the coats as if by this imaginary thread.

The epithelial growth is so slow that the width of the annular lesion may not be over an inch, although symptoms of constriction have been present for a year or more.

Equally slow is the glandular involvement. Lardenois[1] calls attention to the arrangement of the lymphatics, as shown by Sappey's dissections, which explain both the peculiar form of the growth and the slow glandular involvement. The lymphatics of the intestine may be divided into a submucous and a subserous set. Sappey states that both sets run circularly around the bowel like the blood-vessels, and discharge into small nodes at the mesenteric attachment. There is comparatively little communication between the two sets of lymphatics. Having entered the small lymphoid nodes at the mesenteric border of the bowel, the lymphatic vessels issue from them unchanged in size, form a reticulum along the mesentery, and then pass through another set of nodes near the first before reaching the larger lymphatic glands at the root of the mesentery. Any material which may enter the lymphatics must pass through three lines of defence—the small nodes at the attachment of the mesentery, the second row beyond, usually known as the "mesenteric glands," and finally the retroperitoneal glands at the root of the mesentery, before a general infection can take place. We frequently find the glands entirely free or the infection extending only to the first row of glands in cases in which it is evident from the size and connec-

[1] *Loc. cit.*

[2] Medical News, February and November, 1895, pp. 141, 533.

[1] "Traité de chirurgie du cancer du gros intestin," Paris, 1899.

tions of the tumor that it must have been in existence for a long time. This slow extension is also evidenced by the fact that patients have remained well for long periods after the removal of a tumor with glands shown to be carcinomatous.

In many of the malignant growths of the bowel the minute structure is often misleading in its character, as it is marked by a very exact reproduction of the tubular glands of the intestinal mucous membrane, with very little or no tendency of the epithelial cells to penetrate the basement membrane and infiltrate the fibrous stroma. The minute structure even in the late stages is often that of an adenoma rather than of a carcinoma, and this fact may also partially explain their slow course. But, in spite of these benign characteristics, the tumors are exceedingly likely to return after removal unless widely excised, and at every recurrence the tumor becomes more malignant. A considerable number of cases are on record in which multiple polypi of adenomatous structure have preceded the development of the more malignant growth.

Malignant tumors of the bowel are almost always single, but a few cases are on record in which multiple carcinomatous strictures of the large and small intestine existed, and Kuttner has reported [1] a case in which as many as twenty-two strictures were found. In a case of Körte, after removal of a tumor from the sigmoid flexure the patient died from intestinal obstruction, caused by a second annular carcinoma at the splenic flexure.

As is the case with the similar tumors of the stomach, the symptoms and course of carcinoma of the intestine are largely, and sometimes entirely, the result of the mechanical obstruction of the bowel, occasioned by the new growth. The patient may have chronic constipation, occasionally developing into attacks of complete obstruction, and this is sometimes accompanied with violent attacks of colic. In other cases the bowels move regularly, and the patient is not aware of any disturbance of his health, but suddenly acute obstruction sets in, and when the abdomen is opened, the local examination shows an annular growth in the bowel, with an opening through the stricture so narrow that a cherry pit, or even an apple seed, is sufficient to plug it, and it seems marvellous that so close a stricture could exist for so long a time without symptoms. Probably in these cases the muscular hypertrophy of the bowel above the tumor, with unusual fluidity of the intestinal contents, has been sufficient to maintain the passage through the stricture until it has been suddenly plugged by the foreign body.

In some cases the stagnation of the contents of the bowel above the stricture may give rise to an ulcerative inflammation with a discharge of muco-pus in the stools and a tendency to diarrhœa. This ulcerative process may also cause a localized peritonitis or an actual perforation of the bowel, resulting in general peritonitis or in the formation of a local abscess. Metastatic abscesses of the liver or elsewhere may also be the consequence of this ulceration of the bowel, and death may result in this indirect manner. According to Treves,[2] blood is to be found in the stools in fifteen per cent. of these cases, but hemorrhage is usually a late symptom, and indicates an ulcerated tumor, rather low down. In very rare cases the stricture has completely closed the bowel and caused its rupture above with fatal peritonitis, or an anastomotic opening has formed after adhesions had united a loop of bowel above the stricture with a loop below it.

It may truthfully be said that intestinal cancer affects the health and causes death chiefly by the purely mechanical obstruction of the bowel which it produces, or by some consequence of that obstruction, such as ulceration and pyæmia, or perforation and peritonitis. In some cases, however, the obstruction is not complete, and then death is caused by a cachexia, brought on by changes in the blood, metastasis in vital organs, or such complete involvement of the mesenteric glands and the liver as to impair the digestion and absorption of food. From these facts it results that an early diagnosis of carcinoma of the intestine is seldom, if ever, to be made, but that in spite of this difficulty even late operations may effect a permanent cure, or at least greatly prolong the patient's life.

The diagnosis of cancer of the bowel is to be made from obstinate chronic constipation, or constipation which alternates with diarrhœa. But it should also be remembered that chronic diarrhœa, with a mucopurulent discharge, may be the sole symptom, with no tendency to constipation. Attacks of intestinal colic, with more or less intestinal obstruction of a subacute type, which yield to medication, the attacks of colic growing more severe and becoming more frequent as the case advances, form another common clinical picture. These attacks may progress almost to complete obstruction, and yet finally yield to medical treatment. True fecal vomiting is not very common on account of the low situation of the obstruction. Occasionally blood or pus will be found in the stools. Very seldom can reliance be placed upon stools of ribbon or pill-like shape, for there are many other conditions besides stricture of the intestine which cause the fæces to take this form. In some cases a tumor may be felt in the abdomen or upper rectum, and the rectal and vaginal examinations should never be omitted when a tumor of the intestine is suspected. Some tumors of the sigmoid flexure can be discovered only by bimanual palpation in this manner. The significance of these symptoms will be greatly increased if the patient is forty years of age or older, and if he has been losing weight, growing pale or yellowish, and has vague symptoms of indigestion, such as pain, tendency to nausea, etc. A tumor will often be discovered accidentally before any other definite symptoms develop, and such cases are the most fortunate, for in them the indication for operation is the clearest.

The indication for operation is equally urgent, however, if the patient presents a history of constipation (with or without diarrhœa at intervals) and has severe recurrent attacks of colic, with obstruction, such as described. It is not enough to treat such patients by drugs and diet, although they may be made comfortable by that course, and the attacks may be rendered less frequent. What has been said in regard to those who suffer from severe gastric symptoms is also true of patients with symptoms indicating even slight obstruction of the intestine: we must devote the greatest possible care to the study of these cases in order to determine at the earliest possible moment the presence of malignant disease. Every patient with such symptoms should be thoroughly and repeatedly examined by palpation of the abdomen and by the rectum, for one examination, or even several, may prove futile, and yet finally the tumor may come under the surgeon's hands. Some of these tumors are so small and so movable that it is difficult to recognize them unless they are actually pressed between the fingers and the posterior abdominal wall. The patients are liable to an accumulation of gas in the intestines, which materially interferes with the examination. The diagnosis of chronic constipation so often entered upon our case books should be given up, and a more scientific recognition of the causes of constipation substituted for it. A certain number of cases, in which no tumor has been recognized, will come to the surgeon at a late period because of intestinal obstruction or perforation of the bowel, with general peritonitis, or the formation of an abscess. In

[1] Beiträge zur klinischen Chirurgie, xxiii., Hft. 2.
[2] "Intestinal Obstruction," chap. xiii.

1892 I was called to operate for an intra-peritoneal abscess developing in an Irishman sixty years of age, who had been ill only two days and a half. Two or three ounces of pus were discharged through an incision over the tumor, near the middle line below the navel. A sinus persisted, and there was deep induration surrounding it, and in 1894, when I accidentally saw him again, he had a large mass of new-growth, half filling the abdomen, and was emaciated beyond recognition. Of the other type of acute or subacute obstruction of the bowels, coming on while the patient was in apparently good health and due to sudden plugging of a carcinomatous stricture of the bowel, I have seen several cases, all of them in the sigmoid flexure.

I need not dwell here upon the various points upon which to rest the diagnosis of the situation of tumors of the intestine, but merely remark that the diagnosis of the exact seat of the lesion can be made in a certain number of cases if pains be taken in the examination. In cases in which no tumor can be felt, but recurrent attacks of colic or subacute intestinal obstruction are present, or in which there is chronic constipation to an extreme degree (with or without diarrhœa), exploratory laparotomy is justified. It is true that there are many benign conditions which may cause these symptoms, such as peritoneal adhesions and bands, kinks or volvulus of the bowel, pressure upon the gut by inflammatory masses, enteroptosis, and so on, but the great majority of these conditions can be relieved by surgical treatment, and often can be benefited by no other means.

The surgical treatment of carcinoma of the intestine consists in radical removal of the tumor, or in merely relieving the obstruction without attempting to remove the tumor. The mortality of resection of the intestine is serious, but it is constantly being reduced, and in simple cases should hardly exceed that of pylorectomy. Wölfler gives thirty-three per cent. as the mortality of the same set of surgeons upon whose stomach work he reported. This high mortality is due to including in the lists many cases of very large tumors the removal of which was very difficult, and also some cases in which resection of the intestine was undertaken when acute obstruction of the bowels was present and the patient was in very poor condition. Schiller has lately reported a series of cases from Czerny's clinic, with a mortality of fifty per cent. In this series three patients remained well respectively for ten, five and a half, and three and a quarter years, three patients remained well for fourteen to sixteen months, and still continued under observation. Thus three patients remained well for over three years out of the ten who survived the operation. Wölfler reports fifteen patients who remained well from one and a half to three and one-half years, seven remained well for four years, two for six years, and one for seventeen years. These were principally cases of carcinoma of the large intestine.

The mortality varies greatly with the part of the bowel removed, and especially with the cause for the operation, resection of the cæcum giving the best results. Czerny had eight and Körte nine resections at this point with only one death. The mortality of resections of the bowel for tumors is much greater than that of the same operation for other reasons. Körte has recently reported eighteen cases of resection for tumor, with only six deaths; there were six cases of tumor of the ileo-cæcal portion, in all of which the patients recovered, one patient living eight years and two patients living five years without recurrence. In six cases the tumor lay in the transverse colon, and only two patients recovered, one remaining well five and one-half years. The remaining six cases were of tumors of the descending colon and sigmoid flexure, in which four patients recovered, remaining well respectively for two and one-half years, one and one-half years, one-half year, and in one case for an unknown period. I have quoted these figures fully because they give some idea of the chances of recovery from operation and for obtaining a radical cure.

The palliative operations consist in the formation of an artificial anus or the making of an anastomosis between the bowel at a point above and below the stricture, to which latter operation may be added the so-called exclusion of the diseased part of the bowel. The formation of an intestinal anastomosis will often enable us to dispense with the inconvenience of an artificial anus, but neither this operation nor resection should be attempted in the presence of acute obstruction. When the obstruction of the bowel is complete, or nearly so, and the patient is in poor condition, the only proper method of treatment is at once to relieve the obstruction by the formation of an artificial anus, leaving the treatment of the tumor to a later period. This should be placed preferably in the left groin, for an opening in the cæcum is apt to be more troublesome, because the greater fluidity of the contents increases greatly the difficulty of their retention. A lumbar colostomy on the left side would be preferable to opening the cæcum, if one could be sure that the point of stricture lay in the sigmoid flexure. Even if the tumor cannot be removed great relief may be afforded and life may be indefinitely prolonged without serious discomfort by the artificial anus, and it should be made in every case as soon as symptoms of obstruction present. Modern methods of forming the artificial anus render it possible to make it sufficiently tight to control solid fæces, sometimes even providing a sphincter-like action of the fibres of the abdominal muscles around the opening, so that life becomes quite bearable.

The newer operation of intestinal anastomosis fulfils the same indication as an artificial anus, for it relieves the obstruction, and it might be almost termed an internal anus. It is suitable for many cases of tumors of the intestine which cannot be removed, but, as I have said, should not be undertaken in the face of acute intestinal obstruction. The external anus should be made first and the intestinal anastomosis done as a secondary operation, the artificial anus being then allowed to close. The bad condition of the intestinal wall renders it dangerous to make an opening in the bowel above the obstruction when it is acutely distended. Wölfler reports the mortality of intestinal anastomosis to be thirty per cent., but Marwedel has reduced his mortality for this operation to twelve per cent.

Attempts have been made to shut off entirely the diseased part of the bowel—the operation called "exclusion of the intestine." In this operation an intestinal anastomosis is made between the bowel above and that below the point of stricture, and the bowel is then entirely divided above and below the tumor between the latter and the anastomosis. One end of the diseased bowel must be attached to the abdominal wound, so as to admit of the escape of its discharges, and the other closed if desired. Wölfler reports twenty-two cases of this operation performed for various conditions, not merely for cancer, with three deaths, a mortality of fourteen per cent., but undoubtedly the mortality for the cases of malignant disease alone would be somewhat higher. The advantages claimed for this modification of the operation of anastomosis is that it will keep the fecal matter from contact with the tumor and lessen the liability to ulceration, while it will allow external escape to the discharges without interfering with the normal bowel below. It is as yet uncertain what is gained by this method of treatment, and more experience is necessary before passing judgment upon it.

The operation of intestinal anastomosis has one disadvantage as compared with the artificial anus. In the latter operation it is possible to select a point in the bowel far away from the tumor and not likely to be invaded later by the disease. In intestinal anastomosis the point of anastomosis is apt to be near the diseased part of the bowel, and in a considerable number of cases it becomes involved in the disease later. In two cases of my own, however, the patients lived for five months and eight months after the anastomosis was completed, dying of cachexia, without any further obstruction. In both cases the tumor was in the sigmoid flexure, and the anastomosis was made between a loop of the sigmoid just above the tumor and the upper part of the rectum.

I have no better statistics to give for the duration of life after an artificial anus than Bryant's,[1] who in one hundred and nineteen cases found that thirty-six died in the first year, forty-three in the second, and twenty-six in the third, while twelve lived from three to six years after the operation. Probably the results of intestinal anastomosis would be nearly the same, but with a higher mortality and a greater liability to renewed obstruction.

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HYDROTHERAPY IN PNEUMONIA.[2]

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A glance at the treatment of acute diseases during the past half-century reveals the fact that a revolution has taken place, which has culminated in the practical abolition of the treatment of these diseases. In our own country this revolution was initiated by Jacob Bigelow, a former member of this society, by his work on the "Self-Limitation of Diseases," published in 1835, and by his later work on "Nature in Disease." Re-enforced by the good sense and captivating eloquence of your Oliver Wendell Holmes, American medical men have been slowly—alas, too slowly!—changed from destructive to constructive therapy. We realize to-day that, with few exceptions, the manifestations of disease are but the outward expression of pathological conditions which no remedial agent is capable of removing. This proposition will not be construed by any fair mind as an abandonment of the patient to his fate, it simply emphasizes the fact that we no longer attack the disease by violent medication, as was formerly done by bloodletting and mercury and blisters, later by veratrum and aconite, and more recently by antipyretics. If the symptoms of disease were really the essence of disease, our complete control of the pulse by veratrum, of temperature by antipyrin, of sleep by chloral, of pain by morphine, of feebleness by the modern foods and stimulants would to-day insure our triumph over disease. The fact that, despite the response of the most significant symptoms to these powerful agents, the patients continue to succumb, has awakened the medical conscience to a realization of the truth of the doctrines taught by your Bigelow, Holmes, and Hooker sixty or more years ago—that the patient rather than the disease must be treated.

In a malady like pneumonia, bloodletting, mercury, and other spoliative agents relieved pain, softened the pulse, and lulled the doctor into a false security from which he was too often rudely awakened when heart failure presaged the approach of the end. The old spoliative practice was abandoned when practical men discovered that it robbed them of the chief ally in the campaign against the disease—the vis medicatrix naturæ.

If you reflect that for two thousand years the medical profession labored under the fatal error of fighting disease, while the patient, being the battle-ground, suffered from friend and foe alike, you will bear with me in paying a tribute of gratitude to the man who courageously blazed a pathway through the confusing mazes of spoliative medication to "Nature in Disease." I esteem it a high privilege to announce here amid the very scenes of his professional activity, that, like Jacob Bigelow, I trust to "nature" in pneumonia and in every other acute disease. Not blind, as that of the Christian Scientist in prayer and faith, is my reliance on nature, but ready in armed expectancy, to intercede in her behalf when peculiarities of the patient, or the disease, or condition of environment point to a deviation from normal processes of restitution. Isolation, rest, cleanliness, ventilation, food, drink, and if need be medication, should be so directed as to enhance the resisting-capacity of the patient—so to fortify him that his inherent powers have free play in eliminating the noxious products which threaten to overwhelm him.

Among these agencies I esteem hydrotherapy as one of the most valuable. The application of water is not a curative agent for pneumonia, but its judicious use has afforded me much comfort, and has doubtless contributed greatly to the diminution of mortality.

A somewhat active professional life of nearly forty years, spent in country, village, city army, family, and hospital practice, has brought me to the conviction that pneumonia is an infectious disease, which tends to destroy life by enfeebling the nervous and circulatory systems, and that the indications for overcoming this lethal tendency are (1) To fortify the nervous system; (2) to sustain the heart, whose integrity is of vital import in overcoming the local lesions and in removing inflammatory products by a vigorous circulation, (3) to strive for elimination of noxious products arising from the life and death of the diplococcus; (4) to render the patient comfortable by reducing high temperature, deepening inspiration, and producing sleep.

Flexibility is a notable quality of hydrotherapy. By various procedures, and by changing temperature and duration, we may adapt the application of water to the most opposite conditions. In no disease is this better exemplified than in pneumonia. Although its general manifestations resemble in many respects those of typhoid fever, its local manifestations differ from the latter as the Eberth bacillus differs from the diplococcus of Fraenkel. While in typhoid fever the cold bath, preferably as suggested by Brand, has proved of surpassing value, such a bath is not adapted to a patient suffering from pneumonia. The reason is clear at the bedside, the typhoid patient resists temperature abstraction with much tenacity, the pneumonia patient as a rule quickly responds to heat abstraction This clinical fact has often enabled me to confirm a tentative diagnosis, especially in children up to sixteen years.

While the typhoid patient, as a rule, bears the disturbance involved in tub bathing fairly well, such a procedure is extremely distressing in pneumonia by reason of dyspnœa, cough, and pain Although Vogl, of Munich, Folsom, of Boston, and others have reported good results from cold full baths, I have abandoned them with adults for these reasons In the pneumonias of young children who are easily lifted, I still use full baths of moderate temperature (95°–80° F.), or cold affusions with water of lower temperature (70°–60° F.) in severe broncho-pneumonias with bronchial obstruction, because in these cases pleurisy

[1] "Colotomy." Wood's Med and Surg Monographs, New York 1890, vol. vii.

[2] Part of a symposium on pneumonia before the Massachusetts Medical Society

is usually absent, and the shallow breathing and deficient oxygenation due to bronchial obstruction are greatly relieved by the agitation, crying, and coughing incident to the full bath, with friction. It is my rule in all cases to be present during the first bath, even in consultation cases when practicable, in order to note the reaction and obtain other information for further guidance, because individuals differ materially in their response to bathing. While each case demands more special study with regard to baths than to other remedies, I usually begin with a tub bath (given alongside of the bed) of five degrees below the patient's temperature, and diminish the baths two or three degrees at each repetition every four hours, until 80° F. is reached. The child's head and face are bathed in water at 65° F. before entering the bath, and gentle friction is made over the body during the entire bath. During the intervals between the baths the following method pursued with adults is adopted. In the latter I have for reasons stated above substituted the wet thoracic compress for the full bath. It is my custom to have the rectal temperature taken every hour when the patient is not asleep. So long as the thermometer registers over 100° F., a compress made of three folds of old coarse linen, wrung out of water at 60° F., is wrapped around the chest from the clavicle to the umbilicus. It should be long enough to lap over one inch in front, and so slit in its axillary portion that it may rise easily up to the clavicles without leaving rough folds in the axilla. This compress is smoothly wrapped around the chest and covered by one layer of thin flannel, one inch wider and longer.

The effect of such an application of cold is so readily observed that it would seem needless to dwell upon it, did not so much misapprehension exist in the average medical mind on the object of cold applications in febrile disorders, that it is necessary to define it again and again, to remove these erroneous impressions. Pardon me if I advert to some familiar physiological data. We know that cold and heat are thermic irritants which stimulate when mild, depress when more severe, and destroy vitality when sufficiently intense. Applied through the medium of water and regulated with regard to temperature, duration, and mechanical impact, we may so modify these thermic impressions as to produce therapeutic results for which we look in vain in other remedies. The primary effect of cold is that of an irritant to the peripheral sensory network of the skin. This has been called shock, an error which is evident on reading the definition of shock in Gould's dictionary, which is "depression, a grave effect produced by severe injuries, operation, and strong emotion." To produce shock with cold water, it would be necessary to put the individual into a tub of water very much below the body temperature, and sufficiently long to prevent reaction. If the water be near the freezing-point, and he could not escape, the individual would become unconscious and the vitality of the skin would be destroyed, if he survived long enough to suffer from frostbite. Bear in mind that the same effect would be produced by hot water, under similar conditions; and yet no one ever speaks of the shock of hot water. The truth of the matter is—and I trust you will pardon my offering so simple and familiar a proposition—that cold stimulates when mild and shocks when it is intense, and upon this principle we stimulate the nerve centres in pneumonia. A compress containing water at 60° F., when applied around the chest of a patient having a temperature 40° F. higher, produces an irritation of the sensory filaments in the skin, which is conveyed to the central nervous system and thence reflected upon the organs receiving impulses from the latter. This is plainly evidenced by the patient's momentary gasp, the heightened pulse tension, the deepened and slowed inspiration, and the lowering of temperature. By changes in the preparation of the compress, we may positively modify its effects. If, for instance, the body temperature is not very high, say from 100° to 102° F., the compress may be more thoroughly wrung out, so as to make the impression of cold more brief, reaction more rapid and less enduring. If the temperature be high, 103° F. or above, the water temperature may be raised to 95° F., and more water may be allowed to remain in the compress, thus rendering the reaction more slow and enduring, and abstracting more heat. In the first instance the application will be more stimulating, in the latter more soothing and antipyretic. If the patient is easily chilled or does not react readily whether the body temperature be moderate or very high, the compress may be allowed to remain longer without change; its repetition may vary from half an hour to an hour or even longer, according to the patient's condition, his reaction, and the effects produced and aimed at. Such cautious adaptation will gradually improve and regulate the reactive capacity of the patient, and sooner or later will enable him to bear more frequent repetition. It must always be borne in mind, in all application of cold water, that shock is to be avoided; there should be no prolonged chilliness, no chattering of teeth, no cyanosis of lips, nails, or face—in fine, every manifestation which indicates a depressing effect demands a modification of the procedure or its abandonment, if need be. And right here let me emphasize a much-neglected point. We do not abandon quinine in malarial fever, when it produces distressing effects. On the contrary, bearing in mind the importance of the remedy, we circumvent its untoward effects by changing the method, time of administration, etc. Cold water is often entirely abandoned when it produces unfavorable manifestations, which is a serious error. Treat it as you would any other remedial agent: change the method, the temperature, the duration, and you will be gratified by the result, for it is a most flexible agent, as I have shown.

Besides the general effect referred to, we observe a local stimulating effect upon the cutaneous circulation. The arterioles contract under the cold compress; but they quickly dilate again, as is evident from absence or disappearance of chilliness, and the gradual warming up of the part, so that when the compress is removed in an hour it is quite warm. This dilatation, be it remembered, however, is not a passive one like that under a warm poultice. The skin does not wrinkle and become cyanotic, but remains smooth and becomes ruddy. Moreover, each repetition again stimulates the walls of the arterioles to contraction and dilatation, propelling the blood-flow through them, and thus relieving the overburdened heart of much labor. Romberg and Paessler have recently confirmed by laboratory experiments what I have several years ago and repeatedly since that time insisted upon, that in acute infectious diseases we encounter disturbances of the circulation which manifest themselves clinically as reduced tension and diminished filling of arteries, and which are commonly described as heart failure. Undoubtedly this condition of the peripheral vessels bears a very large share in the production of cardiac inadequacy, as I have sought to impress when explaining the rationale of cold applications in typhoid fever. Romberg has shown by experiments with injections of Fraenkel's diplococci into rabbits that the circulation is damaged by a paralysis of the vasomotors while the heart itself remains unaffected. By restoring the lost resiliency of the cutaneous arterioles, the compresses referred to relieve the heart of much labor—labor, too, which it vainly endeavors to compensate by increased contractions, the sum of which too often leads to heart failure.

Upon this principle we endeavor to meet the second indication in pneumonia.

The third therapeutic indication, the elimination of noxious products, is signally met by the improved conditions of the central nervous system and of the heart, these presiding over all the functions of the body. The urine shows by its increase in quantity and toxicity that the most important noxæ are eliminated with great activity under the external application of cold. In addition to the latter the systematic administration of ice-water (45° F.) ℥ iv. every two hours, acts as a cold douche to the stomach and by increasing arterial tension increases urinary excretion. Allow me here to controvert an erroneous idea which is almost universal, viz., that it is the increased quantity of water imbibed which increases the urine (I have observed an increase of one to four hundred per cent.). Glax has shown, and I have confirmed his finding, that the imbibition of very hot or very cold water acts upon the arterial tension, and consequently upon urinary excretion, precisely as in its external application, and not by reason of the quantity drunk. This is readily demonstrated by the fact that only a slight increase of urine is produced by drinking tepid water, and the quantity is increased with the thermal difference between the body temperature and that of the water drunk. It is my custom, therefore, to alternate oz. vi. milk or other liquid food with oz. iv.–vi. of very cold water (45° F.), giving each every hour, in pneumonia. The result is systematic nutrition and renal stimulation.

The fourth therapeutic indication is certainly fulfilled by these mild applications of cold in pneumonia. The comfort of the patient is greatly enhanced by the reduction of temperature, deepening of the inspiration, and general *bien-aise* which are renewed on each application. The cold compress, when its temperature is equalized to that of the patient's body, really becomes a poultice, soothing, relieving pain, dyspnœa, shallow and rapid breathing, but not relaxing the cutaneous vessels and elevating temperature, as does the old-fashioned hot poultice. Another important result of the cold compress has been demonstrated by Winternitz and others—an increase of the blood cells beneath it when reaction occurs. How much such an awakening of leucocytosis and such a removal of the blood cells from dormancy into the general circulation must contribute to enhance the natural processes of restitution, is self-evident.

To sum up briefly the effect of judicious hydrotherapy in pneumonia, I would say that while it is not a direct curative agent, it fulfils all therapeutic indications, efficiently forestalling or controlling all the depreciating elements of the disease. Only one condition is unaffected by this treatment, viz., resolution. I have observed crisis in only about twenty-five per cent. of cases. The local course of the disease appears to be changed. Resolution proceeds more slowly but more surely. The patient has a normal temperature and pulse, and almost normal respiration from five to twenty days before all signs of consolidation have disappeared. In the mean time I permit him to go out in mild weather, and endeavor to hasten convalescence by the usual measures, good food, gentle outdoor exercise, ventilation, etc. I am still unable to explain theoretically this retardation of resolution in fifty per cent. of the cases, except on the same principle as the relapses in typhoid fever after the Brand treatment may be explained, viz., there are more cases escaping death, and therefore, more to relapse. The cases which do not have crisis and resolution would probably be added to the great silent majority, or pursue a slow course toward convalescence, if not treated hydrotherapeutically.

THE USE OF HYPNOTISM IN GENERAL PRACTICE.[1]

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It is not the purpose of this paper to deal exhaustively with the subject of "hypnotism." It is to be taken for granted that, in this enlightened age, every practitioner of medicine has a general knowledge of the usefulness of suggestion as a therapeutic agent The literature of the subject is voluminous. I have nothing new to add to the mass of data available to every one. My only excuse for this paper, then, is the tendency of most members of our profession to shirk their duty to use this agent in proper cases in general practice, and to relegate its use to specialists and quacks.

The idea seems prevalent, not only among the laity but in our own ranks, that hypnotism can be of use only in cases of hysteria and nervous affections. The truth is exactly to the contrary, as I will show further on. Hypnotism is of relatively little use in hysteria, though minor forms of suggestion are useful in that real malady. Hypnotism, in its many forms, has been used as an adjunct to the healing-art from the earliest days. If we are to believe the Garden-of-Eden story, the first use of anæsthesia on record was by means of hypnotism, when the Lord caused a deep sleep to fall upon Adam, and exsected a rib; and the product of that rib has had a tendency to hypnotize us ever since.

Lack of knowledge of the true *modus operandi* of suggestion kept hypnotism in disrepute for thousands of years and confined its use to priests and so-called sorcerers and wizards, later to charlatans and mountebanks. But the truth in it could not be kept down by all the cloaks of pretence and formality. Not even Mesmer's extravagant theories of animal magnetism could kill it. Rescued by Braid and elucidated by the school of Nancy, it now rests upon a sound scientific basis, and no one need, as formerly, be ashamed to practise it. In fact, it is our plain duty to use it in some cases.

The modern theory of suggestion and hypnotism depends upon the recognition of the fact that the conscious mind is the product of the activity of the cells of only a part of the brain. Other parts of the brain are ordinarily not under control of the mental efforts. We must know, axiomatically, that every organ, every blood-vessel, every capillary, every square millimetre of skin and tissue is connected with the brain by nerves, and that the nutrition of every part of the human system and the function of every organ are under the control of some centre in the brain. These centres do not act blindly and automatically always. There must be some grand controlling centre or portion of brain tissue that governs the entire system of centres.

The product of the activity of this part of the brain we call the "sub-conscious mind," in contradistinction to the conscious mind. Ordinarily we find but little connection between the "conscious" and the "sub-conscious," to use the shortened expression. But there is some connection, and many everyday incidents show it. For instance, a man cannot, by taking thought thereof, increase or decrease the rapidity of the pulse. But some sudden shock, danger, fear, joy, or pain can affect the "conscious" deeply enough to impress the "sub-conscious," and a change of pulse rate ensues. The blush is another illustration.

[1] Read before the Mississippi State Medical Association, at Meridian, Miss., May 16, 1900.

Very few of us can blush at will or can refrain from blushing by wish, but an impression of the proper, or improper, kind will cause a dilatation of the capillaries of the cheeks of those not too hardened to receive a shock, an impression on the "sub-conscious" through the "conscious" mind. The familiar fact that some people can, on retiring, think hard enough of waking at a certain time to impress the "sub-conscious," which at the appointed time nudges the "conscious" awake, is another illustration. Mental excitements of various sorts have various effects through the "sub-conscious" upon even the larger organs. The heart has already been mentioned.

An unusually large increase in the secretion of urine is often observed after mental excitement. The sensation of nausea often comes through mental effect only, even to causing the husband, at too rare times, to feel the nausea of pregnancy; a great fright will sometimes cause imperative and immediate defecation, and "cold feet" are not unknown, even in the army.

Thus we see that the function and nutrition of every part of the system, even of the thinking part of the brain itself, is controlled by the vague "sub-conscious," which never sleeps. We also see that under ordinary conditions the "conscious" can affect the "sub-conscious" but little, while under extraordinary but everyday conditions the effect is vastly greater.

Now we have to find only a means whereby we can make impressions at will upon the "sub-conscious," and we can then do wonders toward controlling the functions otherwise beyond control. This we find to a greater or less extent in suggestion or hypnotism. I use the word "suggestion" as meaning an impression made upon the "sub-conscious" through the "conscious" mind, either during sleep or in the waking state, and the word "hypnotism" to mean impression or suggestions made during sleep only and when this is artificially induced. There is really no difference between hypnosis and natural sleep, except that in the latter the subject is in connection with no one but himself, while in the former he goes to sleep with the memory of the operator most prominent, and is, therefore, more or less under the operator's control.

During natural sleep and during hypnotic or induced sleep, and also during the lighter stages of hypnosis, when we have only drowsiness and no loss of consciousness, the conscious mind is in abeyance, takes a back seat, and the "sub-conscious" mind, controlling every function of every part or organ, comes more or less to the surface, and is more or less susceptible to impressions from without. For instance, a man awake is given a dose of inert substance which he is made to believe is an emetic; his conscious mind dwells so strongly on the idea of emesis that an impression is soon made upon the "sub-conscious," and emesis follows. That is simply suggestion, because the relation between the "conscious" and the "sub-conscious" is undisturbed. But if, by means of any of the methods in vogue, a drowsiness or a light sleep or a deep sleep is induced, and the inert substance administered with the suggestion of emesis, or the suggestion is made alone, emesis more certainly follows. That is hypnotism, because here the normal relation between "conscious" and "sub-conscious" has been disturbed.

A patient, during hypnosis, is given a swallow of milk and assured that it is castor oil; the impression is made almost directly on the "sub-conscious," and the effect of castor oil promptly follows. Another experiment showing the complete control of the vaso-motor system by the "sub-conscious" is that of the mental blister. It has succeeded many times, but requires a very fine subject, *i.e.*, one in whom the "conscious" can be made to give way to the "sub-conscious" entirely. A piece of paper or a few postage stamps are applied to the patient's skin; the patient is assured that the application will blister, a bandage is applied, and the patient is watched. If the suggestion has "taken" with the "sub-conscious" the blister follows. And why not? It is really not so wonderful; the brain centre that can bring the blood to the surface in a blush can surely keep it there if duly controlled.

As I have before stated, the "sub-conscious" controls not only the functions of every other organ, but of the thinking part of the brain itself. By suggestion, the thinking part of the brain can be made to think more or less with the operator; the hearing part of the brain to shut out sounds that are and to hear sounds that are not; the seeing part of the brain to be blind to that which is before the eyes and to see things that do no exist; the feeling centres to refuse to receive messages from without or to feel pains that are not real. And this "sub-conscious" also has a memory apart from the everyday memory.

If you are made very sick from eating or drinking a certain article, the "sub-conscious" rarely forgets it. Years afterward a single taste of that article will induce nausea. So if an order be given to a patient during hypnosis, an order that is to be obeyed days afterward, the patient may or may not have any conscious memory of the order, but the "sub-conscious" will remember it, and the order will be obeyed with more or less exactness, depending upon how perfectly the impression was accepted. This is called "post-hypnotic suggestion."

And now we come to the application of the facts which I have tried to make clear. What class of cases call for suggestion? We may rightly divide all cases into three classes in this regard: (1) Those cases which nothing will do so well as hypnotism; (2) those cases in which hypnotism will be of great assistance to other treatment; (3) those cases in which hypnotism is not worth while. Under the first head come many morbid conditions that ordinarily baffle the doctor. Persistent insomnia is one. It is very doubtful if we are justified in using drugs to produce sleep night after night if we can gain the same result by hypnotic suggestion. That we can do so in most cases is a fact. That to use drugs in such cases makes us responsible for many instances of drug habit is also a fact.

I will give one case to illustrate the use of suggestion in this trouble. The patient, a lady of more than ordinary intelligence, had not only been ill for some time but had been under severe mental strain, and her physician has been compelled to use drugs to induce sleep for several nights. I was called, and the use of hypnotism was consented to. She was readily influenced, and light sleep was induced. She was ordered to go to sleep every night at ten o'clock and not to awaken until six in the morning. When awakened from the hypnosis, after five minutes she remembered the order and laughed rather incredulously; she said she hoped it was possible, but that as chloral in ordinary doses had failed for several nights she was afraid it would not work. That night her nurse was agreeably surprised to see her turn over and drop off to sleep as the clock struck ten, and she slept until 6 A.M. This went on for several nights, until some unusual disturbance caused her to wake up suddenly one morning about one o'clock, and the impression lost its effect. The next day I repeated the hypnotic suggestion, and she had no return of insomnia.

Another trouble in which drugs are sometimes failures is the nausea of pregnancy. Here it is impossible to remove the cause without interfering with the sex function of the woman. What more rational than to cut off the disturbing messages from the sexual organs before they reach the vomiting-centre in the

brain? Five minutes of hypnosis, a few positive suggestions, and you can awaken your patient feeling reasonably sure that if you have made an impression on the "sub-conscious," that all-powerful secretary of the interior has shut the vomiting-centre off—has disconnected it at central, so to speak.

Another condition in which drugs are not only useless but worse than useless, is in cases of pressure pains of pregnancy. About the fifth or sixth month of gestation it sometimes happens that the enlarged uterus presses too much upon one or both sets of nerves passing over the brim of the pelvis. The result is intense pain in the hip or thigh. This pain is often so great as to interfere with the daily life of the patient. She is most probably a multipara, and has a lot of little children to care for, and so she cannot stay on her back all the time. Life under such circumstances becomes unbearable; but what can the doctor do? He cannot remove the cause—the pressure on those nerve trunks. The condition is not grave enough to call for the destruction of the unborn child; morphine is his only weapon, and its use for weeks means the habit. But if he will hypnotize the woman, and, by suggestion, prevent the brain from receiving those messages of pain, he will have solved the problem. A case is given below to illustrate:

Mrs. B——, aged twenty-three years, pregnant five and one-half months with her fourth child, had been in bed a week. Any attempt even to sit up was followed by excruciating pain in the right hip and thigh. She had been using a douche in the knee-chest position by my order, but the pressure was only temporarily relieved each time. I hypnotized her and ordered that the pain should stop, that she should not feel it again in any position. I woke the patient in three minutes. She had no recollection of any order I had given her, but the pain was no longer felt. The next day I found her up, sewing on baby clothes. A week later the pain returned, and the suggestion was repeated with success. In this case hypnotic suggestion had to be used several times, but the patient passed through gestation comfortably and without morphine.

Another condition which will try a doctor's soul is that of "wrenched back." The physical injury is so slight in proportion to the pain caused that one can only sit and wonder. It may not amount to a sprain; no ruptured ligament is present; it is just a "stitch in the back," as the darkies say. It may have come from a sudden turn in lifting even a small weight, it may have come from merely pulling on a boot. But there is your patient, rolling his head because he can't roll anything else, and groaning at the slightest movement of his body. I say "his" because I have never seen a case in the female sex. There he is, and there he is apt to stay for from three days to a month, and what are you going to do about it? Local applications seem to do no good, morphine gives only partial relief, and every day you go to see that man you wish he would get sick or had broken his leg. In the mean time he is eating three square meals a day, and losing his confidence in all doctors in general, and in you in particular.

Here is a case in question, Mr. McE——, aged about thirty-five years, by occupation a railroad section foreman. In helping to lift a railroad tie his foot had slipped on the side of the dump, and he had fallen. He had not fallen hard, but he said that his body gave a turn, a pain struck him in the back, and he collapsed. It took the entire section crew to take him off his car and put him into bed, and several more to get his clothes off. Four men risked his profanity in order to turn him over so that I could examine his spinal column. I could locate no injury. I prescribed a liniment and gave him morphine. The next day, there being no improvement, I put hot applications on his back and gave more morphine. The next day it was ice to the spine and morphine. The next day I found that he was using hot ashes externally and morphine internally. At the end of the week the skin on his back was about used up, as was all of the horse liniment, coal oil, turpentine, etc., in the local store, with which he had been helping me treat the case. It then occurred to me for the first time to try hypnotism. His condition was no better than when I first saw him, and I was ready to try anything. He went to sleep almost at once. In fact he was one of the best subjects I have ever seen. I made appropriate suggestions, and finally ordered that he would sleep one hour and then wake up free from pain. In one hour he did wake up, got up and dressed, and went out to work. He did not have another moment's trouble with his back.

That same patient sent for me one night at a later date to extract an aching tooth. I found him suffering all that toothache means, and proceeded to hypnotize him, as at that period I was so enthusiastic about hypnotism that I never did a minor surgical operation without trying to get hypnotic anæsthesia. Having put him to sleep, I examined the tooth and found the cavity very small and the tooth very much needed; so instead of extracting the tooth I ordered him to quit having the toothache. I assured him that it would never ache again, etc. I then waked him up and explained to him what I had done. He was gratified at saving the tooth, but very unbelieving as to the loss of the toothache. In fact he would not let me leave him until he had tried ice-water and molasses and everything else at hand to try to make the tooth ache again. Three years later he told me that it had never ached afterward.

The conditions in which hypnotism is better than drugs can be multiplied. I have given only a few instances, but the cases under class No. 2, in which hypnotism may be of great assistance to other treatment, are even more numerous, while the cases under class No. 3, in which hypnotism is not worth while, are by far the most numerous of all.

Before leaving class No. 1, I will mention headache not of organic origin; even in the latter relief can be given, but in cases of nervous or functional headache hypnotism is really a cure, frequently a permanent one.

Under class No. 2, we have a vast number of conditions in which hypnotism is a very useful adjuvant to treatment. Not to go into tiresome detail, I will simply report a few cases of my own employment of it, and the thoughtful can readily see when it can be brought into use advantageously, merely to remove a troublesome symptom.

A negro woman with tertiary syphilis could not retain even a small dose of iodide, and the drug was very badly needed. I hypnotized her, and ordered her to retain the medicine. She did and recovered rapidly.

A young girl was in the tenth day of lobar pneumonia; resolution was well under way; there was no fever, but the patient was in a state bordering on collapse, could retain neither nourishment nor drugs. She was plainly slated for a speedy death under ordinary circumstances. I hypnotized her, ordered her to sleep two hours, to wake up hungry, and to retain whatever was given her. She obeyed orders, and not only retained all that was given her but called for more, developed a ravenous appetite, and recovered rapidly.

In this and a few other similar cases I am confident that I have actually saved life by making nourishment and stimulation possible. In one case of persistent vomiting in lysæmia, or malarial hæmaturia so called, the vomiting was controlled and the medicine retained.

When chloroform is objected to during labor, hypnotism can often be used, though few women now object to chloroform when the labor pains become severe. I delivered one woman of a large boy after keeping her in hypnotic sleep for ten hours. The case was very difficult and podalic version had to be performed. During the operation of turning the pains were entirely suspended by means of suggestion. At all times the pains were under my control and could be increased or diminished in severity or frequency by suggestion. That sounds hard to believe, but it is a fact. It was the first time the woman had ever been hypnotized.

In minor surgical operations anæsthesia can often be induced and an abscess evacuated, a tooth extracted or filled, or a few stitches taken painlessly. I have amputated a thumb during complete anæsthetic hypnosis.

But here are to be met many disappointments. Nearly every patient can be hypnotized to some degree; even if only drowsiness is obtained, the post-hypnotic suggestions are generally, at least, partially effective. But complete surgical anæsthesia can rarely be induced; very often the pain is partly relieved, but only in a small proportion of cases is it completely so. This is probably because a post-hypnotic suggestion has a longer time in which to sink into the "sub-conscious," while the immediate suggestion of anæsthesia is hardly accepted and grasped by the "sub-conscious" before the operation begins. Also the patient goes to sleep expecting pain, and that expectation acts as a counter-suggestion. Repeated hypnoses, with suggestion as to future hypnosis with anæsthesia, might be effective, but that is rarely practicable.

And now having, I hope, shown that hypnotism is a useful therapeutic agent, and that it is every medical man's duty to understand and be able to use it in general practice, let me add a word of caution. Do not use it too often. Never use it unless you think the case demands it. Never under any circumstances use it for fun. I would as soon think of giving a man ether to amuse a crowd as to hypnotize him for the gaze of the curious. In the first place it is not right, and in the second place it does not pay. It brings this useful agent into disrepute, and as you will fail more often in parlor play than in practice, it will bring you as a successful operator into disrepute.

I have said nothing as to methods, because there are so many methods, and you will find them all in the text-books. Read Moll first, then Bernheim, and then you will probably be well enough placed on the subject to read more extravagant authors without believing all they say.

I have not referred to the use of hypnotism in treating naughty children for their bad habits, or its use in any other special way, as those things are beyond the scope of my paper.

A word before closing as to the use of hypnotism in cases of hysteria. Here we will find ideal cases and surprising disappointments. In a few cases it may be found useful, but in most cases you will fail to hypnotize the subject. Hysterical patients resist hypnosis most when thinking that they are trying the hardest to go to sleep. If you do succeed in influencing them they will go into astonishingly exaggerated stages of hypnosis, catalepsy, somnambulism, will exhibit contractures, etc. You feel sure that your suggestions will be effective, but if they are and one hysterical symptom is removed, another may soon take its place. The reason is obvious. Hysteria, this disease without a lesion, is evidently a functional derangement of the "sub-conscious," and with the "sub-conscious" deranged we cannot hope to use it to follow our suggestions. It is with the "sub-conscious" that we accomplish everything in the domain of hypnotism. The "sub-conscious" is our servant, and to be useful it must be in good working order. I do not know that this definition of hysteria has ever before been given, but I am sure that psychologists will agree with me that hysteria is not a derangement of the conscious mind, but of the functional activity of that part of the brain the product of which has been called the "sub-conscious" mind.

Simple suggestion does more good in the largest number of cases of hysteria than hypnotism. There already exists a disturbed relation between the "conscious" and the "sub-conscious"—not the exact disturbance that we seek in inducing hypnosis, but sufficient and of a nature to permit suggestions to be readily accepted if agreeable to the patient.

So we see scores of these people benefited by religion and especially by osteopathy, Christian science, faith healing, or anything else that gives prolonged suggestion of cure. These are all fraudulent systems grounded upon false premises. We still may use them in rare selected cases, preferably through the advice of a third person; we can hardly face a patient and prescribe Christian science, so called. Still, if we know the patient to be just that sort of a hysteric that needs prolonged suggestion, have we the right to advise against it?

SOME POINTS BEARING ON THE MEDICINAL TREATMENT OF APPENDICITIS.[1]

By CHARLES ROSEWATER, M.D.,
OMAHA, NEB.

Deluded on the one hand by some over-zealous surgeons who see things only from their own point of view, and awed on the other by the fear of fatal results from surgical procedures, the general practitioner stands, as it were, between Scylla and Charybdis, not knowing which way to turn or what course of action to pursue. The one class of practitioners tells him that he is not doing his duty by his patients if in a case of appendicitis he does not promptly call in a surgeon and have the offending appendix removed. On the other hand, he may have seen and certainly may have heard and read of instances when a simple, uncomplicated, non-septic appendicitis, or no appendicitis at all, was found upon abdominal section, and in which the patient died from the operation which was found to have been entirely unnecessary.

Again, we see cases in which a timely recourse to surgical measures might have saved a patient who was allowed to die either for want of the proper diagnosis or proper interpretation of the indications present.

We are brought face to face with these grave conditions often enough to feel the weight of responsibility resting upon us. We wish to do our full duty by our patients. Which way shall we turn? What course shall we pursue so as to insure the greatest safety to the patient?

Still another class of cases presents itself in which every indication warrants and demands surgical intervention, but the patient's general condition, or the serious impairment of some vital organ, would hold out little hope for the success of such a procedure. The patient could not stand a laparotomy. What shall we do? Shall we sit down, fold our arms, and say, "Nothing can be done"? Most assuredly not. Yet this is just what I found several members of our profession, otherwise excellent men, do, simply on account of a misinterpretation of their duties to their patients, or on account of blind faith in the guidance of some over-zealous surgeon who has issued the dictum, "Operate in all cases if you wish to do your full duty."

[1] Read before the Nebraska State Medical Society at Omaha, May 10, 1900.

This is the dilemma in which the medical profession to-day finds itself. Before seeking the path which is to lead us out of this labyrinth of doubt and uncertainty, a little review of the conditions which confront us will not be amiss.

Appendicitis, an inflammation of that little offshoot from the bowel in the ileo-cæcal region, whose function no one has so far been able to determine, may be catarrhal, suppurative, septic, or perforating; it may be simple, or, what is more frequently the case, complicated by a localized peritonitis, involving the peritoneum of the ileo-cæcal region, or spreading over the entire abdominal peritoneum. This peritonitis is, of course, accompanied by the formation of a plastic exudate, which agglutinates the various coils of the bowels and, becoming organized, permanently impedes their vermicular movements, thereby impairing intestinal digestion. Intestinal movement becomes imperfect, painful, and deficient, and the contents of the bowels are not evacuated as they should be. Fecal accumulations are liable to occur, causing new irritation and leading to inflammatory attacks, the relapses to which the subjects of appendicitis are so liable.

The primary attack of appendicitis sets in sometimes without any marked symptoms of invasion, insidiously producing its pathological changes without the patient's being aware of any local pathological process until the introduction of some irritating ingesta, the use of a cathartic, a sudden exertion or a direct injury, produces decided local and general symptoms, pain referable to the right groin or sometimes to the umbilicus, vomiting, and, as a rule, constipation. Now the physician is called in, and finds a tense, tender abdomen, the tenderness being greatest at the spot known as McBurney's point; the abdominal muscles are rigid; the pain is constant, temperature elevated, tongue badly coated, pulse rapid and small. Close questioning will elicit the fact that the patient has not been well for some time past, suffering from anorexia, occasional colicky pains in the abdomen, especially in the right groin, and constipation; but he was either too busy to attend to it, or did not think it of sufficient importance to require any special attention.

In other instances a sudden, sharp abdominal pain, accompanied by all the symptoms of shock and septic peritonitis, announces to the physician that some septic accumulation has ruptured into the general peritoneal cavity. The locality and previous history tell the rest of the tale, and, if they don't, the findings of a laparotomy or post-mortem examination will reveal them. Let us see what has been the local condition which has gradually brought about such results.

That only a very small percentage of cases of appendicitis are really primarily due to the lodgments of a foreign body in the cavity of the appendix is now generally conceded, but the majority of cases are due to colds and improper diet. The first step in the pathological process is the congestive swelling of the mucous lining of the appendix with narrowing and final closure of the opening into the bowel; then a retention of the accumulated secretions in the cavity of the appendix, distention of the latter, thinning and softening of its walls, with sometimes local ulceration from the mucous surface and in other cases gangrene of portions of the wall, and rupture. Meantime, however, the inflammatory action has not been confined to the mucous and muscular layers of the appendix, but, attacking its peritoneal covering, produces a peritonitis which most frequently is circumscribed, creating a localized tumefaction in the right iliac region containing either a plastic effusion or pus, and walled off from the general peritoneal cavity by the surrounding adhesions. The presence of this tumor in the groin, the course of the temperature, and previous history of the case will assist the physician in recognizing the presence of pus, and consequently the urgent need of surgical intervention.

The treatment of appendicitis must, of course, be carried out along the lines indicated by the conditions found and impending dangers to be avoided. As the presence of intestinal accumulations threatens to aggravate the inflammatory conditions by local irritation, the first step in such a case should consist in the thorough emptying of the bowel by a mild mercurial purge (calomel) followed by a saline cathartic. A copious enema of warm salt water, a gallon or two, injected high up into the colon, assists materially in many cases, but should not be resorted to when, by increase of the peristalsis, the rupture of an abscess may be brought about. Ice applications locally, in the form of an ice-bag over the groin, do much to assuage the pain; in fact, I have found them so beneficial that the patients, after becoming accustomed to the ice, will not do without it. Opiates should be avoided as much as possible, not because they stop the peristalsis, but because they so mask the picture of the disease as to leave the physician at sea as to its progress. The patient should remain in bed on his back, with his surroundings quiet. His diet should be confined to liquid food, preferably peptonized milk, either warm or cold, according to his predilection. All solid food and such as leaves much waste should be forbidden until all signs of local irritation have subsided. Too great care cannot be taken in this particular during the first year following an acute attack of appendicitis, for upon this care will depend the permanence of the recovery. In the beginning of an attack, when vomiting is a prominent symptom and the stomach is very irritable, gr. $\frac{1}{20}$ of calomel given hourly will quiet this irritability in a large proportion of cases. Bits of ice swallowed at intervals will assist in accomplishing this result. Sometimes iced champagne is retained in small quantities by such a stomach when other fluids are vomited. To combat the fever and nervous manifestations, salol and phenacetin, gr. ii. of each every two to four hours, with gr. $\frac{1}{4}$ of citrate of caffeine, yield good results. Judicious stimulation during the use of phenacetin is deemed advisable. The treatment outlined here is carried on during the height of the disease, with the object of relieving the local irritation and checking the progress of the inflammation until resolution sets in. As the inflammation subsides, gradually a new element enters into the treatment, namely, the removal of the effects of this inflammation, the removal and absorption of the inflammatory exudate, which, if allowed to remain, leads to agglutination of the intestinal coils and permanent impairment of the intestinal activity. To attain this object I have used with good success iodide of ammonium in doses of gr. i.–iii. every four hours, followed by copious draughts of hot water. In fact, all through the attack of appendicitis hot water should be given freely and in large quantities. My experience with this treatment has been very gratifying in cases of appendicitis in which patients, apparently needing surgical intervention, have refused to be operated upon. It was employed with satisfaction in one case in particular, in which serious valvular heart trouble led me to fear an operation, and in which the treatment was instituted without expectation of favorable results, eight months after a second attack of appendicitis. The patient, aged twelve years, presented a history of arsenical poisoning occurring at the age of two years, followed by an irritable digestive canal, and chorea; at the age of eleven years she had her first attack of appendicitis, followed in a few months by a relapse. Eight months had passed by since the partial recovery from the relapse, and a number of physicians who had been consulted declined to treat her, claiming that nothing could be done without an operation. In view

of the peculiar complications in the case rendering an operation extra-hazardous, I felt justified in postponing serious consideration of the latter and instituting the treatment as outlined above. The result was immediate improvement and ultimate complete recovery from the effects of the appendicular trouble. This patient suffered from chronic constipation due to the agglutination of the intestinal coils, but was entirely relieved after the treatment with iodide of ammonium and copious hot-water draughts was instituted, so that her bowels acted regularly without a laxative. This proved to me conclusively that the adhesions must have been removed and the intestinal peristalsis re-established.

It is to this phase of the subject that I wish to call especial attention, applicable as it is in numerous instances in which operative procedures are not feasible and are always dangerous. I do not wish to be understood as opposing surgical measures, especially when they are clearly indicated and not contraindicated by the presence of other dangers.

On the Symptoms or Phenomena Formerly Known as Croup; the Diseases which Produce Them; and the Clinical Significance of the Various Allied Affections Embraced by the Term.—The conclusions of Langford Symes are as follows: (1) There is no such true disease as croup, croupy symptoms being produced by a variety of different diseases. (2) Severe croupy symptoms are most likely to be due to either diphtheria or laryngitis stridulosa. (3) In a difficult case we should suspect diphtheria and treat it as such from the start with antitoxin. (4) Recession and restlessness are the two most dangerous symptoms. (5) As antitoxin reduces the mortality of diphtheria and enables cases to be tided over the crisis with intubation, it may possibly contribute to the future success of tracheotomy. (6) Deaths registered as croup are mainly due to diphtheria.—*Dublin Medical Journal*, July, 1900.

Treatment of Diarrhœa in Tuberculous Subjects by Abdominal Faradization.—E. Doumer has had good results from this therapeutic application of the faradic current. The electrodes are covered with chamois skin and are applied well moistened over the entire surface of the abdomen. The *séances* should last five minutes and should be repeated two or three times daily. The tampon electrodes should be particularly applied along the course of the colon, and the current should be strong enough to produce good contractions of the abdominal muscles. The first improvement noticed is in the diminution of the number of stools; later their consistency changes and they become formed. By the fourth or fifth day the cure is generally complete.—*Le Nord Médical*, July 1, 1900.

The Significance of a Temporary Temperature Rise Limited to the Day of Hospital Admission.—Fromm has studied the case histories of over two thousand patients and found that of this number one hundred showed a rise of temperature on the first day, which speedily subsided again, and in most instances without any medication. In analyzing these cases it was found that in nearly fifty per cent. some disease of the respiratory system was present, and one-half of these were tuberculous. The fact has been established by Penzoldt and Höchstetter, that in tuberculous individuals moderate exercise causes a much greater temperature elevation than is produced under similar conditions in the healthy. Adopting the view that the increased circulatory activity causes the distribution of a larger amount of toxin from a tuberculous focus, it seems rational to explain this anomalous "first-day rise" on the ground of the unusual exertion and bodily and mental disturbance involved in reaching the hospital. In other cases, no doubt the change to the quiet and proper nursing of the hospital causes the subsidence of a moderate fever already present. In concluding, the author states that, other things being equal, the existence of this first-day fever may serve as an additional factor to strengthen a presumptive diagnosis of tuberculosis.—*Centralblatt für Innere Medicin*, June 30, 1900.

Latent Tuberculosis of the Pharyngeal Tonsil.—L. Réthi reviews the recent voluminous literature on this subject, adding the results of his own observations. Among one hundred cases examined, tuberculosis was found six times, cheesy degeneration being present in two of the six cases. In five the tuberculous deposit was near the surface under the epithelium and once in the deeper layers. Giant cells were present in all six.—*Wiener klinische Rundschau*, No. 26, July 1, 1900.

Congenital Elephantiasis.—J. E. Dubé gives with illustration an account of a child two and a half months old, whose right leg was enlarged at birth and continued to increase in size until the foot was almost hidden from view, and the calf and thigh presented enormous proportions. The mother had had a fright in the third month of her pregnancy. The leg was treated by deep multiple puncture and elastic compression. At each sitting a large amount of orange yellow thick serum ran out and coagulated at once. There was some improvement up to the time the patient disappeared from observation.—*L'Union Médicale du Canada*, June, 1900.

Two Rebellious Cases of Pyorrhœa Alveolaris Cured by the Cruet Method.—J. Chaminade says text books as a rule recommend only chromic acid. Two observations are given in which the application of the thermo-cautery, after mouth washes containing thymol and menthol and careful cleansing of the dental arcade had prepared the way, resulted in perfect and permanent cure. The point of the cautery is passed from the margin of the gum to the deepest points opposite the root of the tooth, and is made to enter all cul-de-sacs so as to destroy all infectious foci. Antiseptic washes follow the application.—*Annales de la Policlinique*, June, 1900.

Two Cases of Malarial Hæmaturia with Treatment.—A. E. Cox treated a man aged twenty-one with calomel in five-grain doses every two hours until twenty grains were taken, strychnine sulphate every four hours (one-thirtieth grain), cold to the head, with tepid sponging first; and if this did not reduce the fever his patient was to be sponged with cold water. The patient had taken quinine, and this was continued in five-grain doses every three hours until six doses were taken. The patient continued to pass bloody urine, so the quinine was discontinued and sodium hyposulphite in drachm doses every four hours was ordered, to be diminished after the bowels should move freely. Strychnine was continued and one dose of morphine with atropine given hypodermically. Under this latter treatment the patient rapidly convalesced. A second case was treated in practically the same way with equally good results, except that no quinine whatever was given.—*Memphis Medical Monthly*, July, 1900.

Remarks upon the Diplococci Resembling Gonococci Found in the Normal Vagina of Children.—C. A. Rosenwasser calls attention to the need of further study of a condition of great importance, viz., the vaginal discharges of childhood supposed to be caused by gonococci. Instances are reported of outbreaks

in children's wards despite all precautions. The work already done in the study of intracellular diplococci resembling gonococci, decolorizing or not by the Gram method, is reviewed. The author has demonstrated in the apparently healthy vagina intracellular diplococci, decolorizing by Gram, differing from gonococci only in not having the typical arrangement. He thinks it may be that some vaginal discharges are caused by an attenuated or not fully developed gonococcus which does not react to Gram. The reason the vagina more than the conjunctiva suffers is that the latter is not so susceptible to infection. The investigations will be continued.—*Archives of Pediatrics*, July, 1900.

The Pericarditis of Bright's Disease.—P. Chatin reviews the literature of this affection and gives histories of three personal cases. A careful examination was made of the bacterial contents of the pericardial sac in his cases, and in all there was noted a markedly weak infective power. From this, the author infers the existence in certain cases of Bright's disease of an aseptic, germless pericarditis. In other cases it is one of the complications of an ordinary infection. The suggestion is made that the disease may at times be a toxic pericarditis, but the author is not willing to express a conclusive opinion on this point.—*Revue de Médecine*, June 10, 1900.

Two Forms of Pseudo-Meningitis due to Lumbricoides.—Dr. Mériel gives the history of a child ten years of age, who, after a purulent discharge from the ear, fell sick with all the symptoms of meningitis, which was at first attributed to extension of inflammation from the ear. The ordinary period of five or six days passing and the symptoms continuing unchanged caused a doubt and led to careful inspection of the stools. The result was that two lumbricoid worms were discovered, and a few days after their discharge convalescence set in. In the second case there were in a nine-year-old child immobility of the head on the pillow, rigidity of the neck, and other symptoms pointing to meningitis, with delirium, convulsions, etc. Santonin and calomel were given as in Case I., and after four ascarides were passed the child recovered.—*Annales de Médecine et de Chirurgie Infantiles*, July 1, 1900.

The Treatment of Yellow Fever in Children.—José Texeira, basing his views upon the observation of two hundred cases of yellow fever in children, comes to the following conclusions: The disease is often complicated with meningitis, which is very dangerous; the renal complications are very rare in children. In order to avoid this dangerous complication we must from the onset of the disease apply strong derivatives to the skin, especially to the lower extremities, stimulate the perspiration of the skin and evacuation of the bowels. Large doses of castor oil and copious enemata of boric acid are very efficient. Of course, according to the conditions present, symptomatic treatment at the same time is very important. In forty cases this treatment was successfully carried out.—*Clinical Record.*

Losdorfer's Bodies: A New Discovery in Syphilitic Blood.—Victor Neudörfer looks upon the recent discovery in Vienna of bodies in the blood of syphilitics, which are perhaps the specific germs of the disease, as a striking illustration of the importance of hæmatology to general medicine. The announcement of Losdorfer in April last was received with scepticism, but Paltauf had controlled the examinations, which embraced one hundred and twenty-five syphilitic patients for over a year. He found that the bodies described often appear in the blood before the exanthem is developed, while for the first four or five weeks after infection no changes can be noticed. The bodies are not found in other patients. In the portion of the field which contains no blood corpuscles long, oval bodies having about the size of large acidophile granules or so-called eosinophile leucocytes, but not so glistening, make their appearance after two or three hours. Later on they show movement and form chains. Losdorfer is not prepared to claim as yet that they are specific for the disease. They are found also in hereditary cases, and will at all events have a diagnostic significance.—*The St. Paul Medical Journal*, July, 1900.

Cold as an Etiological Factor in Diseases of the Air Passages.—J. Zahorsky says that—(1) Common "colds" are acute infectious diseases. (2) Severe exposure acts as a general predisposing cause to infection. The detrimental effect of the manifold mild exposures is very doubtful. (3) Rarely the normal or accidental bacteria in the upper air passages may excite disease. (4) Most commonly a micro-organism from some one else having a "cold" is the exciting cause. (5) Any lesion of the mucous membrane, such as chronic ulceration in the nose, or recent lesions produced by the inhalation of dust, impure air, noxious or irritating vapors, and possibly very cold air predispose to infections of the upper air passage. (6) Congregation of persons and the non-ventilation of rooms are the principal factors which produce the increased prevalence of colds during the winter seasons. —*St. Louis Courier of Medicine*, June, 1900.

Clonic Spasm of the Palatine Muscles Producing a Sound Heard at a Distance.—G. Ostino recently saw a physician, aged twenty-six years, who from the age of fourteen had been conscious of a noise in both ears like that of a watch ticking, which could be voluntarily arrested for a short time, but would immediately return. It was especially annoying at night, but disappeared whenever he had an acute coryza. Examination of the ears revealed nothing abnormal, nor was anything except an acute coryza found in the nose. The pharynx showed a spasmodic condition of the palatal muscles synchronous with the pulse and causing a sound perceptible to the observer. The man was neuropathic, but no special cause for the spasm could be found. Its disappearance during acute coryza was attributed to the fact that the swelling of the mucosa, in which the delicate palatal muscles are contained, so hindered their action that the spasm was for the time impossible.—*Archivo Italiano di Otologia*, etc., vol. x., No. 1, 1900.

An Experimental Contribution to the Knowledge of the Toxicology of Potassium Chlorate.—S. J. Meltzer contributes an article based upon the study of experiments made by others, and upon a series made by himself at the Columbia University laboratories. He presents an analysis of the existing experimental data, pointing out some of their shortcomings, and presents some new experimental facts. On introducing potassium chlorate into the peritoneal cavity of rabbits, the animals died thirty-eight hours later in convulsions, especially of the respiratory muscles. This led to a study of the effects when the substance was injected into the brain. Opisthotonos was usually the first symptom. Tonic contractions soon gave way to clonic convulsions. With strong solutions, violent tetanic convulsions were produced. The experiments show the drug to be a strong poison for the nerve cells, which are first excited, then paralyzed. On introducing it into the circulation it seems fair to assume that a certain amount reaches the brain in sufficient concentration to excite and paralyze, especially the respiratory centre.—*Therapeutic Gazette*, July 15, 1900.

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CHRONIC BRASS POISONING.

THE physician especially is never secure unless he is always prepared for the unexpected and the expected alike. Metallic poisoning in its various forms is not uncommonly observed if carefully looked for, and not a few obscure cases might be traced to such an origin. Probably the most frequent variety of this kind of poisoning is due to lead, occurring in those compelled to manipulate this metal, or exposed to the risk of its inhalation in the form of powder. It is especially common in those employed in lead works, and in painters who use lead colors, although it is also observed as a result of the use of hair-dyes and cosmetics containing lead, of snuffs and other articles wrapped in lead-foil, of water passing through and exerting a solvent action upon lead pipes. An epidemic has been recorded among those who have partaken of cakes col ored richly yellow with lead chromate by an unscrupulous baker. Other forms of metallic poisoning are less common.

Poisoning with lead, as also with mercury, arsenic, silver, copper, etc., results occasionally from excessive or prolonged administration of these metals or their compounds for therapeutic purposes. Mercurial poisoning may occur also in those engaged in the manufacture of mirrors, and arsenical poisoning has been attributed to the inhalation of vapors from wall-papers impregnated with arsenical colors. Copper poisoning is not commonly observed, although it may occur in those engaged in operations into which either the metal itself or its alloy with zinc, namely brass, enters. A good clinical description of this condition as it occurs among artisans in brass at Birmingham, England, is given by Murray (*British Medical Journal*, June 2, 1900, p. 1334). The patient is likely to be a young workman, presenting a more or less markedly anxious expression, with a thin and haggard face, a sallow complexion, and an unhealthy and wasted appearance. He complains of gradual loss of strength, with a dry and hacking cough, cold sweats, and, possibly, hæmoptysis. Pain in the chest, loss of appetite, and progressive emaciation in addition, raise a suspicion of pulmonary tuberculosis, but careful examination of the chest fails to disclose signs of disease of the lungs, except, perhaps, those of slight bronchial catarrh. The urine is normal. The nature of the disorder is not clear, and symptomatic treatment fails to yield relief. Other cases of a similar character present themselves, and finally it is learned, upon inquiry, that all occur in those who are engaged in some way in manipulating brass—such as stamping, finishing, polishing, etc. Examination will now disclose a typical green line on the teeth, probably due to deposition of copper.

One of the earliest symptoms is anæmia, and with it there are often associated palpitation of the heart and dyspnœa on exertion, digestive disturbances, anorexia, and epigastric pain after food. Tachycardia is common, while nausea, vomiting, and thirst are not infrequent. Slight indefinite pains of a neuralgic character may be complained of early with headache, a sense of weakness, malaise, and nervousness. As the disease progresses, emaciation becomes conspicuous, with loss of strength, and tremor. The knee jerks are normal or exaggerated, unless peripheral neuritis is present. Headache is almost always present, as well as pain varying in character and situation, neuralgic and myalgic, principally in the abdomen, then in the legs, the back, the chest, etc. As a rule, digestive disturbances are present, with loss of appetite and gastralgia, and occasionally nausea and vomiting. The tongue is generally coated, moist, and tremulous. The bowels are normal, loose, or confined. There may be a dry, tickling cough, sometimes with thick, tenacious sputum, and occasionally hæmoptysis. The pallor is distinctive, the complexion being sallow, dirty, and unhealthy-looking. Symptoms of laryngeal or pharyngeal catarrh are not uncommon, with aphonia, a sense of dryness or discomfort or constriction in the throat, and a metallic taste. A feeling of oppression or nervousness, sometimes intense, is common, and so are repeated attacks of faintness or sinking, in the morning or at work. Profuse sweating may be a source of annoyance, and there may be a sense of coldness, possibly confined to one part, as the knees, the legs, or the chest. The sweat stains the linen and also the hair green. Itching cutaneous eruptions appear in various parts of the body, but there may be itching without visible eruption. Pulmonary fibrosis is common, and paraplegia due to peripheral neuritis may occur. Poole (*The British Medical Journal*, June 9, 1900) refers to marked pulsation, either local or general, of the abdominal aorta as frequently associated with the advanced stages of chronic brass poisoning, and which he thinks may be due to vasomotor disturbances.

In treatment potassium iodide failed to yield anticipated results, but phosphorus, in pills of gr. $\frac{1}{300}$ three times a day, and dilute phosphoric acid in doses of ♏ xv. three times a day, yielded satisfactory results. The use of milk as a beverage was found to be of distinct advantage.

THE PATHOLOGY OF ACUTE YELLOW ATROPHY OF THE LIVER.

THE clinical course and the pathological anatomy of so-called acute yellow atrophy of the liver suggest the possibility that this disorder represents an acute parenchymatous hepatitis of infective or toxic origin. The essential lesions consist in fatty degeneration of

the liver cells, with increase in the interstitial connective tissue, but there is some difference of opinion as to which of these processes is the earlier. The disorder, which is by no means common, usually pursues a short and fatal course, but occasionally cases are observed in which the duration is more protracted, and the lesions are rather those of acute atrophic cirrhosis of the liver. Such an instance is reported by Findlay (*British Medical Journal*, June 2, 1900), who discusses the pathology of these allied affections. The patient was a girl, fifteen years old, who presented general dropsy, excepting in the face, together with ascites. She had been jaundiced seven months previously, with swelling of the feet, the latter returning and persisting. Diarrhœa had been present for one month. There was slight bleeding from the gums, and vomiting occurred on a few occasions. Death resulted from respiratory failure. On post-mortem examination the spleen was found to be enlarged, and of increased consistency. The liver was much diminished in size, firm, and on section presented a yellowish appearance; its capsule was thickened and granular in places. The pancreas was firm; the mesenteric glands were enlarged and firm; and Peyer's patches and the solitary glands of the intestine were swollen and congested. Microscopic examination disclosed slight fatty degeneration of the myocardium, fibroid change in the spleen, a catarrhal condition of the kidneys, degeneration of the cells and hyperplasia of the interstitial connective tissue of the liver. The case is considered one of yellow atrophy of the liver, but rather chronic than acute, and reasons are given in favor of the view that chronic yellow atrophy of the liver is nothing more than acute cirrhosis of the liver, differing from other varieties of cirrhosis in quantitative histogenetic changes. In cases of yellow atrophy of the liver the degeneration of the hepatic cells is more extreme than in cases of the ordinary type of cirrhosis, tending more frequently to death than to recovery of the cell. The connective-tissue formation differs little from what is found in other varieties of cirrhosis, but the regeneration of the hepatic tissue has advanced to a greater degree than in cases of ordinary cirrhosis, and has exceeded so-called hypertrophic or biliary cirrhosis in what is by some regarded as its special feature.

SOME TENDENCIES IN MEDICAL WRITING.

Those who follow the subject have no doubt noticed in the enormous contemporary output of writing upon medical subjects, the development of certain tendencies, the ultimate results of which may prove of questionable value. Modern medical education both before and after graduation, while it is undoubtedly raising the standard of requirement and of general medical knowledge in consequence, is at the same time subjecting the medical profession to a process of smoothing-out by which the least well-equipped members of it are gradually coming to assume an appearance at least of equality with those in an intellectually higher plane. The rapid development of specialism depends to some extent certainly upon concentration of teaching force and clinical material, which has been made possible by the improvements in our educational machinery and the growing lavishness of its financial lubrication. The specialist judiciously developed is a most desirable type of medical practitioner certainly for large cities, but unfortunately the development of our specialists often leaves much to be desired in the groundwork of medical education and in general cultivation, a very considerable admixture of both of which should be present.

The great increase in the number of specialists, more or less well equipped, which our present system produces has for its unavoidable and to some extent undesirable consequence a flood of writing upon various subjects in the form of books, from small up to what must be called ponderous tomes, though perhaps the term indicates too much weight. Many such works are written expressly for the purpose of reaching and instructing the advanced student and also the general practitioner, and purport to teach the latter especially how certain things should be done which are usually left to a man with a special training.

There are no doubt many medical and surgical emergencies in the presence of which it is desirable that the general practitioner should have at hand good advice in the form of a work of reference, but such good advice cannot take the place of trained fingers guided by a trained mind, without recourse to which full justice may not always be done to the patient. Books written for the general practitioner particularly are usually not complete enough on these subjects of pathology and diagnosis, and too much space is devoted to the more easily explained subject of treatment, which ought to be left, when possible, in the hands of the man of experience. This, of course, does not refer to simple conditions about which there are no important elements of doubt. The result of this is that the reader, encouraged by apparent simplicity, gets a warped and incomplete idea of conditions with which he may have to contend, attempts too much, and is unable to cope with difficulties which in the hands of an expert would have been obviated.

Another noticeable future in medical works of the present time is that writers seem beset with the fear that their works will not mention everybody who has spoken of their subject before, and that something in medicine will escape recording. There is not apparently a clear idea among writers as to what is of merely historical and bibliographical interest, and what is of present scientific value, and also as to what is the relative importance of such things. The realization of a distinction here would reduce the thickness of most medical volumes and would not interfere with their value or accuracy. The desire to write a book on a whole department of medicine with an approximation to completeness is responsible for much that is tiresome and unnecessary in modern writing, and has led to a great deal of what is called "padding." We see the best results in the works of men who have taken a narrow field and threshed it over and over, giving us a monograph in which we can find something upon every detail of the subject, supported by evidences of work and investigation which add much

to the convincing power of the argument. Some of the most recent large publications have been written on what might be called the monograph system, and in several instances the results have been very satisfactory, so that in them we have really valuable and useful works of reference. It is a mistake on the part of a writer to try to do too much, and one way of doing too much is to write a book which attempts to do justice to a whole department of medical science.

THE TREATMENT OF PULMONARY TUBERCULOSIS WITH SODIUM CINNAMATE.

The number of remedies recommended for the treatment of a given disorder is inversely a fair index of its amenability to therapeutic intervention. This is particularly true of pulmonary tuberculosis, in the treatment of which no one drug of the many proposed has as yet received general application. Among the agents that have been used for this purpose in recent years are balsam of Peru, cinnamic acid, and sodium cinnamate (also known as hetol). Landerer and others have reported successful results from the use of these remedies. Stimulated by the favorable reports Ewald (*Berliner klinische Wochenschrift*, 1900, No. 21) began the employment of sodium cinnamate, and after the treatment of twenty-five cases of pulmonary tuberculosis by this means has reached the conclusion that, while the remedy has not yielded the anticipated results, in view of the fact that, intelligently administered, it is free from danger, it is worthy of further trial. There was no case of pure laryngeal tuberculosis; eleven of the cases were free from fever throughout their entire course; ten exhibited febrile periods of considerable duration, and only four persistent fever. In no case was a cavity of any considerable size demonstrable, but in all except two tubercle bacilli were constantly present in the sputum. In the two excepted cases, however, the conditions were so positive as to leave no doubt as to the diagnosis. The period of treatment was variable. In some cases it extended over three hundred days and more; while one patient remained under observation for only eighteen days. The treatment consisted in intravenous injections of a solution of sodium cinnamate, beginning with a dose of 1 mgm. and gradually increasing at intervals of two days up to 15 mgm. In all, four hundred and sixty-one injections were given without accident. The treatment appeared, however, to predispose to the occurrence of slight hæmoptysis, and many of the patients exhibited marked fatigue and a tendency to sleep. In many cases marked relief was afforded, the pain in the side being mitigated and the expectoration taking place more readily. No influence on the tubercle bacilli in the sputum, on the temperature, or on the sweating was observed. Recovery took place in four cases, improvement in five cases, no improvement in six cases, and ten cases pursued an uninterrupted progressive course. These results, it is pointed out, differ little from those that are obtained from other methods of treatment, especially when the aid of climatic and other hygienic agencies is invoked.

News of the Week.

The Plague is reported to have reappeared at Asuncion, Paraguay.

American Surgeons Honored.—At the centenary celebration of the Royal College of Surgeons in London on July 26th, Drs. Robert F. Weir, of this city, and William W. Keen, of Philadelphia, were given diplomas of honorary fellowship in the college.

The Dead at Pao-Ting-Fu.—Dr. Cortlandt Van Rensselaer Hodge, Dr. G. Yardley Taylor, and Dr. Maud A. Mackey are three American medical missionaries who are reported to have been massacred by the Chinese at Pao-Ting-Fu. They had been sent out by the Presbyterian Board of Foreign Missions.

More Acting Assistant Surgeons Needed.—It is reported in the daily papers that one hundred additional medical officers are wanted by the surgeon-general for duty in the Philippines and China. Only graduates of reputable medical colleges, with some experience, and under forty years of age, will be accepted.

Smallpox at Dawson City.—A report has been received by the Canadian Department of the Interior at Ottawa that smallpox has broken out at Dawson City. It is said that the disease was imported from Cape Nome. Dr. Montizambert, the Dominion health officer, has been sent to the Yukon to make the necessary arrangements for quarantine and isolation. He took a supply of vaccine with him and sailed from Vancouver on August 1st.

Pennsylvania Hospital.—Dr. Robert G. Le Conte has been elected surgeon to the Pennsylvania Hospital in succession to the late Dr. John Ashhurst, Jr. A gold medal has been awarded the management of the Pennsylvania Hospital in recognition of the services it has rendered humanity during the past century.

Lewis Stephen Pilcher, M.D., LL.D.—The degree of Doctor of Laws has been conferred by the University of Michigan and Dickinson College upon Dr. Lewis Stephen Pilcher, of Brooklyn, editor of the *Annals of Surgery*.

The Elmira Reformatory.—Dr. Frank M. Robertson, physician to the Elmira Reformatory, has been appointed acting superintendent during the leave of absence of Mr. Z. R. Brockway. The latter, upon whom there was some time ago a fierce newspaper attack for alleged cruelty, but who was officially exonerated, has resigned, the resignation to take effect December 31st. Until that time he has been granted leave of absence.

The Brooklyn Homœopathic Hospital will soon become a city institution. Under an act passed by the last legislature and approved by the mayor, the city undertook to purchase the hospital and run it as a public institution. When the details came up for settlement, there were $70,000 of debts on the hospital, which the city was called upon to assume. President Guggenheimer objected to this course until he

had examined the assets. At a recent meeting he expressed his satisfaction with the arrangements, and it was agreed that the hospital should turn over its property to the city, which should assume the debts of the institution.

The Settlement of Dr. Evans' Will.—The city of Philadelphia can now, in consequence of the settlement of all litigation over the will of Dr. Evans, the American dentist who practised in Paris for nearly half a century, proceed with the founding and establishing of the Thomas W. Evans Dental Institute and Museum. The institution has been incorporated, and it will be built on property that belonged to the testator in Philadelphia. About $3,000,000 will be devoted to the structure and its equipment and endowment. Dr. Evans left an estate amounting to a little over $4,000,000, one-quarter of which goes, under the terms of the settlement, to the direct legatees, mentioned in the will for smaller sums, and the remainder to the foundation and endowment of the Dental Institute and Museum.

The American Association of Obstetricians and Gynæcologists will hold its thirteenth annual meeting in the assembly room of the Galt House, Louisville Ky., Tuesday, Wednesday, and Thursday, September 18, 19, and 20, 1900, under the presidency of Dr. Rufus Bartlett Hall, of Cincinnati, Ohio.

Major J. Van R. Hoff, who was at the head of the army medical service in Porto Rico, has been selected as chief surgeon of the China expedition, and orders relieving him of his duties in Porto Rico and directing him to report at once in Washington have been telegraphed to him. After a consultation with General Sternberg he will proceed immediately to San Francisco and take the first transport for China.

Wholesale Libel.—A criminal prosecution for libel has been instituted in London against Mr. Peter Anderson Graham, the author of a work entitled "The Perils of English Agriculture." In this book he charges that all the sanitary inspectors in England are corrupt, except perhaps one in fifty. A general accusation of this nature, not specifying the persons aimed at any more particularly, has usually been deemed by the courts insufficient to sustain a civil action for defamation.

The Lane Lectures for 1900.—The fifth course of the Lane Medical Lectures, inaugurated in Cooper Medical College in 1896, will be given in 1900 by Sir Michael Foster, professor of physiology, University of Cambridge, England. These lectures will be given on August 20th, 21st, 22d, 23d, and 24th, at 11 A.M. and 8 P.M. The subject of the lectures will be the history of physiology, each lecture being devoted to one or more of the great physiologists and to the discoveries connected with their names.

The Red Cross in China.—A phase of the trouble in China which may prove to be of great importance is the fact that the government of that country is not a party to the Geneva Red Cross Convention, by which the signatory powers bound themselves in time of war to respect the Red Cross, and to treat surgeons and nurses belonging to the armies of the enemy as non-combatants. It is thought possible that this fact may deter the War Department from permitting any of the women nurses who are being sent to the Far East from landing in China for duty there. There are nineteen female nurses on the transport *Grant* with General Chaffee, and five on the *Sumner* which sailed from San Francisco two weeks ago.

The Will of the Late Dr. John Ashhurst, Jr., disposes of an estate valued at $190,000. To the College of Physicians of Philadelphia are devised from his medical books a number not exceeding fifteen hundred volumes.

The New York School of Clinical Medicine.—We are informed that this school has not been discontinued, but six members of the teaching staff have resigned. Dr. Marcus Kenyon has been elected secretary of the medical board.

Mr. Wu Ting Fang was what might be called a little "previous," when last May he advised the graduates of a woman's medical college to repair at once to China in order to practise their profession in freedom and to their pecuniary advantage.

M. Pichon, the French ambassador in Pekin, was originally a medical student, but, discouraged at his want of success at the examinations, he relinquished medicine and took to journalism, for which he possessed a special talent. From journalism he passed into the political arena, where he has achieved a reputation which led to his being appointed to this important if somewhat perilous diplomatic post.—*The Medical Press.*

Philadelphia Mortality Statistics.—There were reported to the Philadelphia bureau of health for the week ending July 27th a total of 514 deaths, 50 less than for the preceding week, but 33 more than for the corresponding week of the preceding year. The heat still continues an important cause of death: 75 children died from cholera infantum, and 26 deaths were due to sunstroke, 27 to inflammation of the stomach and bowels, 31 to marasmus, 42 to pulmonary tuberculosis, 26 to heart disease, and 24 to pneumonia.

Gifts to a Hospital.—The managers of St. Timothy's Hospital at Roxborough, Philadelphia, have received $10,000 from J. Vaughan Merrick, Sr., who, with his late wife, originated the hospital as a memorial to their parents, by donating the house in which the hospital was opened in 1890. Of this amount $8,000 is for the extinction of a ground-rent and $2,000 for the endowment fund. The hospital has received also $5,000 from John H. Dearnley, to endow a free bed in honor of his daughter, and $50,000 from the estate of Perceval Roberts, Sr., for the erection of an annex now in process of construction.

Expert in Mental Diseases to be Sent to the Philippines.—In view of the cases of insanity liable to occur in such a large force as is now stationed in the Philippines, Surgeon-General Sternberg has decided to station an expert in mental diseases at Manila

to have charge of insane patients prior to their embarkation for this country. For this purpose he has given a contract as acting assistant surgeon to Dr. Charles H. Latimer, who has been a member of the staff of the government insane asylum at Washington (St. Elizabeth's) for the past twelve years. Dr. Latimer is a man of much experience and ability, and will undoubtedly be of great assistance in the general hospital at Manila in his special line of work. He takes with him as assistants two attendants from the government asylum for the insane, who have each had more than ten years' experience in the handling of cases of mental alienation.—*Boston Medical and Surgical Journal.*

Dr. John J. Brownson, of Dubuque, Ia., has been appointed president of the Dubuque County Board of Lunacy Commissioners. Dr. Brownson had charge of the West Dubuque asylum for eight years.

International Congress at Paris.—In addition to the Medical Congress, the opening session of which was held on Thursday of this week, the following, the proceedings of which are of more or less interest to physicians, have met or are to meet during the present summer. The Medical Press, under the presidency of Professor Cornil, July 26th to 28th; Professional Medicine and Medical Deontology, under the presidency of Dr. Lereboullet, July 23d to 28th; Medical Electrology and Radiology, under the presidency of M. Weiss, July 27th to August 1st; Public Assistance and Private Beneficence, under the presidency of M. Casimir Perier, July 30th to August 5th; Dermatology and Syphilography, under the presidency of Dr. Besnier, August 2d to 9th; Improvement of the Condition of the Blind, under the presidency of Dr. Dussouchet, August 5th; Deaf and Dumb, under the presidency of Dr. Ladreit de la Charrière, August 6th to 8th; Dental Surgery, under the presidency of M. Godon, August 8th to 14th; Pharmacy, under the presidency of M. Planchon, August 8th to 10th; Hypnotism, under the presidency of Dr. Voisin, August 12th to 15th; Aid in Time of War, under the presidency of M. A. Mézières, August 20th to 24th; Anti-tobacco, under the presidency of M. Decroix, August 20th to 25th; Pharmaceutical Specialties, under the presidency of M. Victor Fumonge, September 3d to 4th; Vegetarian Congress, under the presidency of M. Grand, June 21st to 23d; Homœopathic Congress, under the presidency of Dr. P. Jousset, July 18th to 21st; Accidents to Workmen and Social Assurance, under the presidency of M. Linder, June 25th to 30th; Physical Education, under the presidency of M. Léon Bourgeois, August 30th to September 6th; Chemistry, under the presidency of M. Berthelot, August 6th to 11th; Ethnology, under the presidency of M. Block, August 26th to September 1st; Conditions and Rights of Women, under the presidency of Madame Pognon, September 5th to 8th; Acetylene, under the presidency of M. Sebert, September 23d to 28th; Prehistoric Anthropology and Archæology, under the presidency of M. Al. Bertrand, August 20th to 25th; Sunday Rest, under the presidency of M. Bérenge, October 9th to 12th; Bibliography, under the presidency of General Sebert, August 16th to 18th. In the Congress of Comparative History, held from July 23d to 25th, under the presidency of M. Gaston Boissier, there was a section devoted to the history of science, including the history of hygiene in antiquity, the history of medicine in the Middle Ages, and the history of medicine among non-European peoples. In the Congress of Popular Traditions, to be held under the presidency of M. Beauquier, September 10th to 12th, popular medicine and magic are among the subjects to be discussed.

A Base Hospital for the Army in China.—It is uncertain as yet where the base hospital for the American army in China will be located. The choice lies between Nagasaki and Chefoo.

The Roentgen Society of the United States will meet in New York City, on December 13 and 14, 1900, at the Academy of Medicine. Papers have been promised by men in this country and Europe, and a very successful scientific meeting is anticipated. Unequalled advantages will be offered to the visiting members for instruction in *x*-ray work.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending July 28, 1900. July 19th.—(Orders issued by commander-in-chief of the Asiatic station.) Surgeon A. C. H. Russell detached from the *Newark* and ordered to the naval hospital, Yokohama, Japan, for treatment. Passed Assistant Surgeon R. M. Kennedy detached from the *Yorktown* and ordered to the *Newark*. Assistant Surgeon A. G. Grunwell detached from the *Brooklyn* and ordered to the *Monocacy*. July 21st.—Surgeons M. F. Gates and G. Rothganger commissioned surgeons from July 7, 1900. Passed Assistant Surgeon R. Spear commissioned passed assistant surgeon from June 22, 1900. Assistant Surgeon M. K. Elmer commissioned assistant surgeon from July 18, 1900.

Obituary Notes.—Dr. James M. McNulty died at his home in Santa Barbara. Cal., on June 22d. He was a native of New York State, and graduated at Geneva Medical College, N. Y., in 1846, going soon after as a surgeon in the Mexican War. Then coming to California, he was for some time in the employ of the Pacific Mail Steamship Company, then settling in San Francisco, where he practised for many years until 1889, when he partially retired to Santa Barbara. In 1861 he was surgeon of the First California Volunteers, and for the last two years of the war was medical director of the Second Army Corps.

Dr. Henry T. Herold, of Newark. N. J., died at his home in that city on July 25th, following an operation for appendicitis. He was thirty-eight years old, and was a graduate of the Bellevue Hospital Medical College in the class of 1887.

Dr. George Edelmann, who always asserted that he made the experiments that resulted in the discovery of chloroform, died at the City Hospital in St. Louis on July 19th. He was a graduate of Jefferson Medical College, and served as an army surgeon during the Civil War.

Progress of Medical Science.

Medical News, July 28, 1900.

Headache from Eye-Strain.—Casey A. Wood says that the site of the ocular headache in the order of frequency is: (1) the supra-orbital; (2) the deep orbital; (3) the fronto-occipital; (4) the temporal. The character of the pain is more likely to be dull and heavy than very acute. The exciting causes are tasks which require the use of the accommodation and convergence, reading, writing, drawing, painting, typewriting, sewing, music, card-playing, billiards, shopping, riding in trains and street-cars, etc. Long-sighted people suffer more from headache than the short-sighted. Insomnia, dyspepsia, pelvic disease predispose to ocular headache. The author is opposed to internal drug treatment, but advises very hot or very cold fomentations. In conjunction the following mixture may be rubbed over the forehead and temples, or a towel, wet with one part in ten with ice-water, may be laid over the closed eyes and forehead while the patient is lying down Spirits of lavender, alcohol, āā fl ʒ iii.; spirits of camphor, fl ʒ i. The author also suggests other remedies.

Acute Trional Intoxication.—Warren Coleman reports a case due to the ingestion of nine drachms in seventy-two hours. The patient recovered.

Aspiration in the Treatment of Acute Traumatic Empyema; with an Illustrative Case.—By Joseph D. Bryant.

A Contribution to the Management of Face Presentations.—By Malcolm McLean.

New York Medical Journal, July 28, 1900.

Some Observations upon Syphilitic Manifestations in the Uveal Tract: the Iris, Ciliary Body, and Choroid.—P. T. Vaughn says that during the past year seventy cases of syphilis have been seen by him exhibiting eye symptoms, and that of this number the uveal tract (iris, ciliary body, and choroid) was involved in twenty-nine, or 41.4 per cent. of the total number. He describes the symptoms of the different conditions found, quoting from various authors to substantiate his views, which are also supported by clinical histories of some of his own cases. He states among other facts that his own observation has been that the symptoms of plastic and serous iritis when due to syphilis vary little from the symptoms of these varieties of iritis when due to other causes. Pain is one of the most prominent symptoms, and it extends sometimes over the entire half of the head, corresponding to the branches of the supraorbital nerve. The pain is usually worse at night, and is always aggravated by bright illumination.

The Spectacle and Eye-Glass Habit.—N. B. Jenkins says that wearing spectacles or eye-glasses out-of-doors is always a disfigurement, often an injury, seldom a necessity. The old rule, "Wear glasses all the time," should be changed to "Wear glasses just as little as possible." Some wear spectacles for years, and then by lucky chance lose them, only to find that they get along better without. After wearing glasses only a few days many find the print looks worse to the naked eyes than before. This is a sure way to tell that glasses are wrong. Most people with troublesome imperfections of the eyes cannot leave their glasses off even for an hour or so without discomfort. This is because they have wrong glasses. The right glasses can be put on and taken off at any time with ease, and no more discomfort will follow than when putting on and taking off a hat.

Empyemas of the Accessory Nasal Cavities, with a Report of Cases in which the Antrum of Highmore was Involved.—R. A. Wright gives a general description of the affection, and reports five cases of antral suppuration. Concerning experimental puncture for diagnostic purposes he gives the following direction: A thick, large, straight aspirating needle is passed into the nose in the lower meatus underneath the inferior turbinated body, a little posterior to its middle half; the external end is pressed downward and toward the middle line, forcing the point up to the juncture of the inferior turbinated body with the lateral wall; the needle is now thrust through the bony partition into the antrum. This point of puncture is important, for in front of and below it the bony wall is too resistant to puncture with the needle.

Neurasthenia and Syphilis.—J. G. Kiernan mentions syphilophobia as a frequent source of neurasthenia. He advocates for this condition a familiar combination of gold with arsenic and the bromides.

The Pituitary Gland as a Factor in Acromegaly and Gigantism.—Concluding article by Woods Hutchinson.

Typhoid Fever in an Infant Eighteen Months Old; Recovery.—By A. Samuels.

Journal of the American Medical Ass'n, July 28, 1900.

Post-Febrile Insanity and its Treatment.—F. P. Norbury discusses nutritional changes as they affect the brain and infectious processes leading to mental disorder. Abnormal metabolism, he believes, permits oftentimes the entrance of infection. The writer quotes the conclusions of Mills, taken from the article in the "Twentieth Century Practice": (1) Specific infection must be included among the causes of mental diseases and of symptoms which precede, accompany, or follow febrile or other infectious disorders. (2) Much negative evidence can be adduced in favor of acute delirium being due to toxæmia. Such evidence is afforded by autopsies, which reveal neither gross nor histological lesions; and in these cases the toxæmia probably overwhelms the patient before the production of meningitis or other disease. (3) Analogies to nervous affections which are known or believed to be of microbic origin, such as multiple neuritis, myelitis, and chorea, favor the view that insanities with similar or related phenomena and lesions are also microbic in origin. (4) The evidence afforded by careful bacteriological investigations of acute insanity is thus far too meagre, but shows that various micro-organisms may induce the same or similar types of mental disease. (5) The mental disorders of pregnancy and the puerperal state are probably in a considerable proportion of cases toxæmic, without reference primarily to childbirth; but it cannot be regarded as proved that a bacillus of eclampsia or puerperal mania is a sole cause of these affections. He then discusses heredity, occupation, types, diagnosis, and treatment.

Exact Infant Feeding; Accidents and Incidents.—W. P. Northrup calls attention to the accidents which may arise from the very exactness of the methods employed. These may occur in mechanical ways. Scurvy may arise from the prescription for modified milk not being supervised and changed at the proper time. A safe method is to advance the proportions gradually to "full" undiluted milk. This may often be accomplished by the eighth month. To summarize: (1) Clean cow's milk, modified to some definite formula, is demanded. (2) A laboratory for modification is desirable; it secures greater exactness and cleanliness. (3) The physician should frequently revise his formula; frequent small percentages of increase are to be advised. (4) Accidents may arise from consigning an infant for several months to insufficient food ingredients. A baby is not the same baby for many weeks at a time, its growth and physiological demands change so much. Discussion follows.

The Prophylaxis and Management of Interstitial Nephritis.—C. W. Purdy says prophylaxis must include some definite knowledge of the tendencies of the patient to the disease under consideration. Histories of cases of purely acquired interstitial nephritis showed heavy appetites, sedentary lives, and excessive use of proteid food. The dominant factor is over-ingestion and over-elimination of nitrogen, and these furnish the key to prophylaxis. The disease is stamped in the strongest manner by heredity, and the family history furnishes a clew to a large proportion of cases suitable for prophylactic measures. Much can be done to prevent advanced cardiac complications. Abnormal friction in the circulation should be modified. Muscular tone can be improved by digitalis and strychnine. Absolute quietude is often required until heart tone is regained or restored to a measure equal to its work. When dropsy has set in diuretics have to be resorted to, but the fight from then on is a losing one.

Blood Examination.—M. H. Fussell directs attention to the value of blood tests to the general practitioner. He finds them quite as important as examinations of the urine, if not more so. They are of great value in obscure cases. All white-complexioned people are not subjects of anæmia, as tests will demonstrate. Conversely, a flushed face may disguise a decided reduction of hæmoglobin. The test is of value in showing when the patient has recovered. The clinical symptoms may very rapidly improve and still the blood count will show little change. Errors in reference to leukæmia and pernicious anæmia may be obviated. Cases in illustration are given. Fresh blood may be preserved for several hours by letting cedar oil run in under the cover-glass. Besides a microscope with oil immersion lens a hæmoglobinometer and hæmocytometer are required. The specimen is collected in a few minutes at the bedside and examined at leisure in the office.

Practical Physiology of the Digestive Organs.—A. L. Benedict describes details not well recognized or put down in textbooks having reference to digestive practice. The importance of mastication and insalivation is first considered, and then follows a study of the œsophagus and its rate of peristalsis (which in general is about eight seconds). The sounds of liquids passing through the cardia are best described as varying from a sharp squirting to a low gurgle. Free hydrochloric acid should form about half the

total acidity of the stomach contents. Numerous experiments show that the stomach contents do not change materially after withdrawal if cooled to 40° F. He is inclined to believe that there is exceedingly little absorption through the glandular membrane of the stomach; the potassium iodide test really marking the first peristaltic wave into the intestine.

Infant Feeding.—Alexander McAlister makes a plea for a closer adherence to and stronger advocacy of nature's method of infant feeding, on the part of medical men. He finds an alarming disinclination on the part of mothers to breast-nurse their offspring. Breast-nursed infants may not be fat, but they are usually robust and fleshy. Considering the chances for milk infection it is a marvel that the mortality of bottle-fed children is not vastly higher than it is. Koplik is quoted to the effect that even one breast-feeding in the twenty-four hours is of decided advantage, and he believes that "part breast is superior to all-hand feeding." Properly collected, cooled, and bottled milk is better than any laboratory milk.

The Credulity of the People as it Pertains to Medicine and Religion.—By T. B. Greenley.

Neurology and Medical Jurisprudence.—Address of chairman, Hugh T. Patrick.

Laryngology and Otology.—Address of chairman, Christian R. Holmes.

Hospital and Ward Clinical Laboratories.—By C. N. B. Camac.

The Mammary and the Parotid Glands.—By John B. Shober.

Philadelphia Medical Journal, July 28, 1900.

Are Consanguineous Marriages Injurious to the Race?—Lawrence Irwell concludes that consanguineous unions are, in the great majority of cases, undesirable, not because they originate diseases *de novo*, but because they intensify existing disorders or diatheses from which very few families are exempt. They should not even be thought of in any family in which idiocy, insanity, epilepsy, congenital deaf-mutism, hare-lip, cleft palate, the phthisical or lithæmic diatheses have occurred, for all of these diseases or tendencies toward disease may be handed down from one generation to another. As it is not improbable that cancer is a micro-organic malady which attacks only those persons who have a proclivity toward it, families in which cancer has appeared, no matter how far back, should avoid consanguineous unions. Frequent marriages of persons whose environments have been very similar is injurious to the race, and extreme exclusiveness in marriage is not commendable.

A New Method for the Clinical Determination of the Position of the Cardia.—By G. W. McCaskey.

Cause of the Decussation of the Nerve-Fibres in the Medulla and Spinal Cord.—By D. T. Smith.

Mütter Lectures of the College of Physicians of Philadelphia.—By John B. Roberts.

A Method for the Graphic Study of Gastric Peristalsis.—By Clarence Quinan.

The Early Recognition of Ectopic Pregnancy.—By DeWitt G. Wilcox.

Boston Medical and Surgical Journal, July 26, 1900.

Morbid Conditions Caused by Bacillus Aerogenes Capsulatus.—William H. Welch, in the Shattuck Lecture for 1900, reviews the history of the gas bacillus and recalls its diagnostic characteristics. It is distinguished from the colon bacillus by its power of producing gas abundantly in the blood, organs, and tissues of rabbits killed a few minutes after intravenous injection. Among the points distinguishing it from the bacillus of malignant œdema are the following: The malignant œdema bacillus is somewhat thinner, has greater tendency to grow into filaments, is less readily stained by Gram, produces spores regularly in culture media, is motile, liquefies gelatin more rapidly, produces a foul odor, produces less gas in lactose bouillon, peptonizes clotted casein, generates little or no gas in rabbits inoculated intravenously and then killed, and by subcutaneous inoculation in susceptible animals causes spreading bloody œdema with little or no development of gas bubbles, and appears after death in filaments on serous surfaces. The gas bacillus is widely distributed in nature, the natural habitat being the intestinal canal and the soil. It has been found repeatedly in Europe and America, and by Flexner also in Manila. The gas bacillus has been found in numerous conditions in human beings. Its presence in ordinary cadaveric decomposition is readily explicable by the occurrence of the organism in the healthy intestinal canal. Of a different nature, however, are the cases in which gas bubbles are found in the blood and organs within from one to eight hours after death and without any trace of putrefaction. There is every gradation from cases with a few bubbles of gas in the blood or tissues to those with extensive emphysema of the organs and tissues (Schaumorgane). The author has never found these gas bubbles unassociated with gas bacilli. The invasion in the majority of cases is from the intestine, but whether it and the development of gas occur ante mortem or post mortem has not yet been determined with certainty. The finding of gas bubbles within an hour after death offers no conclusive argument against the post-mortem invasion of the organism, and in the great majority of instances there is no doubt that the formation of gas bubbles is a post-mortem phenomenon. The bacillus is of interest to surgeons as well as physicians, since it is a frequent cause of that most dreaded of wound complications, emphysematous gangrene. It is probably not the sole cause, however, and the author is of the opinion that an aerobic bacillus, probably identical with Sanfelice's bacillus pseudo-œdematis maligni, is also capable of producing this affection. Among the uterine infections by the gas bacillus are mentioned emphysema of the fœtus, physometra, emphysema of the uterine wall, and puerperal gas sepsis. The bacillus has been found also in cases of puerperal endometritis in which there was no gas in the fœtus or the uterine cavity or wall. The urinary tract may not only be a portal of entrance for the gas bacillus into the circulation or adjacent tissues, but also be itself the seat of infection by this organism. In cases of pneumaturia the gas bacillus has been found in the bladder post mortem, and it has also been encountered in gas cysts in the renal pelves and in gas blebs under the vesical mucous membrane. These submucous and subserous gas cysts or blebs are among the most interesting of the lesions produced by bacillus aerogenes capsulatus; they have been found by Welch in the stomach, intestine, gall bladder and bile ducts, urinary bladder, renal pelvis, and vagina. The intestine is by far the most common source of the gas bacilli found together with gas bubbles in the blood and organs at autopsies. This invasion may occur either with or without definite intestinal lesions, and is probably in the majority of cases an agonal or post-mortem event. Especially demonstrative of invasion of gas bacilli from the intestine, usually post mortem, is the occurrence of gas bubbles limited to the neighborhood of the intestine, as in the intestinal wall, within the portal or mesenteric veins or lymphatics, in the subperitoneal tissue, mesentery, and omenta, around the pancreas, in the mesenteric glands, and especially in the loose tissue near the gall bladder and in the porta of the liver, without gas in more remote situations. Examples of each of these occurrences have been observed in very early autopsies without ordinary cadaveric decomposition. Among the infections in this class are local gastro-enteric lesions, pneumoperitonitis with and without perforation, and hepatic and biliary invasions. Pulmonary, pleural, and cerebral infections have also been observed, and the gas bacillus has been found in the blood during life.

The True Function of the State Medical Examining-Board.—By Allard Memminger.

The Lancet, July 21, 1900.

On Rupture of the Apparently Healthy Œsophagus.—E. J. McWeeny reports the case of a man aged forty years, who on entrance to hospital complained of pain in the lower parts of the chest and emphysematous swelling of the neck and face, which later mounted to the eyelids and extended down the thorax. His general condition was one of collapse, and he died seven hours after admission. He had been a heavy drinker and was much given to "dry retching." Autopsy revealed a slit-like aperture in the œsophagus nearly 1.5 cm. long, in the anterior surface just above the diaphragm. The writer analyzes seventeen similar cases, giving a full bibliography and emphasizing the salient points of each. He concludes that the two main factors that are operative in causing rupture of the macroscopically normal gullet are (*a*) softening of the coats and (*b*) sudden increase of pressure from within. The softening is due partly to intra-vital digestion, and partly to inflammatory infiltration. The intra-vital digestion is to be accounted for by (*a*) circulatory disturbance, which in his case took the form of venous thrombosis, and (*b*) prolonged sojourn of peptic matters in the gullet from prolonged retching. The increased pressure from within is doubtless ascribable to the violent propulsion of the gastric contents into the lower part of the gullet, while its upper outlet is obstructed by the contracted state of the muscle—in other words, to want of co-ordination of the muscular action of the tube, probably due to exhaustion from prolonged overactivity. Whether a localized phlegmonous œsophagitis—for that is the condition which existed in the case now recorded—is a constant factor in these cases, it is of course impossible to assert in the absence of microscopical details of the other cases.

A Case of Pernicious Anæmia following on Traumatic Stricture of the Small Intestine.—The patient of A. E. Bar-

ker was a man who had been run over by a wagon seven years previously, and had ever since the accident suffered from periodic attacks of pain and vomiting. Analysis of the blood showed red cells, 2,000,000; white cells, 54,000; hæmoglobin, thirty per cent. Symptoms of intestinal obstruction were developed, and an abdominal incision was made. A stricture was found in the first part of the jejunum, and an anastomosis was made of the parts above and below. The patient did not do well after the operation, and died on the second day. The autopsy was made by W. Hunter, who summarizes the features of the case as follows: (1) A man, temperate, well fed, and living in healthy surroundings. (2) bad teeth causing alternately alveolar and ethmoidal suppuration without at any time occasioning local discomfort; (3) he always suffered from "heartburn" (denoting chronic gastric catarrh with diminished acidity of gastric juice); (4) accident causing stricture of jejunum; (5) more or less severe abdominal and gastric symptoms lasting six years; (6) more or less rapid supervention of the features of pernicious anæmia nine months before death; (7) post mortem (*a*) dental decay with local complications—*e.g.*, alveolar and ethmoidal suppuration, and (*b*) definite infection (coccal and streptococcal) of the mucosa of the intestine and colon, with definite catarrhal, inflammatory, and necrotic changes—to a less extent of the stomach.

The Varieties of Acute Pneumonia.—H. Hanford discusses some of the unusual forms of pneumonia, calling special attention to cases with low temperature and cases in which the symptoms both general and special are well marked and undoubted, but in which physical signs are scanty or absent. Some of these have been explained on the theory that the area affected is central, not reaching the surface of the lung. In other cases it has been suggested that the general symptoms have been caused by the toxins of the pneumococcus growing in other than the pulmonary organs. The symptoms are due not only to the local lesions but in great part to the specific nature of the poison. The author also discusses the question of infection in pneumonia, food pneumonias, and those cases seen in connection with the grippe and the plague.

A Case of Ulcerative Endocarditis with Recovery under the Use of Antistreptococcic Serum.—The patient of J. M. Clarke was a girl aged twenty-two years. The diagnosis of ulcerative endocarditis was made on the following grounds: (1) The presence of a chronic valvular lesion on which an infective process is apt to graft itself; (2) the fact that the illness did not yield to the several salicylic compounds which were tried in full doses without effect; (3) the occurrence of a pulmonary infarct; and (4) the steady progress of the patient from bad to worse until treatment by serum was begun, which treatment again would have had no influence on acute rheumatism. No special features were noticeable after the injections other than have been reported from their use in other maladies. At first there were noticed local pain, urticaria at the site of injection, and slight swelling, but later only malaise for several hours and headache were felt.

Modern Methods of Amputation at the Hip-Joint.—Clinical lecture reporting fifteen cases, by T. F. Chavasse.

Rodent Cancer of the Cornea; Operation; Recovery with Retention of Good Sight.—By Sydney Stephenson.

Malaria and the Malarial Parasite.—Clinical lecture by Patrick Manson.

Four Cases of Puerperal Eclampsia.—By T. B. Broadway.

British Medical Journal, July 21, 1900.

The Ethics of Secrecy in the Learned Professions.—C. R. Straton compares the customs of the past with those prevailing and the rules of action in England with other countries relative to the confessions made to attorney, physician, or priest. The surgeon's evidence often being essential to the establishment of facts upon which justice can be based, it is held that excluding the physician from the witness stand often interferes with the proper administration of justice. Professional secrecy has reached a higher development in France than elsewhere, and a brief sketch of its evolution and operation is given. Possible changes in the law of England are considered, the tendency of the times being not to exclude any evidence which may lead to justice. A plea is made for an observance of the moral proportion of things, and a note of warning is sounded before the medical profession drifts into the doctrine of absolute secrecy under all circumstances. Safeguards should be devised to prevent ourselves from being made the passive agents of injustice and wrong.

The Alleged Increase in Insanity.—R. H. Noott thinks that the reported increase in insanity of late has been due to faulty statistical methods. A calculation based on a recently published table shows that in the year 2301 every one will be mad. There has been during the past ten years in England an unusually rapid accumulation of registered lunatics, but this is not held as proving that the actual number has increased, and is to be explained in more complete registration, greater confidence in asylum treatment, etc. Intemperance prevention, and cure are considered from various sides.

The Preliminary Education of Medical Students.—P. Q. Karkeer is of the opinion that the present standard of scholarship required in the preliminary examination is not a sufficient indication that the candidate for entering the medical profession has received the education of a gentleman. He discusses the best ways of developing a boy's faculties by educational training, pointing out what is best for the student and what best for the profession.

Thirty-five Years' Retrospect in the Profession, Including Some Experiences, Chiefly Surgical.—By T. A. Buck.

Observations on the Organization of the Branches of the British Medical Association.—By W. Gordon.

The Future of the Profession and of the Association.—By Sydney Wilson MacIlwaine.

Our Numbers and Our Work at the Close of the Century.—By George Eastes.

On Some Medical Questions of the Day.—By Milner Moore.

Münchener medicinische Wochenschrift, July 10, 1900.

A Contribution to the Knowledge of the Action of Oil of Turpentine.—Schulz, supplementing former studies on other drugs, has conducted a series of observations on the action of minimal doses of oil of turpentine. Two sets of experiments were conducted, the one with an alcoholic solution containing one per cent. of the drug, the other of a strength of 1 : 1,000. In either case the daily dose was twenty drops of the solution given in the morning. The results of this almost homœopathic medication were very pronounced. The central nervous system gave evidence of great depression; there was more or less hebetude, with disinclination to mental and physical exertion, and extreme muscular fatigue. Nearly all the experimenters suffered from insomnia. The effect on the gastric system was characteristic. During the first few days eructation was complained of; later this disappeared, but gastric pains of greater or less severity supervened. There were vomiting, anorexia, and constipation. The urine in all cases acquired a noticeable odor and became dark-colored; albumin was not present. The pulse, contrary to most published observations, was found to be depressed in frequency. In two cases a well-marked facial acne was caused.

A Case of Hysterical Dumbness the Result of Intoxication.—Bloch describes the case of a boy, fifteen years old, who while at work in a carpenter shop suddenly fell to the ground unconscious. On examination the eyes were found wide open, pupils dilated and reacting to light; neck, arms, and legs rigid and resisting efforts at flexion; patellar reflexes exaggerated. The patient did not reply when questioned; the mouth was firmly closed, and medication by that channel was impossible. The temperature was normal; pulse 70. For two days this condition continued unaltered; on the third the patient was able to indicate his wants by writing, and finally, as the result of suggestive and local treatment, on the sixth day he regained complete control of all his faculties. The author considers the case of particular interest, since the only cause that could be found for the trouble seemed to lie in the fact that the stove in use in the shop was not in good order, and that on the same day the patient was affected several other workmen complained of various symptoms, headache, nausea, etc., and he believes that these, as well as the patient's attack, were due to carbonic-oxide poisoning.

Dressings Left Behind after Laparotomy.—Wunderlich adds two more to the instances in which dressings, etc., have been unwittingly left behind after laparotomy. In the one case, three and one-half months after making an uneventful recovery from the operation the patient voided with the fæces a compress eight inches wide by forty inches in length. No bad effects followed. In the other case the patient succumbed to cardiac collapse thirty-six hours after a cholecystectomy; at the autopsy a cloth of the size of a small handkerchief, such as had been used for packing, was found free in the peritoneal cavity, there were no evidences of peritonitis. The author adds the trite comment that he now counts the instruments, pads etc. himself.

The Etiology of Fibrinous Bronchitis.—Ott reports a case of this uncommon disease, and gives in *résumé* the various theories that have been advanced concerning its causation. In the case of his own patient, a knife-grinder there were found in the sputum the pneumococcus of Fraenkel and the staphylococcus pyogenes aureus, and in the author's opinion the localization of the trouble in the bronchi was due to the continued irritation caused by the inhalation of the metallic particles attendant on the occupation, while

the protracted course of the disease was due to the mixture of micro-organisms.

Experimental Observations on the Sterilization of the Hands.—By Paul and Sarwey.

Contributions to the Study of Immunity.—By Dungern.

A Case of Weil's Disease.—By Schottenhelm.

Berliner klinische Wochenschrift, July 9, 1900.

A Constant Bacteriological Result in Scarlatina.—A. Baginsky and P. Sommerfeld conclude a series of articles with the following propositions. (1) In all cases of scarlatinal angina we find streptococci, sometimes in pure culture, generally, however, accompanied by other cocci, but always overshadowing them. (2) In all the fatal cases (forty-two) of scarlatina examined, a streptococcus was found in all the organs and also in the blood and bone marrow. From this it is safe to conclude that it is constantly present in all cases of scarlatina. (3) The streptococcus reveals itself in its morphological, cultural, and biological relations as do the streptococci of writers in general. With all methods of differentiation hitherto used it is not capable of being distinguished. (4) The streptococcus is of varying degrees of virulence, and this can be increased by successive cultures. It develops a toxin in the culture medium. (5) Specific peculiarities of the streptococcus found in scarlatina cannot be developed by culture methods any more than is the case with the streptococci heretofore described. (6) The constancy of the presence of this streptococcus in fatal scarlatinal cases makes the same significant as a factor in the disease. (7) The collective clinical manifestations of scarlatina are due to the spread of the streptococcus in the organs (infection) and the poison derived from its life processes (toxicity).

Extirpation of a Fibro-Lipoma in the Retroperitoneal and Pelvic Connective Tissue.—F. Konig reports the case, which occurred in a man aged forty-four years, who died of sudden heart failure eight days after operation. The mass rose as high as the ensiform process, and the diagnosis before operation lay between some form of rapidly growing tumor of unknown nature and tuberculous peritonitis. Bibliographical reference is made to several similar cases previously reported.

Test of Pupil Reaction with Reference to Refraction of the Eye and Central and Peripheral Pupil Reaction by Means of a New Instrument.—By H. Wolff.

The Treatment of Pulmonary Tuberculosis in Hospitals and in Practice among the Poor.—By Burghart

The Present State of Bacteriology.—By Baumgarten.

The Pathology of Morbid Tumors.—By O. Israel.

Deutsche medicinische Wochenschrift, July 12, 1900.

Some Contributions to the Pathology of Influenza.—A Wasserman was surprised to find that the influenza epidemic which lasted through the first three months of this year differed notably from the great pandemic of 1890, especially in its bacteriology. In the earlier epidemic the bacilli assumed to be the specific cause of the disease were constantly to be found in great numbers in the sputum, and the production of pure cultures was a simple and easy matter. In the cases observed this year, however, it was at first found extremely difficult to demonstrate the presence of any bacilli at all, and further study revealed the fact that though invariably present early in the disease they disappeared with great rapidity, so that often as soon as twenty-four hours after infection none was to be found. Linked with this phenomenon of the early and complete disappearance of the micro-organism was the occurrence in many of the cases studied of symptoms of severe intoxication, syncope, cardiac weakness, etc. To explain these facts the author advances the theory that every infectious disease confers a certain degree of immunity, and that even epidemic influenza protects its victims for a certain length of time; thus no case is recorded of any one individual's having the disease twice in the same epidemic. It therefore follows that there are present in the blood of these individuals immunizing principles, which, although not strong enough to resist infection, yet cause the speedy destruction of the bacilli. As a result of this sudden dissolution of the germs there is liberated an overwhelming amount of toxin with which the system is unable to cope, hence the serious nature of the symptoms. The author's belief is that a large number of the patients in whom the disease now runs an anomalous course have been partially immunized in the great pandemic of ten years ago, and, furthermore, that the conditions are rapidly growing more and more favorable for a repetition of that historical event.

Experiences with Phototherapy (Conclusion).—Strebel's article presents his ideas on the value of this mode of treatment after having given it extended trial in a large number of cases. In general his opinions are favorable to the method, though in nearly every instance he ascribes almost as much value to the heat produced and the consequent diaphoresis as to the direct effect of the light rays themselves. Both arc and incandescent lights are used, but preference is given to sunlight as being more efficacious and cheaper; its disadvantage is that it is not always available when desired. Obesity is one of the affections in which the light baths seem of especial service, others in which they have been tried with more or less success are, chronic rheumatic and gouty conditions, nephritis, heart lesions of various sorts, diabetes, in which they seemed to act particularly well, anæmia, chronic catarrhal and emphysematous affections of the respiratory system, sciatica, hard and soft chancre, leg ulcers, and furunculosis. The action of the light pure and simple is perhaps best shown in cases of lupus vulgaris. Here the remarkably satisfactory results can be due only to the direct bactericidal action of the concentrated rays on the bacilli situated just beneath the surface. It is the author's belief that further investigation and clinical testing will reveal a definite sphere of usefulness for this plan of treatment and accord it a permanent place among the list of therapeutic agents.

The Differential Staining of Malaria Parasites.—Ruge recommends the following technique. The smear is to be made by touching the edge of a cover-glass to the drop of blood, and having placed this edge in contact with a slide it is to be inclined at an angle of 45° and pushed slowly and evenly along the surface of the slide in such a way that the blood lies behind the advancing edge, *i.e.*, is drawn along after it and not pushed before it. The preparation is to be dried and fixed in absolute alcohol, and is then ready for staining with the following solution. To 100 c.c. of water 0.2 gm. of soda is added, and the solution is heated. While boiling 0.3 gm. of methylene blue is stirred in, and the stain is filtered forty-eight hours later. A few drops are to be poured on the slide and immediately rinsed off with water. The red blood cells will be found stained yellowish or bluish green, the ring forms of the parasites blue-black, the larger forms grayish-blue or dark blue, and the nuclei of the white cells intensely blue.

Enucleation of the Eye, its Substitutes, and its Relation to Sympathetic Ophthalmia.—By Schmidt-Rimpler.

A Contribution to the Knowledge of Meningo-Typhoid.—By Hofmann.

French Journals.

The Value of Organic Protective Coverings.—J. C. Platon and O. Platon relate an instance of severe burn treated by covering with strips of the shell membrane of a freshly laid egg. Over this was laid a sheet of sterile tinfoil as a protective to the membrane. After five days the egg membrane was intact, and beneath it there were island-like whitish dots of epidermis. Cicatrization was complete in eight days. The method, first proposed by Amat in 1895, was described at length by Max Schiller, who is quoted, and the views of many observers bearing upon the question of protective dressings are given.—*Gazette des Hôpitaux*, July 12, 1900.

Treatment of Aneurisms with Gelatin.—Lancereaux and Paulesco have since reporting two cases applied the gelatin treatment to a number of others, four of which they now report, together with a review of the treatment as it has been carried out by others. They conclude that rest in bed is not sufficient for the cure of aneurisms of the aorta, as Litten has claimed. Complete cure of a large aneurism by total obliteration of the sac is obtained only after a variable number of injections of gelatin according to the case, but approximately from twenty-five to thirty at the least.—*Gazette des Hôpitaux*, July 17, 1900.

The Pathology of Human Milk.—John Zahorsky says milk must be studied as a modified tissue having its pathological variations. In volume it is subject to atrophy and hypertrophy; in structure it may show pathological degenerations. In galactorrhœa we have a hypersecretion, in oligo-galactia a deficient secretion due to inherent weakness of glandular activity in some instances, in others contributed to by irregular nursing, etc., or weakness of digestion and metabolism may be at the root. Pathological changes in proteid percentages are common. Instead of an early showing of two per cent., proteids may be present in percentage of two and a half to three and a half, and decrease but little as lactation proceeds. A connection may be traced between this high percentage of proteids and intestinal colic due to gases so frequent in infants. Artificial foods containing carbohydrates which inhibit proteid decomposition often prevent these colics, just as does dextrinized gruel as a diluent for mother's milk. Every effort should be made to preserve the mammary secretion, and the child is to be taken from the breast only as a last resort.—*St. Louis Courier of Medicine*, July, 1900.

Reviews and Notices.

Diseases of the Gall-Bladder and Bile-Ducts, Including Gall Stones. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon to the General Infirmary at Leeds; Emeritus Professor of Surgery in the Yorkshire College of the Victoria University; Member of Council and Hunterian Professor of Surgery and Pathology at the Royal College of Surgeons of England, Assisted by Farquhar Macrae, M.B., C.M. (Glas.). Second edition. Pp. 313. New York: William Wood & Company. 1900.

This well-known work on the surgery of the gall bladder and bile ducts appears much improved in its second edition; the lecture form has been abandoned for the more readable narrative, and certain interesting additions have been made, among which may be mentioned those on membranous cholecystitis and on gall stones. To his original series of one hundred and seventy cases the author has added one hundred and thirty-five, and has rearranged the whole number under the various headings to which they separately belong. The book is authoritative and comes from the ripe personal experience of a successful operator. It is well illustrated with diagrams and plates taken from the original and is most interesting throughout. There is a complete list of the operations done, with date, age, sex, description of the case, result and after history, which is a great help to one wishing to study them in detail.

Contributions to the Science of Medicine. Dedicated by his Pupils to William Henry Welch on the Twenty-fifth Anniversary of his Doctorate. Pp. 1,066. The Johns Hopkins Press, Baltimore. 1900.

To review the contents of this volume would take many pages, for the articles are numerous. Among the articles we notice the following. "A Contribution to the Study of the Pathology of Early Human Embryos," by Franklin P. Moll; "On Urea in Some of its Physiological and Pathological Relations," by C. A. Herter; "The Direct Action of Nicotine upon the Mammalian Heart," by H. G. Beyer; "The Effects of Shaking upon the Red Blood Cells," by S. J. Meltzer; "The Blood-vessels, Angiogenesis, Organogenesis, Reticulum, and Histology of the Adrenal," by J. M. Flint; Specific Degenerations of the Cortical Arteries," by H. J. Berkley; "The Regeneration of the Crystalline Lens," by R. L. Randolph; "The Histology of Acute Lobar Pneumonia," by J. H. Pratt; "Bilateral Cholesteatomous Endotheliomata of the Choroid Plexus," by George Blumer; "Concerning the New Formation of Elastic Fibres, Especially in the Stroma of Carcinomata," by H. U. Williams; "Cirrhosis of the Liver of the Guinea-pig Produced by a Bacterium and its Products," by G. H. Weaver; "On the Muscular Architecture and Growth of the Ventricles of the Heart," by J. B. MacCallum; "Some Observations upon the Surgical Anatomy of the Gall-bladder and Ducts," by G. E. Brewer; "A Case of Plexiform Neuroma of the Eyelid," by Harry Friedenwald; "A Case of Multiple Myeloma," by J. H. Wright; "The Development of the Musculature of the Body Wall in the Pig," by C. R. Bardeen; "A Rare Variety of Adenocarcinoma of the Uterus," by T. S. Cullen; "A Bacteriological and Microscopical Study of Over Three Hundred Vesicular and Pustular Lesions of the Skin with a Research upon the Etiology of Acne Vulgaris," by T. C. Gilchrist; "The Frequency and Significance of Infarcts of the Placenta, Based upon the Microscopic Examination of Five Hundred Consecutive Placentæ," by J. Whitridge Williams; "A Contribution to the Knowledge of the Bacillus Aerogenes Capsulatus," by W. T. Howard; "On the Intravascular Growth of Certain Endotheliomata," by W. G. MacCallum; "The Cultivation of Amœbæ," by Caspar O. Miller; "The Bacillus Pseudo-Tuberculosis Murium," by Dorothy M. Reed; "Experimental and Surgical Notes upon the Bacteriology of the Upper Portion of the Alimentary Canal, with Observations on the Establishment There of an Amicrobic State," by Harvey Cushing and L. E. Livingood; "The Origin, Development, and Degeneration of the Blood-vessels of the Human Ovary," by J. G. Clark, The Gonococcus," by H. H. Young; "The Histogenesis of the Cellular Elements of the Cerebral Cortex," by Stewart Paton; "Experimental Pancreatitis," by Simon Flexner; "Chronic Hypertrophic Gastritis of Syphilitic Origin Associated with Hyperplastic Stenosis of the Pylorus," by J. C. Hemmeter; "A Case of Adenocarcinoma which Originated in the Submucous Glands of a Trachea-like Formation Found in a Sacral Teratoma," by W. H. Hudson; "On Hydromyelia, in its Relation to Spina Bifida and Craniochisis," by E. B. Block; "Experimental Disseminated Fat-necrosis," by E. L. Opie; "Multiple Hyperplastic Gastric Nodules Associated with Nodular Gastric Tuberculosis," by Claribel Cone, "On Serum Substitutes with Special Reference to Asiatic Cholera," by Arthur Blackstein; "Endocarditis Due to a Minute Organism, Probably the Bacillus Influenzæ," by Mabel F. Austin; "On the Microscopic Alterations Met with in the Tissues from a Case of Chronic Diffuse Nephritis, Terminating with Symptoms of Landry's Paralysis," by L. F. Barker, "Model of the Medulla, Pons, and Midbrain of a New-born Babe," by Florence R. Sobin, "A Contribution to the Surgery of Foreign Bodies," by W. S. Halstead. The illustrations are exceptionally fine and very numerous, many of them in colors, and as a frontispiece there is an excellent heliotype portrait of W. H. Welch.

Home Nursing. By Eveleen Harrison. New York: The Macmillan Co. 1900.

This is an elementary work for mothers and others on modern scientific methods of caring for the sick, and as such will fill a place in the household library. Nurses will find in it many useful hints and practical points, especially in the preparation of foods and delicacies for the sick-room and during convalescence. Receipts are grouped according to the diseases.

The International Medical Annual and Practitioner's Index. A Work of Reference for Medical Practitioners by American and Foreign Contributors. (Eighteenth Year.) New York. E. B. Treat & Co. 1900.

The fields of medicine and surgery including the collateral branches are here reviewed in a comprehensive practical manner for quick reference. Condensed original articles by able writers have been selected with care. A good feature of the work is the rather full synoptical index, and the alphabetic arrangement is well suited to the reader's requirements. New remedies are first considered, then new modes of treatment, and these are followed by notes on legal decisions and sanitary science. The print is small, so that a vast amount of material is crowded into the work. All the new things that have come up during the year have received some recognition in one part or another of the annual.

Essentials of Medical Diagnosis Arranged in the Form of Questions and Answers. Prepared especially for students of medicine by Solomon Solis-Cohen, M.D., Professor of Clinical Medicine and Therapeutics in Philadelphia Polyclinic; Lecturer on Clinical Medicine in Jefferson Medical College; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumptives, etc., and Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc. Illustrated. Saunders' Question Compends. No. 17. Second edition, revised and enlarged. Pp. 417. Philadelphia W. B. Saunders, 925 Walnut Street. 1900.

This is an excellent book for students, inasmuch as it presents the essential outlines without distracting detail, thus affording a good ground work which can be supplemented later by more comprehensive works. The second edition differs from the first chiefly in being enlarged and brought thoroughly up to date. The more common views of the profession are set forth fully, while the less accepted views are properly omitted. The book is not a simple compilation, like so many of the smaller works on medicine, but presents the experiences and knowledge of two well-known clinicians.

Medicine and the Mind (La Médecine de l'Esprit). Translated from the French of Dr. Maurice de Fleury by Stacy B. Collins M.D. (U.S.A.). With fourteen figures and diagrams. London Downey & Co. New York Charles Scribner's Sons. 1900.

This work received the Bordin prize at the French Academy, and as such merits our respect and attention. The subjects treated deal chiefly with problems in modern scientific psychology in an entirely new way, and although we cannot agree with the author in all instances and, moreover, do not accept all his dicta as proven, still he has opened a new field from which the future may and probably will derive some benefit. The most interesting and novel chapters are those which deal with the problems of human fatigue and strength, of indolence and melancholy, and the therapeutic measures adaptable to each. The rather material explanation of differences in blood pressure causing these different emotional states is not, however, entirely satisfactory, and the consequent method of treatment by his "artificial serum" is not one which we think devoid of the suggestion element which is so well recognized. The work should be read by all physicians who are interested in medico-legal medicine or psychology.

Section on Hygiene and Sanitary Science.—The Section on State Medicine of the American Medical Association will hereafter be called the Section on Hygiene and Sanitary Science.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

WEATHER—PATHOLOGISTS AT CAMBRIDGE—TROPICAL DISEASES—MALARIA AND MOSQUITOS—QUESTIONS OF NOMENCLATURE—ARSENIC IN SODII PHOSPHAS—ST. PANCRAS LUNACY INQUIRY—MR. COUTTS—SUNDAY FUND—THE ROYAL ARMY MEDICAL CORPS—SMALLPOX—BRITISH MEDICAL ASSOCIATION.

London, July 13, 1900.

Last week while we were reading of your sufferings under a heat wave we were shivering and complaining that summer seemed about to omit its visit to our islands. I was glad of a fire in my consulting-room up to Monday, but on Tuesday a welcome change set in—summer put in an appearance, and the next day and yesterday people were greeting each other with the whimsical expression "beastly fine weather." To-day it is two or three degrees cooler by the thermometer, but people feel the heat as much. Not that it is abnormal—80 to 83° F., falling in the evening into the seventies. I find this merely comfortable warmth to what you have experienced. Storms have been severe in northern districts and are anticipated here.

The Pathological Society's visit to Cambridge on the invitation of Prof. Sims Woodhead came off as announced on the 30th ult. Professor Osler, of Baltimore, was invited to preside and took the chair, and interesting communications were made, for which a vote of thanks was accorded, as well as one to the chairman, to Dr. Woodhead, and to the university authorities.

Prof. S. A. Flexner, of Philadelphia, said that an acute and a chronic form of tropical dysentery occurred in Manila. The former might terminate in forty-eight hours or become chronic. The chronic *per se* was amœbic and commonly followed by hepatic abscess; not so the chronic following acute. The acute disease was not amœbic, but a bacillus very much like that of typhoid had been isolated. It seemed identical with that from the endemic dysentery of Japan.

Professor Flexner also made some critical remarks on the bacteriology of yellow fever. The fatty degenerations of the viscera produced by the supposed bacillus of the disease were also produced by other organisms.

Dr. G. H. F. Nuttall gave a demonstration on the relation of mosquitos to malaria. He showed some live Anopheles maculipennis which he had caught in the neighborhood of Cambridge. He illustrated with specimens, micro-photographs, and drawings the changes undergone by avian and human parasites in the species of Culex and Anopheles respectively. Maps showing the distribution of malaria and Anopheles were exhibited. There was an agreement between the former distribution of malaria in England and the present distribution of Anopheles (A. maculipennis, A. bifurcatus, A. nigripes), but further details on this point were promised. It seems curious in some respects that Anopheles persist in England although malaria has practically disappeared. The fact suggests further research

Dr. Cobbett showed cultures of the diphtheria bacillus obtained from the nasal discharge of a pony. He also described experiments showing that diphtheria toxin is excreted in the urine of animals—even from some which are relatively insusceptible.

Dr. J. W. H. Eyre remarked on the influence of the medium on organisms cultivated on it, and urged the adoption of a definite standard reaction in our laboratories similar to that used in America. He said litmus paper and solution were alike unsuitable, and recommended phenolphthalein as sensitive and satisfactory.

Questions of nomenclature are interesting enough to many, and yet not seldom vexatious or even puzzling, especially when relating to a specialty. Surgeons and gynæcologists have rivalled each other in the combination of similar syllables for dissimilar proceedings, and questions of priority have often been mixed up with those of nomenclature. Take an example or two. Dr. A. Routh read a paper at the meeting of the Obstetrical Society on "Porro-Cæsarean Hysterectomy," in which he discussed the advantages of the modern Porro operation over the "Sänger-Cæsarean." Dr. Galabin objected to his nomenclature, and proposed "Baer's operation," or "Cæsarean hysterectomy," or "Cæsarean panhysterectomy," as the case might be. Dr. W. Duncan thought the operation described by Dr. Routh might be properly called "abdominal hysterectomy of the gravid uterus." This at least has the merit of conveying some idea to those who do not follow the specialty. Dr. Horrocks objected to the term "Sänger-Cæsarean section," as the essential part of Sänger's operation is now generally discarded. Dr. Spencer hoped that whatever name might be adopted for hysterectomy of the pregnant uterus, it would never be called Baer's operation, for Baer had no claim to it and did not make any claim himself.

Another allied question was lately discussed at the Royal Academy of Medicine in Ireland—and that in the obstetrical section. Dr. H. Jellett read a paper on "The Dublin Method of Effecting the Delivery of the Placenta," in which he maintained that Credé only arrived independently at a method which had been taught in Dublin from time immemorial. He introduced it in Germany without a suspicion apparently that it had long been the familiar plan in Dublin, and so it got associated with his name and is still spoken of as his method. Various writers were cited in proof of this, and the term "the Dublin method" was pronounced to be the correct one. Dr. Smyly said there was a distinction between the two methods, and Credé's was inferior because it was too active. Spiegelberg, who had observed both methods practised by those responsible for them, declared the Dublin to be superior, as it waited till the placenta had been expelled from the uterus and then expelled it from the vagina. Credé's was too active, for by expelling the placenta too soon they might leave portions behind, leading to post-partum hemorrhage and subinvolution.

Dr. Smyly raised yet another question of the kind. He said the method of preserving the perineum commonly called von Ritgen's undoubtedly originated in Dublin. The credit of this seems likely to be lost by the Dublin school, and these questions show the inconvenience of attaching a man's name to a procedure as soon as he writes a paper about it, whether original or not.

By a curious coincidence the subject of nomenclature has also been discussed at Edinburgh, and again by the accoucheurs. At the Edinburgh Obstetrical Society on the 13th ult., Dr. Berry Hart read a paper on "the nomenclature of transverse presentations and of version." He divided the former into "dorso-anterior" and "dorso-posterior" positions, and each of these again into left and right "acromio-iliac." "Scapulo-anterior" and so on was concise but not so good. The varieties of version he preferred were "Simpson's combined," "Hicks' bipolar," and "combined external." The last is cephalic—the other two are podalic.

A chemical manufacturer here lately called in all the sodii phos. effervesc. which he had sold, because he found it contaminated with a dangerous amount of arsenic. So far no injury has been done, but it would have been well for him had the tests been made before sending the drug out. Most samples of sodium phosphate contain some arsenic derived from the sulphuric acid employed in the manufacture. Commercial oil of vitriol is often loaded with arsenic which appears in the sodium phosphate as arsenate. This being isomorphous with the phosphate cannot be removed by recrystallization. Professor Tichborne says many specimens, if hurriedly tested, might seem slightly impure although loaded with arsenic, as the arsenic does not readily come down as a sulphide. He adds that commercial sodium phosphate is only fit for manure, and the pharmacopœia process should be discarded, the salt for medicinal purposes being obtained by the interaction of phosphoric acid and sodium carbonate.

The inquiry into the St. Pancras lunacy scandal is bringing out disagreeable facts. The relieving officers have confessed to a system which is no less than bribery, and the public is demanding radical changes.

Mr. Burdett-Coutts has shown his "common sense" by objecting to Professor Cunningham as one of the committee to inquire into his allegations, because, forsooth, the professor is an examiner of army surgeons.

The Hospital Sunday Fund on Wednesday had amounted to more than £40,000.

Some cases of smallpox have occurred in London, giving rise to alarmist reports of the usual kind.

An extraordinary general meeting of the British Medical Association has been called for next Wednesday, when a draft of new regulations effecting considerable changes in the constitution will be proposed by the Council, and if carried will be submitted for confirmation at the forthcoming annual meeting at Ipswich on August 2d.

Out of seven hundred and thirteen fellows who voted at the late election at the College of Surgeons only thirty-four attended personally—a clear indication that the postal system is essential. Its adoption may lead to a more liberal policy.

Surgeon-General Muir, deputy director-general of the Army Medical Department, and Col. Egerton Saunders have received the decoration of C.B.

Many more surgeons and nurses are going to the front, and with three wars upon us the demands for the army and navy medical services must increase. So, too, must the losses.

Dr. FitzHugh has died at the Yeomanry Hospital, where he did excellent work. He was only twenty-eight years old.

Professor Oyston, of Aberdeen, is down with typhoid at Bloemfontein, but by last telegrams was progressing favorably.

Therapeutic Hints.

Irritable Bladder.—

℞ Salol,
Tinct. hyoscyami.....āā ʒ ij.
Infus. buchu.....ad ʒ vi.
M. S. Tablespoonful three times a day.

—Fothergill.

Gout.—

℞ Ext. colchici acet.,
Ext. rhei,
Ext. aloes soc.....āā gr. xij.
Ext. belladonnæ.....gr. ij.
M. ft. pil. No. x. S. One at bed-time twice a week.

—Garrod.

In Threatened Uræmia.—

℞ Pilocarpin.....gr. i.
Ac. hydrochl. dil.....ʒ ij.
Aq. destil.....ʒ ij.
M. S. Teaspoonful every three hours.

Acute Cystitis.—

℞ Ext. hyoscyami,
Ext. cannabis indic.....āā 0.4
Sacch. alb.....5.0
M. ft. chart. No. xii. S. One three times a day.

—Ultzmann.

Salicylate Mixture.—

℞ Sodii salicylat.....4–8 gm.
Curaçao.....60 "
Aq. destil.....90 "
Syr. aurant cort. amar.....60 "
To be taken in twenty-four hours with Vichy water.

—*Lyon Méd.*, May 20th.

Neuralgia, especially when acute, is benefited by a dose of one or two ounces of castor oil in ale containing considerable gas, administered before breakfast.—H. M. Moyer.

Epilepsy.—Santonin gives better results than bromides, and acts when the latter fail or are not well borne. It is free from injurious effect, especially the production of melancholia, mental hebetude, depression, eruptions, etc.—Lydson.

Morphine and Alcohol Habits.—

℞ Ammon. brom.....gr. v.
Ext. bellad. fld.,
Ext. nuc. vom. fld.,
Ext. cannabis ind. fld.....āā ♏ ij.
Aquæ.....ad ʒ ij.
M. S. At dose four times daily.

—Wenthers.

Chronic Urethritis.—

℞ Iodi.....gr. v.
Potass. iod.....gr. xxx.
Ol. oliv.....ʒ ss.
Lanolini.....q.s. ad ʒ i.
M. S. Use to anoint a steel bougie.

—Horwick.

Chancre and Chancroid.—Wash with a camphorated solution of carbolic acid, and apply a moist dressing made with picric acid in saturated solution.—Hawthorn.

Chronic Rheumatism.—The "Chelsea pensioner," which has had an excellent reputation in many quarters, contains:

℞ Rhubarb.....ʒ ij.
Guaiac.....ʒ i.
Bitartrate of potash,
Washed sulphur.....āā ʒ i.
Nutmeg.....No. i.
Honey.....O i.
Dose: A tablespoonful night and morning.

Exophthalmic Goitre.—Hyoscine hydrobrom. gr. $\frac{1}{800}$ and picrotoxin gr. $\frac{1}{20}$–$\frac{1}{10}$ given over a protracted period have had good results.—Herrick.

Oxaluria with anæmia and nervous atony:

℞ Acid. hydrochl. dil.....ʒ ss.
Tinct. ferri chl.....ʒ i.
Syr. simp.....ʒ iiss.
Aquæ.....ʒ iij.
M. S. Tablespoonful three times a day through a glass tube.

—Hazard.

Ozæna.—

℞ Aluminis aceto-tartratis (ten-per-cent. sol.).....ʒ iv.
S. Teaspoonful in a pint of tepid water as a douche several times daily to remove secretions, etc.

Then spray with:

℞ Ext. hydrastis fld.....ʒ i.
Aquæ.....O i.

—Bartholow.

Orchitis.—

℞ Tinct. pulsatillæ.....gtt. xxiv.–xlviij.
Syr. zingiberis.....ʒ i.
Aquæ.....q.s. ad ʒ iij.
M. S. Teaspoonful every hour or two.

—Sturgis.

Strap the testicle and give three times a day:

℞ Tinct. aconiti.....♏ i.
Morph. sulphat.....gr. $\frac{1}{20}$
Antimonii et potass. tart.....gr. $\frac{1}{12}$
Magnesiæ sulphat.....gr. xi.

—*Phila. Hosp. Form.*

Remedy for dyspepsia and constipation:

℞ Fluid ext. of cascara sagrada,
Fluid ext. of rhubarb.....āā ʒ iss.
Fluid ext. of wahoo,
Fluid ext. of juglans.....āā ʒ vi.
Glycerin.....q.s. ad ʒ viij.
M. S. Half a teaspoonful in half a glass of sweetened water after each meal.

—R. C. Kenner, *Med. Summary*, July.

Nervous Dyspepsia.—Medical treatment as in neurasthenia. Weir-Mitchell rest cure. Complete change in habits. Substitution of out-of-door for a sedentary life.—Boardman Reed.

Passiflora Incarnata in dose of five drops of the tincture made from the wild plant gives better results than hyoscyamus, belladonna, or conium in the nervous phenomena of whooping-cough.—Carties.

Neurasthenia.—

℞ Zinci bromidi,
Zinci valerianatis,
Zinci oxidi.....āā gr. xv.
Rosæ conserv.....q.s.
M. ft. pil. No. xx. S. One before breakfast, dinner, and bedtime.

Facial Neuralgia.—

℞ Butyl chloral-hydrat.,
Spir. vini rect.....āā ʒ iiss.
Glycerini.....ʒ v.
Aquæ.....q.s. ad ʒ ij.
M. S. Teaspoonful once or twice daily.

—*Med. Times and Hosp. Gaz.*, June 30th.

Catarrhal Conjunctivitis.—

℞ Zinci sulphat.,
Morph. sulphat.....āā gr. ½
Aquæ destill.....ʒ i.
M. S. Apply five drops to the eye every two hours.

Epsom Salts made palatable:

℞ Magnes. sulphat.....ʒ ss.
Ac. sulph. dil.....♏ ij.
Syr. limonis.....ʒ iss.
Aquæ.....q.s. ad ʒ ij.
Take at dose.

Aphonia Nervosa.—Draw in a deep, easy breath, and on expiration make the attempt to produce a clear note. If successful proceed to other sounds, vowels, syllables, and words of two syllables. A few minutes' practice may result in distinct talking.—Oliver.

Camphorated Oil in one-half drachm to two-drachm dose of a 1 : 10 solution for an adult is the best cardiac tonic and antispasmodic.—Vaillant.

To Cool Water when ice cannot be obtained, wrap the pitcher in cheese-cloth previously impregnated with ammonium nitrate and dried. Moisten slightly at time of use, dry, and use again.

Vaginitis.—

℞ Aluminis,
Sod. biborat ..... āā 30
Quin. sulph 1
Ol. thymi,
Ac. carbol ..... āā gtt. xxx.
Glycerini 200
M. S. Add a soupspoonful to a quart of hot water. Inject two or three times a day.

—Janowsky.

Dysentery.—

℞ Sodii sulphat 30
Aquæ destil 90
M. S. A soupspoonful three times a day.

—Buchanan, *Fortschr. der Med.*, No. 16, 1900.

Supra-Orbital Neuralgia.—

℞ Ergotæ 1
Quininæ mur 2
Ferri sulphat 5
Ext. gentian ..... q. s.
Ut ft. pil. No. c. S. Two pills three times a day.

—Peters.

Painless Mercurial Injections.—

℞ Ol. olivæ sterilizat 100.00
Hydrargyri biniodidi 0.50
Guaiacol (synthetic.) pur 2.00
Inject slowly 2 gm. into the buttock daily or every second day.

—*Bull. Pharm. Sud-Est.*

Sweating in Phthisis.—

℞ Tellurate of sodium 0.10-0.20
Alcohol 50
M. S. A teaspoonful morning and night.

—*Journ. des Praticiens.*

Tannin precipitating gelatin, it is suggested to make use of gelose in preparing capsules or suppositories containing this drug:

℞ Gelose 3
Aquæ,
Glycerin ..... āā 50
Tannin 10

Dissolve the gelose in a water-bath in a mixture of the glycerin and water. Add the tannin, and when it is dissolved poured into moulds.—*Journal des Praticiens.*

Odontalgia.—

℞ Phenol,
Menthol,
Hydrochlorate of cocaine,
Chloral,
Guaiacol ..... āā 2 gm.
Triturate in a mortar.

Chronic Coryza.—

℞ Sod. bicarb.,
Sod. biborat.,
Sod. chlorat ..... āā 0.40 gm.
Sacch. alb ..... 1.00 "

Dissolve in tepid water, pour into the hand, and snuff up forcibly so that the solution passes into the pharynx, or inject into the nostrils.—Morell-Mackenzie.

Generalized Eczema.—

℞ Liq. aluminii acetat ..... 10.00 gm.
Sod. biborat ..... 3.50 "
Ac. salicyl ..... 30 cgm.
Aquæ destillat ..... 170.00 gm.
Glycerini ..... 30.00 "
M. S. Apply as a lotion.

For Amenorrhœa when functional and slight, give half a grain of thyroid extract at bedtime.—Glynn.

Smoker's Heart.—

℞ Adonidin 0.005
Ammon. carb 0.1
Camphoræ 0.03
M. ft. chart. No. xxx. S. One three times a day.

—Stern.

Hæmoptysis.—

℞ Tinct. iodi ..... ℥ i.
Pulv. camphoræ,
Ol. picis (essent.) ..... āā ℥ iiss.
Spt. æth. comp ..... ℥ ss.
M. S. Use for inhalation (five to twenty at a time). Repeat every two to four hours.

—Chartier.

Uterine Fibromata.—

℞ Ergotin ..... 2 gm.
Chloral hydrat ..... 1 "
Aquæ ..... 260 "
Inject twelve drops every day for several months.

—Simpson.

Gastropathies of Cardiac Origin.—

℞ Digitalin (crystal.) ..... 1 gm.
Glycerini ..... 333 c.c.
Aq. destil ..... 147 c.c.
Spt. vini rect. (95 per cent.) ..... q. s. ad 1 litre.
M. S. Ten to fifteen drops for four or five days.

—Carrière, *Gaz. des Hôp.*, June 16th.

Pruritus.—

℞ Plumbi acetat ..... 1 gm.
Acid. hydrocyanici dil ..... 5 "
Spt. vini rect ..... 15 "
Aq. destil ..... 250 "
M. S. Apply as required.

—A. Thompson.

Delirium Tremens.—

℞ Antipyrin ..... 4 gm.
Potass. brom ..... 6 "
Syr. chloral (Fr. cod.) ..... 30 "
Aquæ ..... 125 "
M. S. Teaspoonful every hour until hypnotic effect is produced.

—Villard, *Gaz. des Hôp.*, June 12th.

Scabies.—

℞ Staphysagriæ pulv ..... 300 gm.
Adipis (melted for twenty-four hours at a temperature of 100° C.) ..... 500 "
M. S. Apply for four days, each friction being preceded by a bath.

—Bourguignon.

Neuralgia.—Ol. ricini relieves or greatly improves neuralgia, especially that of the fifth nerve.—Ochsner.

Prostatic Enlargement.—Give ammonium chloride in ten-grain doses, three times a day for three months.—*Medical Summary.*

Gonorrhœa.—Avoid all attempts at abortive treatment with strong injections, Janet's washings, etc. When there is violent inflammation from the first, a one-per-cent. solution of thallin is used as an injection. When the inflammation is slight, nitrate of silver 1 : 10,000 to 1 : 4,000, or permanganate solution.—Casper.

Croupous Pneumonia.—I have found hot poultices more agreeable than cold. I would resort to venesection when there is an overloaded right heart with threatening symptoms. Digitalis is reserved for an irregular and flagging heart; codeine in small doses for the relief of pain and delirium; strychnine in increasing doses and alcohol for enfeebled heart action; calomel and saline for constipation or sluggish portal circulation; oxygen gas is commenced at the first sign of cyanosis and in quantity sufficient to relieve; and last, but by all means first, the absolute recumbent posture until resolution is established.—W. O. Bridges.

Clinical Department.

THREE CASES OF SPECIFIC BASAL MENINGITIS, WITH SPECIAL REFERENCE TO EYE-SYMPTOMS.

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CASE I.—A. M——, widow, age thirty-nine years, presented herself at the Vanderbilt Clinic, department of nervous diseases, May 10, 1897. She had married thirteen years previously; her husband had been dead six years, she had never been pregnant. At the time of her first call she had a few enlarged cervical glands, and there was a mucous (?) patch on the left side of her tongue. Four years before she had had paralysis of the right abducens, and recovered after three months of specific treatment. At the same time that she had paralysis of the right abducens she had also paresis of the right arm and leg for three or four weeks, and her mouth was drawn down to the right. Five weeks before she was first seen by me she had had pain on the nasal side of the left orbit which ran up to the vertex and down the side of the face. The lid then drooped and the eye became motionless. For several weeks preceding this occurrence she had had occasional pains with temporary drooping of the left eyelid. She felt dizzy, her legs were weak, and her calves felt numb. The gait was normal, and no Romberg symptom was present. The right knee jerk was weak, the left normal. There was prominence of the left eyeball, with anæsthesia of both corneæ and scleroticæ but not of the face.

Diagnosis: ophthalmoplegia sinistra specifica, retrobulbar exudate.

These notes were transcribed from the records of nervous diseases in the Vanderbilt Clinic. I saw the patient for the first time several weeks after her first visit to the clinic. At that time she had a slight drooping of the left lid, no apparent muscular palsy, and normal pupil and accommodations. The cornea and sclera were anæsthetic, and below the centre of the cornea was an ulcer about one-eighth of an inch in length and one-sixteenth of an inch in vertical diameter. I diagnosed ulcer and paralytic keratitis, and, in view of the preceding history, located the lesion in the orbit toward the apex. I considered it an exudate, specific in origin, probably arising from the structures around the apex.

She was treated for more than a year with antispecific remedies and local applications for the ulcer. I made the following notes: Status, eighteen months after her first visit to me, left lid slightly drooping; moderate anæsthesia of cornea, infiltration of lower third of cornea, covered entirely with blood-vessels; field of vision normal, except for the blurring due to the infiltration; no fundus lesion, $V = \frac{20}{30} +$.

This patient came under my observation on account of the ulceration of the cornea. The characteristic location of the ulcer caused me to test the sensibility of the cornea, when the diagnosis of neuro-paralytic keratitis was immediately made. She presented no symptom of paralysis except a drooping of the upper lid.

Eighteen months after her first visit to me there remained partial anæsthesia and infiltration of the cornea over the site of the old ulcer.

It will be observed that there is a singular association of lesions in this case: paralysis of right abducens, right arm and leg, left facial palsy, left ophthalmoplegia complete, followed several years afterward by complete corneal anæsthesia of the left eye. The paralysis of the right abducens associated with the paralysis of the right arm and leg would imply a basal lesion, disseminate in character, and below the pons. There was probably a simultaneous lesion on the left side at the base to account for the left facial palsy and left ophthalmoplegia. If the left facial palsy is to be accounted for by a high lesion on the right side, there should at least have been left hemiplegia. The hemiplegia, however, was on the right side. These facts, coupled with the corneal complication, lead one to the conclusion that the lesion was basal, probably meningeal, and certainly disseminate and multiple The subsequent slight levator palsy on the left side is corroborative of this view.

CASE II.—Mrs. K——, a delicately built young woman aged twenty-four years, consulted me on December 22, 1899, for loss of sight in the left eye. During the preceding summer she had suffered considerably from dizziness, which she had attributed to constipation that was chronic and obstinate. Six weeks before I saw her, her right arm and leg became suddenly numb and partially paralyzed. Five days before she came to me, she noticed her left eyelids were drawn together, and she could not see well with that eye. The left side of her face was drawn up. Her speech and memory were good. The left palpebral fissure was smaller than the right, there was slight convergence of the eye with diminished movement outward. There was partial tactile anæsthesia of the right upper lid; otherwise the sensibility of the two sides of the face was equal. The tongue, on being thrust out, was inclined to the right, the grip of the right hand was distinctly weaker than that of the left, the knee jerks were excessive. She said her right leg was still somewhat numb, and the skin of the forearm of that side was found also to be numb to the prick of a pin. There was slight Romberg symptom, but no foot clonus. She occasionally still had some difficulty in walking.

The vision of the left eye was $\frac{20}{200}$, the top letter disappearing and reappearing alternately, exhibiting the scotoma centrale fugax. The field was nearly normal in extent, was generally hazy, but apparently was slightly constricted above and to the outer side. The patient was so nervous that it was decided not to take the field with the perimeter. Ordered potassium iodide gr. x. t.i.d., increasing gr. v. daily.

December 25th: The facial paralysis was much worse, sensation in arm and leg was better, grip the same, facial anæsthesia better, scotoma fugax less frequent, $V = \frac{20}{200}$.

December 29th: $V = \frac{20}{70}$; no central scotoma, optic disc slightly congested, and edges fuzzy above and to the outer side; facial paralysis still worse, left eye now nearly closed; squint the same, right grip a little better; knee jerks the same; field about normal, voice husky from potassium iodide; iodide headache, anæsthesia in arms and legs gone.

January 2, 1900: Facial palsy better, left eye more open; field normal, $V = \frac{20}{30}$; grip not quite equal to left hand; tongue straight.

January 7th: $V = \frac{20}{30}$; grip improved, face much better.

January 14th: Almost recovered; $V = \frac{20}{30}$, facial palsy gone. She suffers from headache, examination of refraction shows: R.E. $V = \frac{20}{15}$ w. + .50 D. c. ax. 90°; L.E. $V = \frac{20}{15}$ w. + .25 D. c. ax. 90°.

She went to the theatre one night and had a blind spell; on that account and on account of the persistent headache, the refractive examination was made. She was then sent away on a trip to the South. The potassium iodide had been given in as large doses as gr. lxv.–lxx. t.i.d. This was finally reduced to gr. xx. t.i.d. Subsequently she was put upon the mixed treatment and was advised to continue this till further orders. Her family physician, during the treatment with potassium iodide, was using maltine and cascara

for the constipation. The galvanic current was used regularly over the area of distribution of the palsied seventh nerve.

This case seems simpler and clearer than the first. A young married woman develops right hemiplegia, and hemianæsthesia of a mild type. This becomes better without treatment. Six weeks afterward there is right facial paralysis with very slight palsy of the left external rectus. The tongue, on being extruded, pointed distinctly to the right. The vision in the left eye was lowered to $\frac{20}{200}$ with a fleeting central scotoma. When I saw her there was mild right hemiplegia and anæsthesia. The lesion on the right side must have been low enough down to catch the motor and sensory tracts below the pons; at the same time the hypoglossal and the seventh nerve were attacked. Another lesion on the left side must have lain between the chiasm and the apex of the orbit, jugulating the fibres of the left optic nerve and slightly interfering with the conduction of the left abducens. It would be possible to explain the right hemiplegia and right facial palsy on the ground of a lesion above the pons on the left side, but the fact that there was at the same time a right hypoglossal palsy would necessitate the coexistence of a right-sided lesion. It is far more reasonable to assume a right-sided low basal lesion for the palsies of the right side.

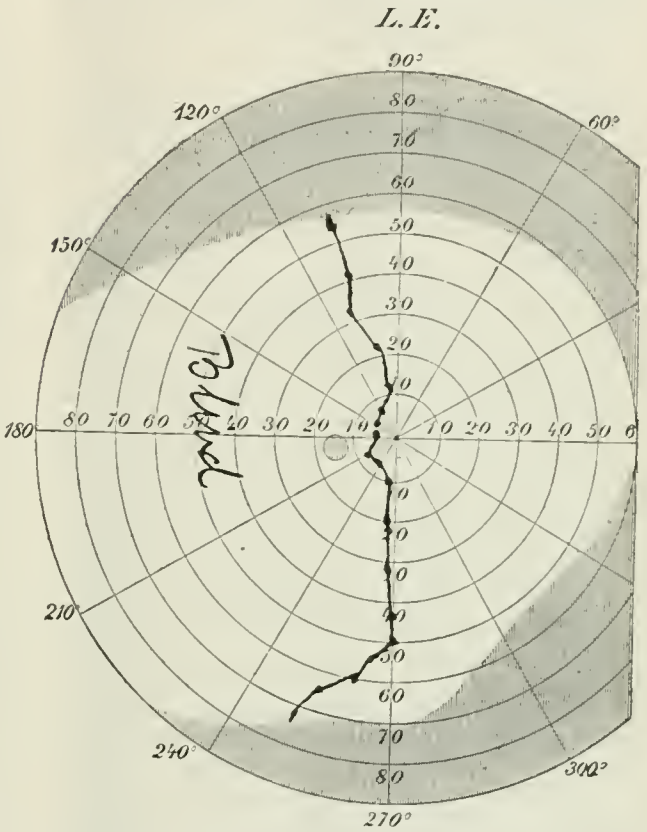
The facts of the case lead one to the diagnosis of a basal, disseminate, multiple meningeal lesion.

Case III.—B. M——, aged twenty-four years, a mulatto woman, states that two and one-half years ago, she awoke one morning to find that she could not see with her right eye. At 1:40 P.M. of the same day she was taken to the hospital. The left eye remained good until 6 P.M., when it became totally blind like the right eye. Immediately after this she became unconscious and remained so four weeks. She stated that when she regained consciousness the left side of her face was paralyzed, was numb, and that her tongue, on being thrust out, went to the left. She had difficulty in eating and kept biting the left side of her tongue. Both eyes bulged, and "shells came off her upper and lower teeth." The left ear was quite deaf and there was much roaring in it. She found her right eye still totally blind; she could see with her left, but it was weak; she had to bring objects close to see them. Her sense of smell was entirely abolished. In two months the sight of her right eye returned imperfectly. The sight of the left eye was good.

I saw her first in October, 1899; she said that during the summer of that year the sight of the right eye commenced to fail again and became totally lost. Her status at the time I saw her was as follows: R. E., totally blind, the pupil was extremely dilated from atropine, cornea and sclera were completely anæsthetic; on the lower third of the cornea, extending almost to the sclero-corneal margin, was an elliptical ulcer; the optic nerve was dead white; the arteries were very small; the veins were moderate in size; there was no other lesion in the fundus. There were some lacrymation and conjunctivitis. L.E. V = $\frac{20}{30}$, but the field was distinctly hemianopic on the left side as shown by the chart. The field was somewhat constricted below and was totally blind to the temporal side of demarcation. The good vision, viz., $\frac{20}{30}$, is explained by the fact that the macula fibres were not involved in the lesion.

In this case a mulatto woman wakes to find herself blind in her right eye; at 6 P.M. of the same day she becomes blind in the left, then falls unconscious and remains so for four weeks. On regaining consciousness, she has left facial paralysis, left hypoglossal paralysis, deafness and tinnitus in the left ear; right eye still blind and left eye's sight still impaired. Sense of smell destroyed; in two weeks sight in the right eye returned imperfectly, while the sight of the left eye was good. At the end of two and one-half years from the original attack she consulted me on account of total blindness of the right eye and an ulcer on the cornea of the right eye. The right optic nerve was totally atrophic and the left nerve also gave the appearance of optic atrophy, while the field, as shown by the accompanying chart, was almost classically hemianopic. The blindness was temporal, and the V = $\frac{20}{30}$.

It is difficult to conceive of a more characteristic picture of basal meningitis and its final results. First, blindness in the right eye, then in the left; subsequently involvement of the left facial, left hypoglos-



sal, left auditory, the olfactory apparently on both sides, total atrophy of the right optic nerve, and partial atrophy of the left. The hemianopic lesion is particularly interesting. The left-sided temporal hemianopsia indicates a lesion in the right optic tract, and if there had not been a complete involvement of all the fibres destined for the right eye, there would assuredly have been left-sided homonymous hemianopsia. Since the right eye became totally blind, the matter resolved itself into left-sided temporal hemianopsia.

The complete atrophy of the right optic nerve was doubtless due to the exudate passing beyond the tract and chiasm, and choking the nerve at its entrance into the optic foramen. That perfect vision remained in the left eye was due to the fact that the line of the dead nerve fibres stopped short of the macula—the usual fact in such cases.

The neuro-paralytic keratitis in this case, as in Case I., indicated that the fifth-nerve fibres bound for the cornea were involved. They were apparently destroyed in Case III., since the corneal anæsthesia remained after two and one-half years. In Case I., they were not totally destroyed, but their conduction was interfered with, as was shown by the moderate sensibility of the cornea at the time of my observation.

The young woman described in Case II. was a sufferer from chronic constipation. She consulted

a very busy practitioner concerning her constipation and mentioned the numbness and loss of power in her right side. He paid no attention to the symptoms, and apparently attributed them, together with the dizziness, to the constipation. A few days after she mentioned the fact that she could not see with her left eye to a physician whom she met at a social function, and made light of the matter. He observed a slight facial palsy at the same time, and immediately referred her to me. Her rapid recovery under mercury and iodide of potassium proclaim the cause, in all probability, to be specific.

The circumstances surrounding Cases I. and III. make the specific etiology clear. The three cases present an excellent opportunity for the study of the lesions at the base of the brain.

39 West Thirty-sixth Street

HERNIA OF THE OVARY AND TUBE AND THE VERMIFORM APPENDIX.

By F. C. LARIMORE, M.D.,

MOUNT VERNON, OHIO

A left oblique inguinal hernia containing the ovary, tube, and vermiform appendix is certainly of such a rare occurrence as to justify publication. The ovary or the ovary and tube, and on the right side the appendix vermiformis, have been found in a hernial sac, but to find all of these combined in an inguinal hernia on the left side may be unique.

O. A——, aged thirty-five years, consulted me first on October 17, 1899, for a hernia. I found a left oblique inguinal hernia, irregular and doughy, the size of a small orange, and irreducible. The mass could be crowded up, but some portion would still remain outside the external ring. The woman was wearing a truss, and stated that she had had trouble on that side in childhood, and during the past fifteen years the lump had increased in size and was more and more painful. Operation was advised for the radical cure. She entered my private hospital May 31, 1900. I found the lump as above described. It impressed me as being a lipoma, the omentum, or an ovary. On June 1st I operated, chloroform being given by Dr. R. W. Colville. A three-inch incision was made over the inguinal canal one-half inch above Poupart's ligament. The aponeurosis of the external oblique was divided on a grooved director. The hernial sac was dissected up with the finger. The sac was opened and found to contain the ovary and tube. The ovary was located outside of the external ring and firmly attached. The other end of the tube ended in a blunt extremity. The entire tube was as thick as the little finger and four inches long. The ovarian artery was as large as the radial, with seven other arterial trunks in the sac wall, three in one group and four in the other. The appendix vermiformis was found in the neck of the sac with firm adhesions. This was ligated off with catgut, and the sac was dissected up completely with ovary and tube transfixed, the two tubes were ligated separately, and then combined. This method of treating the sac differed from my usual custom in the use of a larger-sized catgut, and in the firmer tying. This departure put my mind at rest when I discovered the very unusual arterial blood supply. The internal oblique and conjoined tendon were united to Poupart's ligament with five interrupted sutures, inserted with a full-curve Hagedorn needle. The aponeurosis of the external oblique was closed with a continuous suture. These sutures were of kangaroo tendon, kept in carbolized oil, and at the time of operation placed in a 1 : 1,000 sublimate solution in a tumbler, and used directly from the same. The skin incision was closed with a subcuticular suture of catgut, 0 size.

There was no vomiting from the anæsthetic. The highest pulse was 80; the temperature 99.2° F. on the second day. Since then the pulse has been from 68 to 72, and the temperature 98.6° F. The wound was inspected on the eighth day, and primary union was found to be complete.

This method would generally be styled Bassini's, but I wish to render tribute to whom tribute is due, and would call it the American operation as first devised by Dr. Henry O. Marcy.

A CASE OF HODGKIN'S DISEASE.

By J. N. STUDY, M.D.,

CAMBRIDGE CITY, IND.

This curious affection of the lymphatic glands and tissues, which has been known by a plurality of names, was well described by Hodgkin, a pathologist to Guy's Hospital, in 1832. Some of the older writers had given it the name of lymphatic cancer. It has been classed in the same category as cancer, the malignant nature of which it closely resembles, but pathology teaches us that it bears no relationship to either cancer or tuberculosis, and is treated of under the title of disease of the blood and ductless glands. The affection is simply a hyperplasia of the lymphatic glands. There is generally marked anæmia, and there may be an increase of the white blood corpuscles, and the character of the blood become that of a lymphatic leukæmia. The affection has a predilection for young adults between twenty and thirty years of age; next for persons between fifty and sixty years of age, and children are not infrequently subjects of this disease. Three-fourths of the recorded cases are said to have been in male subjects. As to the cause and origin of the disease we know nothing, and the affection sooner or later usually terminates in death, and the physician stands practically powerless to aid the sufferer. It is believed that the following case presents some features worthy of being recorded:

Ivan L——, male, aged six years and nine months, American, an intelligent child, well developed, and in rugged health. The father is living and there is an excellent family history; the mother is living, but in delicate health. One sister died from tuberculosis. The child was observed to have some difficulty in swallowing some varieties of food on January 15th of the present year, and at the same time a small lump, barely noticeable, was seen immediately below and posterior to the right ear; it was not painful and was freely movable. Both tonsils were much enlarged, and, to all appearance, the disease had begun in the tonsils. The child soon showed marked anæmia accompanied by a rapid pulse and occasional increase of temperature in afternoons of one or two degrees. These symptoms all persisted throughout the illness of the child. The tonsillar enlargement, which affected both tonsils, increased until the vault of the pharynx was well filled, the anterior pillars of the fauces being pushed forward and the uvula upward and forward. A small fissure only could be seen between the tonsils, but liquids and semisolid articles of diet were swallowed surprisingly well. The tonsils bled easily when a tongue depressor was forcibly drawn over their surfaces. Air was admitted almost wholly through the posterior nares, and sleeping was often interrupted by the most distressing and at times alarming symptoms. Upon the right side of the neck all of the cervical glands rapidly became involved, at first each was movable and of an elastic feel, but finally they coalesced, making an enormous mass extending upon the right side from the mastoid process down to and obscuring the clavicle.

The enlargement was sufficient to cause the head to be considerably turned to the left. The vertical diameter of this tumor measured eight inches; its transverse diameter seven inches. There was a glandular enlargement below and behind the left ear as large as a small lemon, freely movable, and elastic to the touch. The skin over these tumors had a healthy appearance. There was a glandular enlargement in the right axilla of considerable size, and the glands in either groin were perceptibly enlarged and movable. At no time was any pain complained of. The voice was of a nasal character and somewhat difficult to understand. At times marked drowsiness was present.

Physical examination at no time revealed any disease of the lungs. On April 26th, at 9:30 P.M., the child was sleeping, when his breathing became very bad; he awoke, and in an effort to get more air by going to the open door, as he had done before, he strangled and died in his mother's arms of asphyxia.

Eighteen hours after death the large mass of glandular tissue was dissected out. It was a mass extending down and adhering to the deep muscles and fasciæ. The large vessels and nerves were deeply incorporated into the glandular mass, which weighed one pound. This mass of glands on section was of a dark gray color, with numerous white fatty masses as large as peas scattered through it. When scraped a milky substance exuded from the surface. There were no caseous glands nor was there any suppuration.

A CASE OF PERNICIOUS ANÆMIA—HUNTER'S TREATMENT—AUTOPSY.[1]

By CHARLES E. NAMMACK, M.D.,

NEW YORK.

Patrick L——, forty-eight years old, steamship fireman, was admitted to Bellevue Hospital May 3, 1900. He stated that for four months past he had suffered from occasional attacks of vomiting, with gradually increasing weakness and loss of flesh and marked yellowness of the skin. Prior to this illness, he had not been confined to bed for thirty years. He is in the habit of sailing to southern ports. He has never drunk while on board ship, but would drink moderately while in port. He has never acquired venereal disease, but admits having taken many chances to do so.

On admission the pulse was 100, respiration 22, and rectal temperature 99.8° F. The patient was poorly nourished. The skin was a lemon-yellow color without variations on the cheeks and forehead. The subcutaneous layer of fat was not well preserved. There was no mucous or subcutaneous hemorrhage. The mucous membranes and nails were strikingly white, even by contrast with cases of cancer and scurvy present in the wards. The tongue was pale, smooth, and shiny. The skin had a soft velvety feel which contrasted well with the dry, harsh skins of neighboring cases of secondary anæmia. The gums were not fungoid and did not bleed on pressure. The teeth showed the appearances common to neglect, but were not carious. The man's expression was listless, and his breath was offensive. The pulse was small and regular. Arterial tension was moderate. Heart impulse and sounds were weak. There was a basic systolic murmur transmitted into the neck. No water-hammer pulse was discovered. Capillary pulsation was absent. There were neither symptoms nor physical signs of involvement of the peripheral nerves, spinal cord, or brain. Uranalysis was negative. An average of several blood counts showed: red cells, 560,000; white cells, 2,900; hæmoglobin, twenty per cent. (Fleischl). Study of the cells, as hereinafter mentioned, determined the clinical diagnosis of pernicious anæmia.

This patient presented a profound anæmia without adequate known cause, characterized by extreme diminution in the red cells and other changes in the blood, and by absence of marked emaciation. The blood changes were those characteristic of pernicious anæmia, namely: (1) Reduction of the red cells to less than 1,000,000; (2) absence of leucocytosis; (3) presence of nucleated red cells, of which a majority were megaloblasts; (4) presence of polychromatophilic red corpuscles; (5) increase in the average diameter of the red cells; (6) diminished absolute hæmoglobin but relative individual corpuscular richness in hæmoglobin. Before accepting this clinical diagnosis, gastric carcinoma, which closely counterfeits pernicious anæmia, was excluded by the absence of progressive emaciation; the presence of lemon-yellow instead of muddy skin; the absence of enlargement of the supraclavicular and inguinal glands; the absence of palpable signs of stomach affection; the negative results of chemical examination of the stomach contents after the Boas test meal; the absence of leucocytosis; and the presence of the essential diagnostic criterion, to wit, nucleated red cells, of which a minority were normoblasts and a majority megaloblasts.

Now that hæmatology plays so important a part in clinical medicine, cases of pernicious anæmia are not so rarely found. Cabot's list of cases has increased from sixty-six in 1897 to one hundred and ten to May 1, 1900. Its prognosis, however, still is said to be almost invariably fatal. Into this gloomy picture a ray of hope has recently been projected by the studies of Hunter.[1] According to Hunter, the disease is a toxæmia, resulting from special infection of the digestive tract, and treatment, to be successful, must be based upon antisepsis of that tract and the introduction of some serum which will counteract the infection. In the absence of more exact knowledge of any specific serum, W. Elder[2] reports a case treated in accordance with Hunter's idea by mouth washes, salol with salicylate of bismuth, and injections of antistreptococcic serum. The result was truly remarkable, the blood count becoming practically normal in forty-five days. But whether this result was due to the treatment, or was one of those spontaneous waves of improvement which are so marked a feature of the disease,[3] remains to be proved.

After this case had been reported as above, the patient failed rapidly, and died of exhaustion June 12th. Autopsy was made by Dr. Harlow Brooks, sixty hours after death. Dr. Brooks' report follows: The body is that of a well-developed man and moderately well nourished. The skin and mucous membranes are much blanched. The pupils are slightly dilated and the scleræ jaundiced. A depressed scar is seen over the right inginal canal. The musculature is fairly abundant and of light color. Axillary lymph nodes are enlarged. There are occasional bands of pleuritic adhesions in both pleural cavities, especially in the right. A few pleuro-pericardial adhesions exist. The pericardial sac holds about 50 c.c. of bright yellow fluid containing floccules of fibrin. The epicardium shows numerous old patches of epicarditis. The heart is enlarged and its walls are collapsed. The heart muscle is very soft and light in color. The valves are universally thickened. There is decided fatty infiltration. The coronary arteries are large and show slight arteriosclerosis, which is also noticed in

[1] Patient presented before the Section on Medicine, New York Academy of Medicine, May 15, 1900.

[1] Lancet, January 27, February 3, and February 10, 1900.

[2] Lancet, April 28, 1900.

[3] Shattuck and Cabot: "American System of Practical Medicine," vol. ii., p. 676.

the arch of the aorta. The heart weighs sixteen ounces. The tongue is moderately coated and a few small hemorrhages are seen near its posterior surface. The thyroid gland is small, light yellow in color. The peribronchial lymph nodes are enlarged and anthracotic. The pharynx and œsophagus are normal, except for marked anæmia. The lungs are extremely œdematous, the œdema being of a characteristic, greenish color. Marked anthracosis exists in the right upper lobe with extensive development of fibrosis.

The gall bladder shows, about its fundus, a considerable extravasation of bile. The liver is adherent to the diaphragm in many places, is moderately enlarged, and there is marked portal congestion. The hepatic lobules are marked out in light yellow from bile staining, and there is quite marked interstitial overgrowth. The liver weighs four pounds. The gall bladder contains 20 c.c. of mucoid, greenish bile.

The spleen is enlarged, light purple in color, with markings distinct, consistency soft, weight twelve ounces.

The lower portion of the ileum is attached to the sheath of the right psoas muscle. The mesentery is fairly rich in bright yellow fat, and the mesenteric nodes are enlarged. The small intestine has an anæmic mucous membrane, but is otherwise normal. The stomach is small, mucous membrane anæmic, rugæ are absent, with no ulceration, no new growth. The vermiform appendix is 6 cm. long, 2 cm. thick, and its tip is attached and adherent to the colon about 6 cm. above the caput. The wall of the appendix is enormously thickened and its lumen is obstructed by an overgrowth of connective tissue representing long-standing self-healed appendicitis, which probably ruptured into the colon. The pancreas is large, color light, tissue firm. The suprarenal bodies are small, with cortices stained light yellow, and the structure is apparently normal.

The kidneys are large, weight fifteen ounces, markings distinct and regular, the cortex is very thin, connective tissue markedly increased, consistence very firm. The upper portion of the left kidney shows anæmic infarction.

The skull cap is symmetrical and well formed, and shows a small amount of cancellous bone. The dura mater is anæmic, and incision liberates a considerable amount of deep-yellow serum. The brain is small, well formed, the convolutions are large and symmetrical, sulci deep, the pia is quite œdematous, the ventricles are normal. The cause of death is chronic idiopathic anæmia.

42 East Twenty-ninth Street.

PROTRACTED GESTATION IN AN OLD PRIMIPARA.

By J. BARAN, M.D.,

new york.

Mrs. L. W—— was born in September, 1854. She menstruated first at the age of twelve years, and very regularly thereafter every twenty-eight days. She was married in 1892, being then thirty-eight years old. She became pregnant about two years later, but miscarried at about two and one-half months. On June 11, 1899, she menstruated for the last time, and had symptoms of pregnancy at least one week before July 9th, at which time her menses should have reappeared. But, as expected, there was no show. She felt quickening on November 1st. According to calculation she should have been delivered about March 18th, but no sign of beginning labor existed even on April 19th, on which day, fearing the growth of the child to very large proportions, although the pelvis appeared ample, I decided to force labor and gave the patient a large dose of castor oil. I cannot believe that it was a coincidence, but after the oil acted labor pains developed. The first stage of labor lasted sixty hours, the second and third stages only a short time. The woman was delivered on April 22d, three hundred and fifteen days from the beginning of the last menstruation. How much longer she might have carried is, of course, only conjectural. The baby was large, bony, not fat; it had considerably elongated nails, but no unusual growth of hair. Dr. Lusk says: "Gestation protracted beyond the two hundred and eighty-fifth day is certainly of very rare occurrence." My patient went at least ten days over that time. Her age, almost forty-six years, is certainly also very unusual for a primipara.

A CASE OF TETANUS TREATED WITH ANTITOXIN.

By GEORGE M. CONVERSE, M.D.,

new york.

Martin T——, thirty-four year old, single, a gardener in Long Island, entered St. Francis Hospital, New York, on March 6, 1899, suffering from frozen fingers, pain all over the body, and inability to open the mouth. He had always been healthy, temperate, and denied any venereal history. The fingers of his right hand were frozen during the blizzard on February 9, 1899, and were dressed at a dispensary. He contined with his work. On the day of entrance, the last phalanges of the ring and little fingers were gangrenous and painful; the patient's face was flushed and covered with great beads of perspiration; the forehead was wrinkled and the eyelids were drooping, the general expression being that of the "risus sardonicus." He couid not separate the teeth more than 1 cm., at the same time the lower jaw was drawn backward so that the lower incisors were nearly 2 cm. posterior to the upper incisors. He could move his head from side to side but not antero-posteriorly. At intervals varying from fifteen minutes to an hour he had painful contractions in both legs, in the chest which felt as if it were squeezed in a vice, and in the masseters. From the day of entrance the man rapidly became worse; the tonic spasm spread to all the muscles of the back and legs until these were as rigid as those of a cadaver in rigor mortis. At varying intervals, mostly in the afternoon and night, this condition was exasperated by paroxysms of intensely painful clonic spasms. During these and until relieved by chloroform he would shout at the top of his voice. This cry, caused at first by intense pain, became somewhat automatic, so that frequently during the succeeding days, and in the absence of clonic spasms, he would begin to shout at the top of his voice during each expiration. Two days after admission, and while in this condition, the man consented to amputation of the diseased fingers. This was done by the house surgeon, Dr. G. H. Matthews, under general anæsthesia. Then followed a period of sixteen days during which the general rigidity persisted and clonic spasms occurred, with maximum frequency and intensity on the third, fourth, and fifth days, and again on the eighth day, when the pectorals and the muscles of the arms became involved and respiration was difficult for a day; from the eighth to the eighteenth day the symptoms gradually abated in intensity.

At various times, corresponding to maximum injections of antitoxin, the muscles would relax for a few hours so that the patient could bend his knees, lie on his side, and thus obtain a greatly needed rest.

Consciousness was intact most of the time. At the height of this period the patient exhibited a number of times what is called echolalia. On saying to

him "Hallo, Martin!" he would repeat with each expiration, "Hallo, hallo!" etc., during a minute or two.

There was at first constipation, followed later by involuntary evacuation of fæces and urine. The urine remained scanty, high-colored, filled with urates until the fifteenth or sixteenth day, when the perspiration diminished and the urine increased until it reached an amount of two and one-half litres per twenty-four hours.

On the 26th of March, or the twentieth day in the hospital, when the patient was quite well of the tetanus and had only a slight rigidity of the masseters, pain and rigidity began anew, but this time were limited to the right leg. A diagnosis of phlebitis was made, and it was only at the autopsy seventeen days later that it was seen that pyæmia had caused death. The treatment consisted of a few whiffs of chloroform during the paroxysms. Chloral and potassium bromide were also given the first days, but abandoned on account of the effect on the heart, the pulse becoming irregular and feeble.

Tetanus antitoxin was obtained from the bureau of the board of health in vials of 20 c.c., and, with antiseptic precautions, was injected deeply into the arms and thighs: 20 c.c. on the second day, 40 c.c. on the third, 80 c.c. on the fourth, and thereafter for six days, afterward gradually diminishing, to stop on the twelfth day. Altogether 720 c.c. was given.

The notes of the case kept from day to day show that the number of paroxysms of clonic spasms were less after the doses of 80 c.c. of antitoxin had been reached.

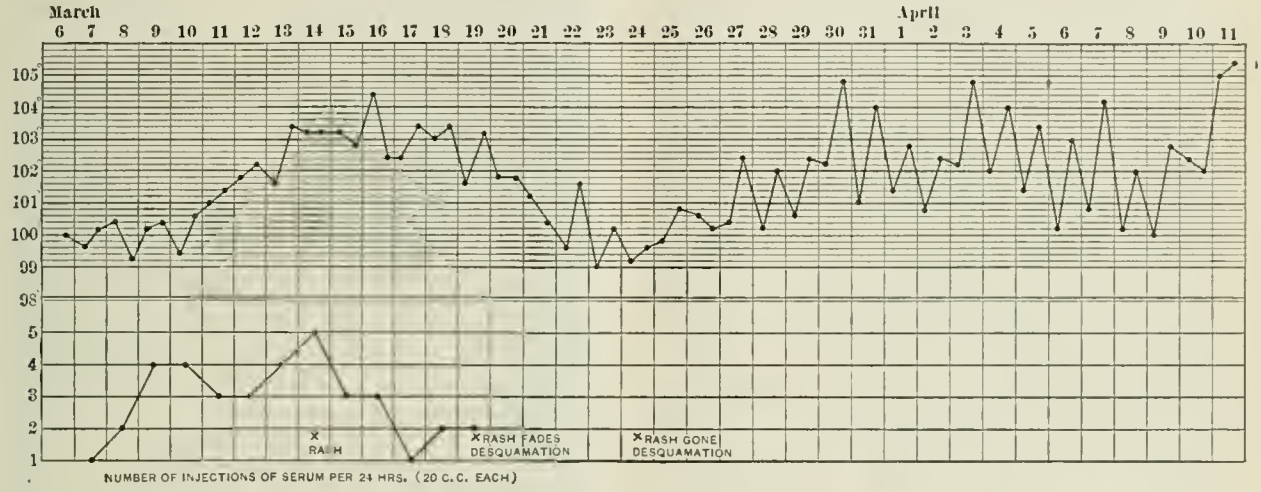
On the evening of March 13th, seven days after the first injection, and when 500 c.c. had been given, an eruption appeared about the points of injection on the arm; this spread rapidly and in twelve hours covered both arms, the back and legs, and the abdomen. At first pink, it became dark red, wine red; confluent on the back and arms; at other points it occurred as profusely scattered, hard papules also of deep red color. Five days later desquamation began, and in ten days the eruption had disappeared completely, having caused no other inconvenience than some itchy sensations.

The diet was milk, and the patient also drank an enormous quantity of water. The patient's death from pyæmia, after his recovery from tetanus, is ascribed to the use of a vial of serum that was not hermetically sealed, and that had been standing on a window-sill for several days during which the temperature rose above the freezing-point.

The amputated fingers were sent to Dr. Larkin at the College of Physicians and Surgeons. He excised small pieces and introduced these under the skin of two small guinea-pigs of 250 gm. in weight. The animals were carefully watched for three weeks, but the results were negative. The autopsy of these was also negative. Microscopical examination of the diseased fingers showed only granulation tissue and necrosis of the phalanges.

In conclusion I would say that this was not an acute case of tetanus; it was a severe subacute form, one in which the patient might have recovered without antitoxin; it is reported, however, because antitoxin was used.

330 West Fifty-seventh Street.



CRYING OF A CHILD IN UTERO.

By M. J. DAVIES, M.D.,
Utica, N. Y.

The history of the following case may be of considerable interest to my fellow-practitioners, especially to those who make a special study of obstetrics. To myself it has been unique, as I have not had such an experience before, and, in so far as I have been able to learn, none of my professional brethren in the city has met with a similar case.

Mrs. A——, aged twenty-four years, became pregnant for the third time about March 20, 1899. There were no exceptional symptoms during the succeeding nine months. At 2 A.M. on December 31, 1899, I was summoned, the message being that pains were very severe and coming on rapidly. Upon arriving at the house I found the patient as stated above, everything indicating a rapid delivery, but upon making an examination there was found a very rigid cervix with a dilatation of the os that would admit the index and middle fingers. Severe contraction continued. At 6 A.M. another examination was made. I found no progress toward dilatation. During the next hour the pains grew less severe and frequent, finally stopping at 7:30 A.M. Nothing more was heard of the case until about 9 P.M., when the same message was sent as before. I arrived at the house about 9:30, and found the patient in good spirits, though suffering intensely. An examination revealed the same conditions as during the morning hours. At 2 A.M. another examination was made. The os was found to be dilated about the size of a fifty-cent piece; the membranes were not ruptured, the presenting part being the head and in the right occipito-posterior position. At 6 A.M., January 1st, the contractions ceased as during the previous morning. The patient passed a very comfortable day. At 7 P.M. I called at the house and found my patient beginning to suffer, contractions being severe, and at intervals of about three minutes. The cervix was more flattened out, with the os slowly dilating. At 9:30 the os was

about three-fourths dilated. The patient began to show signs of weakening. Thinking that perchance if the membranes were ruptured, permitting the liquor amnii to escape, the head would become engaged in the superior strait, and a rapid delivery would be the result, this was done; but to my sorrow this result did not obtain.

As the pulse was showing signs of weakening, I concluded that it was time to interfere by the application of the forceps, the right hand being used to guide the left blade into position, which was easily accomplished, but when an attempt was made to introduce the right blade there were violent movements of the child, which made the sound of crying six or eight times that was heard by the patient, her husband, her mother, and myself. Never having experienced such a thing before, I was very much surprised. On withdrawing the forceps the little one again cried, the sounds being heard as distinctly as before. At the same time the patient exclaimed, "My baby is born, but why did you push it back, doctor?" The husband was sent for an assistant, that an anæsthetic might be administered and the woman delivered.

At the same time that the husband left the house I stepped into an adjoining room. While conversing with a friend of the family, I heard again the crying of the child; the sounds were so loud and distinct that I supposed a spontaneous delivery had taken place. Hastening to the bedside, the babe was still found to be in the uterus. The sounds made by the child the last time were very loud and long, there being at least from ten to fourteen sobs. Upon the arrival of an assistant I concluded that the most rapid method of delivery would be to perform version, having, as before mentioned, attempted to adjust the forceps and failed. As soon as the patient was anæsthetized version was performed, and a male child weighing seven and one-half pounds was delivered. Very slight pulsation was perceptible at the cord. Artificial respiration was performed, when soon the pleasing sound of crying was heard.

The child is now four and one-half months old, and doing nicely. The mother made a rapid convalescence, and within four weeks was doing her own housework.

Why the child cried before birth is a hard and difficult question to answer. Certainly it must have obtained air in some manner. At the time of first crying it is easy to theorize how air was obtained, with three fingers of the right hand in the vagina, and upon attempting to introduce the left blade of the forceps there existed a patent canal up to the os. The child being in the R. O. P. position the air readily reached the face; but without hand or forceps in the vagina it seems almost incredible that air could enter. It might be said that there was sufficient air that entered the first time to suffice for the crying later on.

ANEURISM OF THE ARCH OF THE AORTA.

By HUGHES DAYTON, M.D.,

NEW YORK.

The following case, which was observed at the New York Hospital during the term of service of Dr. A. Brayton Ball, is briefly reported in view of the peculiar physical signs due to interference with the circulatory system, and of the explanation of their etiology which was furnished by the autopsy. Only an imperfect history could be obtained from the patient, Vincenzo P——, an Italian, fifty years old, single, a barber, admitted to New York Hospital April 9, 1900. His family history presented nothing of significance. His past history was negative except malaria thirty years ago lasting three months, and three attacks of gonorrhœa. No history of syphilis or rheumatism could be obtained, and the patient had never suffered from dyspnœa, cough, bloody expectoration, or œdema of the extremities. He did not recall having been subjected to any sudden or protracted strain. He acknowledged the habitual consumption of one or two glasses of wine daily and occasionally a little beer. About two years before admission to the New York Hospital he began to have a persistent and troublesome cough with rather profuse muco-purulent sputum. The attacks of coughing were accompanied by palpitation of the heart and were sometimes followed by vomiting. There were no other gastric symptoms at any time. One year before admission the superficial veins of the abdomen and lower extremities became enlarged, and three months before those of the upper portion of the chest and upper extremities were similarly affected. The cough had continued without improvement, though the sputum had become scanty, and there had been constantly increasing dyspnœa. There had been no thoracic pain at any time, but some in the lumbar region at intervals for about five years. The appetite was fair; the bowels were irregular. The chief complaint was of the cough and oppression in the chest.

Physical examination, April 9, 1900: General appearance—rather poorly nourished, somewhat cyanotic, suffering from dyspnœa which was practically orthopnœa; tongue moist, fissured, heavily coated. The most noticeable feature was the great distention of all the superficial veins, which were also extremely tortuous, and the walls of which were much thickened. An excellent idea of this appearance is furnished by the accompanying illustration from a photograph by Dr. J. B. Solley, Jr. During the paroxysms of coughing the distention of the veins was much more marked, the superficial epigastric being three-eighths to one-half an inch in diameter.

Heart: There was visible pulsation of the whole anterior portion of the chest wall, which showed marked prominence, especially at the second left intercostal space near the sternum, where a mass with distinct expansile pulsation was felt. The apex beat was diffuse. The area of cardiac dulness extended to the right border of the sternum; above, to the third intercostal space. There was also an area of dulness between the clavicles and second ribs, extending to the right as far as the middle of the right clavicle, and to the left to within one inch of the left mammillary line. The aortic and pulmonic second sounds were accentuated. The heart sounds were obscured by violent respiration and coughing. There was no thrill; no murmurs were heard. Tracheal tug was obtained. The pulse was frequent, regular, small in proportion to the intensity of heart action, with good tension.

Lungs: Over the upper portion of the right chest behind breathing and whisper were rather amphoric: over the rest of the right chest posteriorly were sibilant and sonorous breathing and subcrepitant râles. Over the left chest behind down to the angle of the scapula the breathing approached an amphoric character; below the angle, it was diminished and high-pitched.

Abdomen: Slightly distended and tympanitic.

Liver and spleen: Normal.

Extremities: Normal except for cyanosis and dilatation of veins as stated above.

Course of disease: The rectal temperature rose, soon after admission, to 104° F., and subsequently varied between 100° and 102° F.; respirations, 24 to 36; pulse, 80 to 124. Urine: specific gravity 1.031, acid, orange, turbid, no sugar, albumin gm. ¼ to the litre; passed daily twenty-four to thirty-eight ounces; there were a few uric-acid crystals.

Dyspnœa continued severe and cough frequent and

troublesome. The patient slept only in the sitting position. On April 17th there was found from the angle of the left scapula down dulness increasing to flatness toward the base, with nearly absent fremitus, voice and breath sounds.

At 7:15 A.M. on April 18th the patient became cyanosed and covered with cold perspiration, and the pulse was very weak. He died at 7:40 A.M.

Treatment consisted merely in the administration of potassium iodide in doses of gr. xv. three times a day, and the alleviation of cough by appropriate remedies.

Autopsy by Dr. L. A. Conner, assistant pathologist, showed aneurism of ascending and transverse portions

of the arch of the aorta; obliteration of both innominate veins; ulcer of the stomach; secondary pneumonia.

Inspection: Poorly nourished, muscular; slight œdema of ankles; the superficial veins of both sides of the neck, chest, and especially of the abdomen are tortuous and greatly distended, some of them having the diameter of a lead pencil; slight prominence of second intercostal space on either side of sternum. The peritoneum and pericardium are normal. The diaphragm is at the fifth rib on the right side, and at the sixth intercostal space on the left.

Pleuræ: The left pleural cavity contains 600 c.c. of serous fluid.

The heart is displaced somewhat downward and to the left; the valves are competent; the muscle is light-colored and rather soft.

Aorta: The entire anterior mediastinum is occupied by an aneurismal mass which is firmly adherent to, and has partially eroded, the manubrium sterni. The sac also projects through the second intercostal space on either side of the sternum. For a distance of 3 cm. above the aortic valves the aorta has a diameter of about 3 cm.; beyond this it suddenly widens into a great sac 12 to 15 cm. in diameter. This sac is in some places lined with laminated clot, 1 to 2 cm. thick, and in other places is quite free from clot. The innominate artery is given off from the sac at about the middle of its upper surface; the left carotid artery, from its left wall. Immediately beyond this the aorta suddenly assumes its normal calibre, and just at this point the left subclavian is given off. The trachea and bronchi are apparently not greatly compressed, although firmly adherent to the aneurism.

Superior vena cava: This vessel runs up along the right wall of the aneurism, gradually diminishing in calibre until it becomes a small vein which communicates in a tortuous way with the right subclavian vein. Both innominate veins traced from above are lost and obliterated in the aneurismal wall.

Azygos veins: Both of these are much dilated and engorged, as are also the œsophageal veins.

Lungs: The lower lobe of the left lung is completely consolidated, of light reddish color, rather tough consistence, and shows scattered throughout many small yellowish or whitish areas which may be foci of suppuration. A similar condition exists in the middle lobe of the right lung. The bronchi contain much muco-purulent secretion. Microscopic examination shows the consolidated area to be a somewhat unusual type of broncho-pneumonia, in which foci of suppuration alternate with areas of consolidation chiefly fibrinous in character.

The kidneys show congestion and some evidences of chronic change.

The liver has a slight degree of chronic congestion.

The stomach shows in its lesser curvature 5 cm. from the pylorus a large old ulcer which has perforated but is shut off by adhesions from the general peritoneal cavity. There is chronic gastritis.

The other organs show only slight changes.

The obliteration of the right and left innominate veins obviously necessitated the return of all venous blood which they would naturally convey to the heart, with the possible exception of a small amount carried from the right subclavian vein by the narrow and tortuous remnant of the right innominate, by anastomotic branches connecting the innominate veins with branches of the inferior vena cava. This was effected chiefly by the intercostal branches of the internal mammary veins, which by anastomosis with the superficial epigastric veins established a communication through the saphenous openings with the femoral veins, and thus transmitted the blood from the upper extremities and head through the iliac veins and inferior vena cava to the heart. The presence of a large gastric ulcer which had perforated without giving symptoms sufficiently severe to be remembered by the patient is a feature of interest.

NEW YORK HOSPITAL.

DERMOGRAPHIA AND ANIDROSIS.

BY E. V. MOCK, M.D.,

CAMBRIDGE, ILL.,

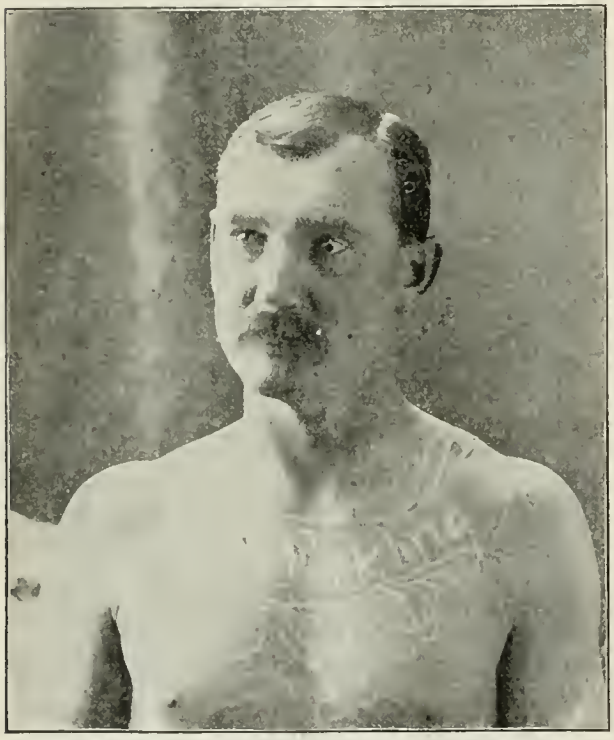
LATE SURGEON TO THE ALMS- AND WORKHOUSE HOSPITALS, BLACKWELL'S ISLAND, NEW YORK.

A CASE of peculiar interest having recently come under my observation, I present a photograph and short history of it.

William F——, thirty-five years old, born in the United States, of Irish parents, married, with healthy children, weighs one hundred and seventy-four pounds. The family history is good, the only disease being a slight eczema on the father's side in the latter years

of his life. The patient has never been ill since childhood, and is a muscular man as shown by the photograph. For a great many years it has been his custom to plunge into a pool of cold spring water in the summer, and this often while he was excessively hot from farm labor. About six years ago he noticed a diminution of perspiration, and in summer suffered unusually from the heat. About three years ago he noticed that a slight contusion of the skin, over the areas where perspiration was diminished, would produce a welt, and that the patches were enlarging; which they did until his entire body was in that condition. Objectively there is no perspiration of the skin of the entire body, but there are no other symptoms, and the patient suffers nothing but from his nonresistance to heat. The welts shown in the photograph are about one-half inch wide and one-fourth inch deep. They were produced by tracing on the skin with the blunt end of a wooden penholder and were photographed about ten minutes later. They remain distinct for about two hours, and at the end of three hours there is no trace of them.

On account of not perspiring and the resultant nonresistance to heat, the patient applied at the Presbyterian Hospital, Chicago, for treatment, and was admitted at the clinics of the Rush Medical College and other places, but no diagnosis was made.



AN ACRANIAL MONSTER.

By ALBERT S. PAYNE, M.D.,
MANISTEE, MICH.

On March 25, 1900, I was called to see Mrs. C——, aged forty years, multipara. She says she was never sick. She is the mother of four living children and has had nine miscarriages and abortions, one at two months, three months, five months, six months; two at seven months; two at eight months, and the one I was called to attend at seven and one-half months. I found an excessive amount of liquor amnii. The head presented, and the woman was delivered in three hours of a monster. The fœtus weighed four and one-half pounds, and was a female with sexual organs well developed. The entire body up to the neck was normal, except the spine. The posterior arches and spines

of the vertebræ were absent down to the sacrum. The defect was covered with a thin membrane for an inch on each side of the spinal cord in place of the skin, and at the edge of this membrane on the skin was a narrow fringe of hair an inch or more long, extending down to the ninth dorsal vertebra. The cord was only rudimentary and ran along under the membrane. The neck was absent, and the cord ran over the anterior part of the foramen magnum, all of the posterior part of the foramen and the occipital bone being absent, as were also the parietal and frontal bones.

The superciliary ridge and all that goes to make up the roof of the orbit were absent, the lesser wing of the sphenoid being the highest bony point. The ethmoid bone ran forward and connected it with the nasal bones. The palatine arch was cleft. No traces of the cerebrum, cerebellum, or medulla existed, although what appeared to be nerves ran across the bone where the foramen magnum should be, and over the bony tissue. The accompanying illustration is from a photograph showing the posterior aspect of the monster.

I could get no history of any previous illness of the mother, and she appeared to be the picture of health. She stated that she always had an excessive amount of fluid while carrying her children. She also stated that she felt life up to the morning when the fœtus was born.

Surgical Suggestions.

Ingrowing Nail.—Pack the side of the nail with cotton soaked in—

℞ Liq. potassæ ..... ℥ i.
Cocaine sol. (4 per cent.) ..... ℥ iij.

Apply plaster strips to draw the soft tissue away from the nail margin. Never cut the side of the nail.—*Medical Times.*

Sprained Ankle.—Apply very hot water followed by a rubber bandage.

Chronic Cervical Metritis.—

℞ Potass. iod.,
Potass. brom. ..... āā gr. xx.
Tr. iodi ..... ℥ ss.
Aquæ ..... ℥ ij.

Inject into the hyperplastic tissue by means of a long syringe.

Pruritus.—Electric souffle: The point of the electrode may be slowly passed over the affected region for twelve to fifteen minutes.—Monell.

Anæsthetic Hæmostatic Solution.—

℞ Gelatin. pur. 2.0
Sodii chloridi 0.7
Acidi carbol. cryst 0 1
Eucain. hydrochlor. B 0.7
Cocain. hydrochlor 0 3
Aquæ destill ..... ad 100.0
M. S. To be used as in the Schleich infiltration anæsthesia.

—Le Grand.

Hypodermic Cure of Hernia.—The fluids are as follows:

℞ Zinc sulphate ..... gr. xx.
Creosote (b. w.) ..... gtt. xv.
Hamamelis ..... ʒ iij.
Glycerin ..... ʒ iij.
Cocaine hydrochlorate (4 per cent. sol.) q.s. ad ʒ i.
M. S. Inject five to twenty minims.

℞ Zinc chloride ..... gr. xx.
Sodium chloride ..... ʒ i.
Cocaine hydrochlorate ..... gr. x.
Glycerin,
Aquæ dest. ..... āā q.s. ad ʒ i.
M. S. Inject four to forty minims.

If the patient is a male, invaginate the scrotum upon the index finger of the right hand, find the external ring; have him draw up his feet until his thighs form a right angle with his body, holding the knees closely together. Pass the finger now into the canal. If the sac has not followed the bowel into the peritoneal cavity, press it upward and outward. Locate the outer margin of the internal ring, and inject six to ten drops at the necessary depth. Apply a truss before the patient rises. Repeat in two days on opposite side of the ring, avoiding the epigastric artery and vein. Three days later repeat half-way down the canal on the side of Poupart's ligament. Further injections may be required.—W. N. Holmes, in *Eclectic Medical Journal.*

Simple Chronic Nasal Catarrh. — Hygiene: Cleanse with alkaline solution, and apply two or three times a week:

℞ Iodi ..... gr v.
Potass. iod ..... gr xv.
Glycerini ..... ʒ i.

Then apply as a protective:

℞ Menthol ..... gr. v.
Camphoræ ..... gr. xx.
Albolene ..... ʒ ij.

—E. B. Gleason.

Toothache.—

℞ Chloroform,
Linim. aconiti,
Tr. capsici ..... āā 30
Ol. caryophylli,
Camphoræ ..... āā 20
M. S. Apply a few drops on a pledget of cotton.

—*Bull. Gén. de Thér.*, June 23d.

Contusions.—

℞ Menthol 3
Collodion 27
M. S. Paint on once or twice a day, but not over joints.

Stings and Bites.—

℞ Ac. salicylic 1
Collod. elastic 10
M S. Apply at once to prevent inflammation.

Boils, Carbuncles, and Felons.—

℞ Ol. oliv. opt ..... ʒ xv.
Plumbi oxidi ..... ʒ iij. + ʒ vi.
Ol. lavandulæ ..... ʒ ij.

This is Hebra's diachylon ointment, which may be applied instead of employing the knife.—Bulkley.

Cholæmic Bleeding.—(1) A solution of gelatin increases the coagulability of healthy and pathological blood. (2) This occurs after local application and subcutaneous administration. (3) It is harmless if antiseptic precautions are carefully carried out. (4) It can be used in all cases of bleeding from the most various causes. (5) Its value as a prophylactic before operation can be established only after further experience. (6) For subcutaneous injection, a one- or two-per-cent. solution is best; for local application, a five- to ten-per-cent. solution at a temperature of 98° to 100 F. (7) It must be sterilized. (8) Heart and kidney disease contraindicate its use.—Kehr.

To Loosen Adhering Dressing pour on peroxide-of-hydrogen solution.

In Inoperable Uterine Cancer.—Make an opening into the rectum for the fetid discharges so that they are under the control of the sphincter ani.—Kuestner.

Styptic for Bleeding Gums.—

℞ Tr. krameriæ ..... ʒ i.
Chloroformi ..... ♏ viij.
Ac. tannic.,
Menthol ..... āā gr. iv.
Aq. destill ..... ʒ ij.

—Viau.

Bone Grafts.—Ricard's plan is preferable to the use of metallic substances. Bone is finally absorbed and replaced by firm fibrous tissue. Bone taken from an animal is better than that from the patient.—Berger.

Abortion, whether threatened, complete, or incomplete, requires artificial dilatation and emptying of the uterus whenever its cavity becomes the source of septic intoxication as indicated by rise in pulse and temperature and foul secretions.—Fothergill.

Gall Stones —Introduction of cannula, probing, withdrawing fluid from the gall bladder, and massage for getting rid of stones are dangerous practices compared with the good accomplished. Surgical operations present the only safe and radical cure.

Infected Wounds are best cleansed with a new hydrogen peroxide (thirty per cent. by weight) equivalent to one hundred per cent. by volume. A one-per-cent. solution may be used for irrigation and application on compresses.—Bruns.

Aneurism.—In nine cases injected with gelatin no patient was cured; only one was considerably improved, but pressure symptoms were generally relieved, and the treatment affords sufficient amelioration to make it deserving of further trial.—Futcher.

Cancer of Uterus.—Curettage. Divide the vagina on all sides an inch below the diseased area. Bring down the uterus and bisect it. Cut the most affected half in two horizontally at the cervical junction. Clamp the uterine artery and remove the quadrants, commencing with the upper, including ovary and tubes. —Kelly.

Anæsthesia.—In all combination of anæsthetics the patient is subjected to the bad effects of all. These admixtures, therefore, possess no advantages, since all the bad effects are exerted upon the heart or kidneys.—R. C. Kemp.

Divided Bowel in the course of operation is closed in the simplest manner by cutting across just beyond the clamp; the bowel being separated for from 2 to 3 cm. from its mesentery. A purse-string suture is inserted through the serous and muscular coats just above the clamp. The clamp being removed, the divided end of the bowel is pushed into the lumen while the circular suture is tightened and knotted.—*Centralbl. für Chirurg.*, May 19, 1900.

Medical Items.

Cheap Dwellings for Workingmen in France.—The *Revue des Revues* for April has a paper on cheap dwellings for workingmen, by M. de Novion. The question of the housing of laborers and cheap means of transit for them is of first importance in England and in France. Industrial building-societies have been formed not only in the suburbs of Paris but at Marseilles, Lyons, Bordeaux, and almost all the large centres of French industry. These societies have built near the towns groups of cottages surrounded by gardens, in which workmen may live cheaply and healthily.

Horse Sickness.—A possible method of prevention of horse sickness, which is endemic in the Orange River colony, Transvaal, Rhodesia, and Bechuanaland, and also occasionally in Cape Colony, is described in the *Cape Times* by Dr. G. C. Purvis. Fortified serum derived from immune horses almost invariably produces fatal hæmoglobinuria when injected into horses suffering from horse sickness. Dr. Purvis finds, however, that if the animal is gradually accustomed to the toxin until it can receive an injection of 100 c.c. or 200 c.c. of serum, virulent blood can be injected without any danger. It appears that fortified serum is a useful agent if used in the proper way, and that it is capable of preventing the onset of horse sickness. Moreover, if in spite of precautions an animal acquires the disease, judicious treatment with the serum will assist in bringing about a cure.

Saloons and Tuberculosis.—Dr. J. Wheatley, medical officer of health, Blackburn, England, in his annual report just issued states that no places, excluding the workrooms of some trades, are more favorable to the spread of tuberculosis than saloon parlors and other frequented rooms of saloons. This is not to be wondered at when one considers the filthy habits as to expectoration too common among those who frequent these places, and the neglect of cleanliness that often obtains with the people in charge of the lower class drinking-places. He urges most scrupulous cleanliness in the management of these places.—*Lancet.*

Ages of Immigrants to this Country of the Leading Nationalities.—It is an interesting fact that nineteen per cent. of the total number of immigrants who came to the United States from the principal countries of Europe during the twenty years closing with June 30, 1898, were under fifteen years of age; that 71.5 per cent were between fifteen and forty years of age, and that 9.5 per cent. were over forty years of age. Considered as to nationalities it appears that Germany has sent the largest percentage of children, as 24.2 per cent. of those who came from that country were under fifteen years of age. Next in proportional order are: Russia and Poland, 23.2 per cent.; Scotland, 21.5 per cent.; England, 21.1 per cent.; Austria, 18.3 per cent.; Norway and Sweden, 16.4 per cent.; Italy, 14.4 per cent.; Hungary, 12.1 per cent.; Ireland, 11.7 per cent. Ireland, Hungary, Norway, and Sweden have supplied during the period mentioned above the largest percentages of immigrants between the ages of fifteen and forty years, being 81.6, 79, and 76.5 per cent. respectively. The next highest proportionately is Italy with 72.1 per cent. Then follow Austria, with 72 per cent.; Russia and Poland, 68.9 per cent.; Scotland, 68.6 per cent.; England, 68.1 per cent.; Germany, 65.3 per cent. In the twenty years Italy has furnished the maximum percentage of the immigrants over forty years of age, or those who have passed the prime of life, this proportion being 13.5 per cent. The lowest proportion was in the immigration from Ireland, it being 6.7 per cent. England's proportion was 10.8 per cent.; Germany's, 10.5 per cent.; Scotland's, 9.9 per cent.; Austria's, 9.7 per cent.; Hungary's, 8.9 per cent; Russia and Poland's, 7.9 per cent.; Norway and Sweden's, 7.1 per cent.—*Bureau of Labor Statistics.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended July 26, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Cape Nome	June 20th to July 10th	5*	
District of Columbia, Washington	July 14th to 21st	1	
Indiana, Michigan City	July 14th to 21st	1	
Kansas, Wichita	July 14th to 21st	..	1
Kentucky, Covington	July 9th to 15th	3	
Louisiana, New Orleans	July 14th to 21st	8	2
Massachusetts, Fall River	July 14th to 21st	2	
Lowell	July 14th to 21st	2	
Minnesota, Minneapolis	June 30th to July 14th	23	
N. Hampshire, Manchester	July 14th to 21st	3	
Ohio, Cincinnati	July 6th to 20th	7	
Cleveland	July 14th to 21st	20	
Utah, Salt Lake City	July 14th to 21st	4	
* On vessels.			
Smallpox—Foreign.			
Austria, Prague	June 23d to 30th	10	
Brazil, Rio de Janeiro	May 19th to June 22d	..	18
China, Hong Kong	June 8th to 23d	1	
Egypt, Cairo	June 3d to 10th	..	5
England, Liverpool	June 30th to July 7th	3	2
London	June 30th to July 7th	17	
France, Lyons	June 23d to 30th	..	1
Paris	June 30th to July 7th	..	4
Gibraltar	July 1st to 8th	..	1
Greece, Athens	June 30th to July 7th	2	2
India, Bombay	June 12th to 26th	..	12
Karachi	June 10th to 24th	8	5
Mexico, Vera Cruz	July 7th to 14th	..	4
Russia, Moscow	June 16th to 23d	17	5
Odessa	June 23d to 30th	5	
St. Petersburg	June 23d to 30th	3	8
Warsaw	June 23d to 30th	..	7
Siberia, Vladivostock	May 1st to 31st	9	
Scotland, Glasgow	July 6th to 13th	68	2
Straits Settlements, Singapore	May 26th to June 16th	..	1
Yellow Fever.			
Brazil, Rio de Janeiro	May 18th to June 2d	..	34
Columbia, Cartagena	June 30th to July 7th	9	7
Panama	July 9th to 16th	3	1
Costa Rica, Port Limon	July 17th	1*	
Cuba, Cienfuegos	July 21st	1†	
Havana	July 4th to 11th	21	5
Sagua	July 5th	2	
Mexico, Vera Cruz	July 7th to 14th	..	4
* Suspicious case.	† Among soldiers.		
Cholera.			
India, Bombay	June 12th to 26th	..	179
Madras	June 2d to 22d	..	2
Japan, Osaka	June 23d to 30th	1	
Plague—Foreign and Insular.			
Arabia, Aden	June 23d to 30th	1	1
China, Hong Kong	June 2d to 23d	207	185
India, Bombay	June 12th to 26th	..	185
Karachi	June 10th to 17th	17	16
Japan, Osaka	June 19th to 30th	3	
Sakai	June 19th to 30th	1	
Shidzuoka Ken	June 19th to 30th	1	
Tamsui	June 1st to 14th	76	65
Korea, Seoul	June 8th to 16th	Endemic.	
Philippines, Manila	May 26th to June 7th	4	

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

ESSENTIALS OF MEDICAL AND CLINICAL CHEMISTRY. By Samuel E. Woody, M.D. 12mo, 243 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

THE REFRACTION OF THE EYE. By A. Edward Davis, M.D. 8vo, 413 pages. Illustrated. The Macmillan Company, New York.

REAL-ENCYCLOPÄDIE DER GESAMMTEN HEILKUNDE. 8vo, 665 pages. Illustrated. Volume xxiv. Urban & Schwarzenberg, Berlin.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY. 8vo, 275 pages. Illustrated. Twenty-second annual meeting at Columbus, Ohio.

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Original Articles.

AMERICAN MEDICINE.[1]

By A. JACOBI, M.D.,
NEW YORK.

IT is the purpose of this address to contribute to your knowledge of transatlantic medicine and medical men. That is why I have to ask the pardon of both my countrymen and all of you, but mainly that of the French gentlemen here assembled, for using (or, perhaps, misusing) a language not my own, but better known to most of you than mine.

The first advisers in cases of sickness, all over New England at least, were the clergymen. Indeed the first news we have of diphtheria in that region came from them. John Rogers and John Fisk are known to have been preachers and doctors. John Foster, of Boston, wrote the first medical treatise published in America in 1677 ("Rule to Guide the Common People of New England How to Treat . . . Smallpocks or Measels"). What might have been expected when real doctors took possession of the field occupied by the clergy did, however, not occur. For a long time the latter remained the staunch friend of the medical practitioner. The Rev. Cotton Mather in 1721 strongly favored the inoculation of smallpox, and defended and protected Dr. Boylston, who was persecuted by the mob of Boston for having a mortality of two per cent. among those inoculated compared with one of fourteen per cent. among those suffering from genuine smallpox. That is different now, when there is no trade or profession more fond of sectarian medicine and medical dilettanteism than the clergy.

The first physicians in the colonies came from abroad. Wooton in 1607, Russell in 1608, appear to have stayed but a short time, for it is reported that when John Smith was wounded he had to go to England to be treated. The name of Lamontagne is mentioned in 1637, John Clark, of Boston, in 1638, Child in 1644. There was but very little opportunity to learn in the seventeenth century. We know of no lectures except those of Dr. Giles Firmin, who lectured in Harvard in 1647 on human osteology. At that time medical practice was learned in apprenticeships; young men would serve and study with a practitioner from three to seven years, the same time that Jacob slaved for Rachel without getting her after all. This system of apprenticeship was continued with more or less modification until recently. Indeed, most medical schools would until lately accept the apprenticeship with a preceptor in lieu of a year's college course. But in those early times those who had the means. and the ambition of learning, went abroad to Leyden, Paris, Padua, or Great Britain.

Our first information in regard to medical lectures refers to those on anatomy. Evidently that subject struck the imagination of chroniclers most forcibly. Dr. Thomas Cadwallader instructed Philadelphia students between 1745 and 1751, so did Dr. John Bard and Peter Middleton in 1750 in New York, Dr. William Hunter in 1752 in Newport, R. I., and Dr. William Shippen in Philadelphia in 1762, until 1765, when the Medical College of Philadelphia was founded. He lectured on anatomy and midwifery, in agreement with the time which did not abhor the incompatibility of anatomy and obstetrics. Historical justice compels me to add right here that it was a professor of anatomy in Harvard University, our famous poet Dr. Oliver Wendell Holmes, who in 1843, long before the unhappy Semmelweis, proclaimed the contagiousness of puerperal fever and the incompatibility of the lying-in room and the dissection table. It was the same Shippen who tried to establish a school of midwifery. There were two medical schools established before the War of Independence, one in Philadelphia in 1765 and one in New York in 1768. The first degree conferred in medicine was that of bachelor of medicine in 1768; the first degrees of doctor in medicine were given in New York to S. Kissam and Robert Tucker in 1770. Before 1776, when the war suspended them, these two institutions conferred fifty-one degrees. The Medical School of Harvard was founded in 1782, Dartmouth, N.H., in 1797, and Lexington, Ky., in 1799. Thus in 1800 there were five medical schools in what then was the United States. In New York the names of the professors were Richard Bailey, John R. B. Rogers, Wright Post, William Hammersley, Samuel L. Mitchell, and David Hosack.[1]

The Medical School of King's College in New York (the name formerly carried by Columbia) was discontinued, but in 1860 the College of Physicians and Surgeons, which was founded in 1807 simultaneously with the School of Medicine of the University of Maryland, took its place as a nominal, a few years ago as an actual, part of Columbia University. Of the 156 medical schools which exist at the present time, 3 date from 1765 to 1800, 12 from 1801–1825, 22 between 1826 and 1850, 33 between 1857 and 1875, and 86 since. How many more have been so good as to disappear from the face of the American earth nobody cares to learn or to know; if we knew, we should shed no tears.

In 1899 there were 156 medical schools in the United States with 24,119 students; the latter have increased one hundred and forty-two per cent. in twenty-one years. Of the 156 schools 21 call themselves homœopathic, with 1,833 students, 7 eclectic with 582, 3 physio-medical with 85 students. I hope nobody will ask me for an explanation of the three last terms, in this year 1900; for I could not give one. Of the 156, 74 are departments of colleges and universities, 82 are separate institutions, and 152 grant degrees. In addition to these 156 there are 10 medical schools for graduates, who come to the larger cities, mostly New York, for the purpose of taking

[1] Abstract of an address delivered before the Thirteenth International Medical Congress, Paris, August 2–9, 1900.

[1] David Hosack graduated in Philadelphia in 1791, and afterward studied abroad. He brought home with him a cabinet of minerals, and a herbarium. He helped in founding the Historical Society of New York in 1804, and maintained the Elgin Botanical Gardens between Forty-seventh and Fifty-first streets, and Fifth and Sixth avenues, which now forms part of the valuable property of Columbia University (Sidney H. Carney, in the *Medical News*, February 17, 1900).

courses mostly in specialties. In 1899 these 10 schools had 1,916 students, of whom 75 were women.

Of the 10 graduate schools, 3 are in Illinois, 1 in Louisiana, 4 in New York, and 2 in Pennsylvania. Less than 2,000 physicians are taught in these institutions annually, most of them in short courses. They employ 300 professors and 3,811 adjuncts and instructors. There can be no doubt as to two effects: first, a good many practitioners of the country have a more or less brief opportunity to improve themselves; secondly, a good many practitioners of the large city bask in the sunshine of the professorial dignity. Sometimes it seems as if plain doctors were scarce at present. But there are some left.

At the time of the War of Independence there were probably 3,500 physicians among the three millions of inhabitants of the colonies. It is estimated that 400 had received medical degrees. In 1798 16 doctors of New York died of what was called the plague; there were 94 in New York in 1800.[1] At present we have probably 120,000 practitioners in the United States.

The ratio of physicians to population is less than 1 to 600 in our country, while in Great Britain it is 1 to 1,100, and in Russia 1 to 8,500. Proportionately we have four times as many physicians as France, five times as many as Germany, six times as many as Italy, and six times as many medical schools as either of these countries. Medical teaching, however, will be better, and more uniform, and more in accordance with the real requirements of the people, when our one hundred and fifty-six schools will have been reduced to twenty-five, and each of them will be connected with a university as its medical department.

The earliest law[2] relating exclusively to physicians was passed by Virginia in 1639, but like the later act of 1736 it was designed mainly to regulate their fees. The act of 1736 made concessions to physicians who held university degrees. In only two of the thirteen colonies were well-considered laws enacted to define the qualifications of physicians. The General Assembly of New York in 1760 decreed that no person should practise as physician or surgeon in the city of New York till examined in medicine and surgery and admitted by one of His Majesty's council, the judges of the supreme court, the king's attorney-general, and the mayor of the city of New York. Such candidates as were approved received certificates conferring the right to practise throughout the whole province. A similar act was passed by the General Assembly of New Jersey in 1772.

In 1840 laws had been enacted by the legislatures of nearly all the States to protect citizens from the imposition of quacks. Between 1840 and 1850, however, most of these laws were either repealed or not enforced, as a result of the cry that restrictions against unlicensed practitioners were designed only to create a monopoly.

The power to confer degrees differs in the various schools of the forty-five States composing the Union. Low standards in many professional schools[3] are due to a failure to subject the degree-conferring power to strict State supervision. In New York and Pennsylvania the laws now prevent an abuse of the power to confer degrees. A similar bill, strongly advocated by educators, was defeated in Illinois through the efforts of politicians and others in favor of low standards. In Ohio and Nebraska the statutes require only the nominal endowment of $5,000 for a degree-conferring institution. In other States and Territories, as a rule, any body of men may form an educational corporation with power to confer degrees, without any guaranty whatever that the privilege will not be abused; from all of which you infer that it is impossible to judge of the Union from a single State.

The power of every medical school to give the license to practise together with its degree of doctor in medicine, led to the furnishing of the country with low-grade practitioners. It is true that mainly in the Eastern States a few colleges gradually improved their methods of teaching and lengthened their curricula, but they were exceptions to the rules. On the other hand, some of the schools in our very New York opposed bitterly every attempt at progress. This progress is due, not to the schools themselves, but to the influence of the medical profession that forced the schools to improve their medical instruction. As early as 1837 in Philadelphia, and 1839 in the Medical Society of the State of New York, it was resolved that teaching and licensing should be separated. This movement resulted in a call for a convention of delegates from all medical schools and societies in the United States. This convention of 1846 led to the formation of the American Medical Association, and was the forerunner of many attempts at giving us better doctors and better schools. The Association of American Medical Colleges that was founded in 1890, the American Institute of Homœopathy of 1844, the National Confederation of Eclectic Medical Colleges of 1871, and the Southern Medical College Association of 1892 deserve credit for earnest efforts in that direction. The greatest difficulty is found, as I have said, in the different standards of the people of our vast territory. Indeed every century and every people has exactly the doctors it deserves, just as it has the rulers it deserves. That is why it is so difficult to arrive at a uniform standard all over the United States, and to arrange a reciprocity between the single States which would allow the doctor of one State to settle in another.

Instruction.—The course of instruction has undergone great changes. A few dozen years ago the so-called seven branches of medicine were taught in didactic lectures, repeated annually, to unprepared young men. There was no laboratory, and but little clinical work. At present the curriculum of all good schools extends over four years, and includes systematic and compulsory work in laboratories, chemical, pathological, histological, and bacteriological, and furnishes better clinical instruction, no longer exclusively to large classes with no means of independent examinations on the part of the student. Moreover, the studies are graded, progressive from year to year, and in many schools the students are examined from year to year

Forty or fifty years ago hardly any systematic clinical instruction was given in the best of our schools. Now, together with obligatory laboratory work, clinical teaching bids fair to assume the leading part in our instruction. But we are far from having European facilities. For what governments do for you, we, who have but very few endowed medical schools, have to rely on the efforts of the profession and the benevolence of those who appreciate the good that is done to mankind by medicine and the medical profession. Until a few years ago all sorts of educational institutions were benefited by philanthropists to the exclusion of medicine. Some change has taken place in that. From 1894 to 1898 the most notable gifts and bequests amounted to $2,631,000 for medical schools and $16,593,701 for hospitals. The new medical school, situated in New York, of Cornell Univer-

[1] Dr. Sidney H. Carney tells us that about that time the gold-headed cane was still pretty universal, but small clothes disappeared rapidly and pantaloons took their place. He also tells us something of their pay. In Bellevue Hospital the attendants on plague cases received 20 shillings daily; at that time the hospital was three miles out of town. A visit among the people cost $1, a visit and dose of medicine $1.25, pills 12 cents; for going a mile out of town $1 extra was charged, to Brooklyn $3, to Staten Island $10. A venesection was paid with $1 to $5.

[2] Henry L. Taylor (under direction of James Russell Parsons), "Professional Education in the United States," p. 362.

[3] "Professional Education," by James Russell Parsons, Jr.

sity, has been presented with $1,500,000 by a single benefactor. In the city of New York alone the names of Vanderbilt, Sloane, Carnegie, Ottendorfer, Woerishoffer, Seth Low, Payne, and Pierrepont Morgan are not the only ones that should be mentioned and never forgotten. This, however, is not all. Only two years ago an unknown benefactor presented Columbia University with a fund wherewith to establish a ward in Roosevelt Hospital for the bedside instruction in the diseases of children, for the medical students.

Benevolence is even more special than this. Mrs. Caroline Brewer Croft left $100,000, which, however, were reduced by the English heirloom tax, to Harvard University on the condition that the income thereof should be spent on researches on the etiology and cure of cancer; the same purpose for which the legislature of the State of New York has, for some years past, spent a large sum annually to be used by Roswell Park of the University of Buffalo. Special hospitals are either endowed or benefited in a similar manner. The cancer hospital of New York was established, or strengthened, by money given by Mrs. Collum and Mrs. Astor many years ago.

Teaching.—Who were the teachers? In by-gone times a few, mostly seven, practitioners would combine to form a school; legislative approval could be had for the asking; they were our "professors." That position gave them prominence in public and increased their private practice; that is why the salaries, if there were any connected with their places, were commensurate with their possibilities to make money outside. Now and then the anatomist got more because his office took more of his time. Thus it happened that medical teaching was considered subordinate to other occupations even in good schools. There are but few men of those times who are remembered because they were teachers; my old friend Alonzo Clark, one of the most learned, intelligent, and eloquent professors the College of Physicians and Surgeons ever had, was almost forgotten before he died, not twenty years ago, and Austin Flint is better remembered by his text-book than by his personal teaching.

The systematic study of pathological anatomy and other so-called exact branches of medicine, histology, bacteriology, etc., is comparatively young. After all they are young all over the world. Fifty-two years ago, when in Germany and wanting to learn something about pathological anatomy, I had to go to Göttingen to listen to Frerichs, the only man who taught it in Germany besides Virchow in Wurzburg, and Rokitansky in Vienna (then belonging to Germany). These studies began in our America at a very opportune time. T. Mitchell Prudden and William H. Welch had each a small pathological laboratory in New York in connection with the medical schools to which they belonged more than twenty years ago, but the systematic study and teaching commenced with the first development of the ideal of a university. This ideal was first realized by the Johns Hopkins University, at Baltimore. From that time on remarkable changes took place in the configuration of most of our medical schools. Pathological anatomy became of fundamental importance; full professorships of that branch were established in most great schools, and, moreover, dozens of laboratories both for teaching and for research. Besides, many of the hospitals were supplied with pathological and clinical laboratories which vie with those of Europe, assistantships and fellowships were increased, and the students were taught to appreciate the new opportunities given and demanded by modern medicine. As far as T. Mitchell Prudden in New York is concerned, the volumes of publications emanating from the beautiful laboratory of the College of Physicians and Surgeons prove his enthusiasm and successes; and never was there a more influential teacher than Welch, who in two brief decades succeeded in disseminating exact research all over the States through his students and followers, who have been called, one by one, to Philadelphia, Chicago, Albany, or Boston. Dozens of them combined lately to celebrate on the 4th of May, 1900, the twenty-fifth anniversary of his graduation as doctor in medicine by a precious volume containing original contributions of the very highest order, an honor to the famous master and an ornament of medical literature. There are in our recent American literature two more such dedicatory volumes of similar import, one containing anatomical papers contributed by his pupils in honor of Professor Wilder, of Cornell University, in 1893, the other mostly clinical, written both by pupils and by American and European colleagues in favor of a New York teacher. In the face of such results, and such enthusiasm, and such love of work, who is there that looks still down on American medicine and American medical men? I am not given to vanity, but proud—that is what I am.

Literature.—According to E. H. Bradford,[1] while the best physicians of the colonies and the young States acquired their knowledge in Great Britain, their books were English. No books grow on the stumps of the forest primeval. When the War of Independence began in 1774, there were 1 book, 3 reprints, and 20 pamphlets by American medical men. To-day there are 7,000 American books and reprints and a countless number of pamphlets; there are annually 300 books and pamphlets and 5,000 journal articles. In one year, 1879–1880, the United States published 10,334, Great Britain 7,476 books and articles. In the catalogue of Harvard University of 1875–76 44 foreign and 13 American medical books were recommended to the students; among the latter there was none on medical chemistry, obstetrics, and surgery; in the catalogue for 1898–99 there are recommended 71 foreign and American books.

The first regular publication of a journal dates from 1790. It carries the following title: *A Journal of the Practice of Medicine and Surgery and Pharmacy in the Military Hospitals of France*, and contains absolutely nothing but translations. For another half-century France was, together with Great Britain, almost the exclusive fountain from which the thirst of American medical men was quenched. The first original journal was *The Medical Repository*, which existed from 1797 to 1824. Not long afterward the first quarterly, then monthly, *American Journal of the Medical Sciences* was founded by Dr. Isaac Hays. These seventy years it has preserved its reputation for its scientific spirit, industry, and conscientiousness. Much that was new, much that is new may be found in its volumes.

Of the large number of quarterlies, or monthlies, I may be permitted to mention the *University Medical Monthly*, of Philadelphia, the *Albany Medical Journal*, of Albany, the *Post-Graduate*, of New York, and the *Therapeutical Gazette*, of Philadelphia, not to speak of special journals, such as the *Annals of Surgery*, the *Archives of Pediatrics*, the *Journal of Obstetrics and the Diseases of Women and Children*, the *Archives of Ophthalmology and Otology*, the *Journal of Cutaneous and Genito-Urinary Diseases*, the *Journal of Nervous and Mental Disease*, and many others, some of which are now and then quoted in Europe, all of which deserve more attention than they have hitherto commanded.

There are, in every nation, some publications which in their individual spheres demonstrate the very best that can be accomplished, and by which the intellect and industry of a people should be measured. Such proofs of the achievements in medicine in America are

[1] Boston Medical and Surgical Journal, June 29, 1899.

contained in the *American Journal of Experimental Medicine*, edited by Welch, and the *American Journal of Physiology*, edited by Bowditch and others. They are the prides of those of us who have lived through the most important period of the development of American medicine, and equal any of the European productions of similar claims. I know they have met with the unstinted praise and applause of European masters.

As an unavoidable contrast to so much excellence, one cannot help noticing the hundreds of medical journals which appear all over the States. Many are printed with honest intentions, others for the purpose of advertising their editors or of puffing proprietary articles. The growing commercialism of the end of the century grasps every opportunity, and medical, like every other, literature is prostituted in the interest of social, professional, or financial egotism. That is why the three hundred medical or alleged medical journals of the United States could well be reduced to fifty. If that were done, both medical knowledge and ethics and the independence of medical journalism would be served to better advantage. Under the present circumstances the medical publications live more on advertisements than on subscribers; and both the publisher and the editor soothe their ethical and scientific conscience, if it ever existed, with the glitter of gold. I have been told, and have read, mainly in the medical magazines both of France and of Germany, that the same occurs in your countries. I speak, however, of what I know, and I am best informed of what is going on in mine.

Among the most important instructors of the medical profession in our country are the great weekly journals which appear mostly in the large cities, New York, Philadelphia, Boston, and Chicago. Most of them have a large number of subscribers and have existed long. The *Boston Medical and Surgical Journal* has reached its one hundred and forty-second, the *New York Medical Journal* its seventy-first, the *Medical News* its seventy-sixth, the MEDICAL RECORD its fifty-seventh volume. The *Journal of the American Medical Association*, which has appeared these eighteen years, takes the same place in relation to the American Medical Association that is occupied by the *British Medical Journal* in relation to the British Medical Association. It was founded to publish the proceedings of the Association, which from 1848 to 1882 had published thirty-three volumes. The *Philadelphia Medical Journal* was founded by a society of medical men desiring to be independent of the medical publishers.

Contributions to the literature of medicine, not of equal rank, are furnished by the large societies, particularly of the States. Many of them publish annual reports. The American Medical Association published thirty-three volumes before its transactions were collected in its journal. The New York Academy of Medicine has furnished nineteen volumes since 1847, which are found in many libraries of Europe; the College of Physicians of Philadelphia twenty-nine since 1787. The very best, certainly among the best, are the productions of fourteen special national associations which were founded at a period in the life of the American Medical Association when its results did not satisfy the expectations of those who had no time to spare for entertainments, excursions, medico-political wrangling, and other pastimes. These men, most of them of a specialistic turn of mind, and bent upon filling their time with work, congregated into special associations whose members were recruited from the vast territory of the United States. The oldest of these seceding associations is the Ophthalmological, which was founded in 1864. The majority have a limited membership. The Association of American Physicians had originally one hundred, now one hundred and twenty-five; the Pediatric Society forty, now sixty members. The object was to select the working members of the profession only. Thus it has happened that their contributions to literature are very valuable indeed.

The Ophthalmological Association has published until the beginning of this year eight volumes since 1864, the Otological six since 1868, the Neurological twenty-two since 1875, the Gynæcological twenty-three since 1879, the Surgical sixteen since 1881, the Climatological fourteen since 1886, the Association of American Physicians thirteen since 1886, the Orthopædic eleven since 1889, the Pediatric ten since 1889, the Anatomical eight since 1888. The Association of Genito-Urinary Surgeons and the Dermatological Association publish their transactions in the *Journal of Cutaneous and Genito-Urinary Diseases*, the Physiological in the *American Journal of Physiology*.

In addition to these there are volumes of unusual excellence containing the proceedings of the "American Congress of Physicians and Surgeons." The history of this Congress is creditable to Mastin, Pepper, Weir Mitchell, and others who founded it. It is as follows: When all of those fourteen special national associations had existed more or less long, and when among the most comprehensive and philosophical minds of the nation the fear of unchecked specialism became more terrifying, it was resolved, among universal applause, that the "*disjecta membra*" should unite once every three years into a congress whose meetings were to be held in Washington, while the selection of the time and place of the two intervening annual meetings of the individual societies was left to their own discretion. In this way the union and unity of medicine were recognized and re-established.

Books are numerous and of about the same nature as in Europe. Text-books for students on all possible subjects, some of them masterpieces, some indifferent, some catechisms which, with their questions and answers, appear to be compounded by idiots for the use of idiots—"que c'est un plaisir de se voir imprimé," says Molière—they all appear to find a market. It is perhaps invidious to select, but I may here say in a general way that some of our text-books in medicine, obstetrics, materia medica, diagnosis, embryology, and many other branches compare favorably with yours. Monographs we have not so many as you; probably for the reason that the number and the variety of our many weekly and monthly journals devour whatever monographic essays have been prepared. Cyclopædias we have like you. It is very fortunate that the publishers, who mostly were the first to give the idea, had no power over their contents. Those edited by Pepper, Keating, Loomis and Thompson, Mann, and Stedman deserve as high praise as those published in Europe. A pleasant feature in medical bookmaking is the occasional participation of the Congress of the United States. Indeed, nearly every State of the Union publishes frequently, at the expense of the people, papers and books of common interest, mostly geological, geographical, and agricultural. Medicine owes to the appropriations of the National Congress, not always given with equal liberality, six volumes of the "Medical and Surgical History of the War," two of "Medical Statistics," seventeen of the "Subject Catalogue" of the surgeon-general's library with its continuations, and the library itself. The "Index Medicus" was not a government publication; at first printed by an ambitious and enthusiastic publisher, it was afterward secured by a small number of subscribers willing to pay a big price. Its final collapse, after twenty years' strenuous labor on the part of Drs. Billings and Fletcher, is not a creditable leaf in the history book of the profession of the United States.

There is, I believe, no country with a greater consumption of journals and books than the United

States. There is probably no village doctor anywhere that has not a library, buys a book or cyclopædia from time to time, and takes one or more journals. What Colonel Stoffel called thirty years ago the instinct of labor in the German government employee, is applicable in some other way to the American medical student and practitioner. They waste no time, are industrious workers and voracious readers.

Medical libraries were founded at an early time. The oldest is that of the Pennsylvania Hospital in Philadelphia; it began in 1762. The library of the New York Hospital was founded in 1776 and transferred to the New York Academy of Medicine two years ago; it then had twenty-three thousand numbers. That of the College of Physicians in Philadelphia, established in 1788, has about fifty-six thousand numbers; that of Boston about thirty thousand. The largest medical library of our, perhaps of any, country is that of Washington, in charge of the surgeon-general of the army; it contains more than one hundred thousand numbers, well selected and in excellent order, accessible to the medical men of the vast country, who I know avail themselves eagerly of the proffered opportunities. It was founded by William A. Hammond during our Civil War, continued and extended by John S. Billings, and is at present in charge of Dr. Huntington. Next in order is that of the New York Academy of Medicine, with about sixty thousand, with duplicates included eighty thousand, volumes. It increases rapidly, partly through purchases out of the income of its library fund of $56,000, partly through donations, and partly through the accumulations of seven hundred medical journals on the shelves of its reading-rooms. Our brethren of the Kings County Medical Society in Brooklyn have just finished a new building in which their rising library has been stored. Smaller medical libraries have been established in at least thirty cities, as far as I know. Large libraries are also in possession of private physicians. A year ago Dr. N. Senn, of Chicago, presented his collection of thirty thousand books to the Rush Medical College. I have knowledge of one library in the possession of a New York physician, of about fifteen thousand volumes.

Ethics.—The ethical conscience of the physicians of the United States is exhibited in a great many ways. It is considered unethical for a doctor to own a drug store or a part of it; ever to take a patent on any invention of his own; ever to recommend over his name a patented instrument, a proprietary food, or medicine, or mineral water. That is illustrated by what happened to the famous Morton after his successful demonstration of the anæsthetic effect of ether in the Massachusetts Hospital. After having extracted a tooth on September 30, 1846, without giving the patient any pain, he applied immediately for patent rights and sold individual office rights. Moreover, he kept his composition, which he called "letheon," a secret. It was then that the profession turned against him and forced him to admit that his "letheon" was sulphuric ether disguised by some aromatic oil. A medical man in America is forbidden ever to advertise his name, or office hours, or his specialty in a newspaper or lay magazine; ever to announce his specialty, if any he have, on his cards. If reports of cases or operations of the same physician appear repeatedly in the public press, it is taken for granted that it has not been without his knowledge, consent, or prompting. All of these things impair a medical man's professional standing; they render him an improper candidate if ever he applies for membership in a medical society, or make him, if he be a member, the subject of discipline.

Many of the rules accepted by American medical men are contained in a book compiled by an Englishman, Percival, in 1807. It was received as the code of ethics of the American Medical Association in 1847, and is still obeyed by those who know the book or who do not know it, or even by those who never knew of its existence. One of the regulations of the code forbids consultations with homœopaths.

It is hardly necessary to say to those of you for whom the practice of medicine is not only diagnosis and autopsy, but the treatment and cure of the patient in whose behalf a consultation is to be held, that when medicinal treatment is in question you cannot agree with a homœopath who is a Hahnemannian; and you do not want to meet a homœopath who, because the name is still fashionable and for a portion of the misinformed public the subject of an almost religious fanaticism, employs that title for meretricious purposes. Still there are cases in which it would be inhuman to refuse a consultation. Not only were such consultations held from olden times, but even in large cities exceptions to the rule have always been frequent, indeed too frequent in my opinion. Moreover, whoever is acquainted with smaller cities and villages, where a homœopath is the only rival or companion of the regular physician, knows that for either it would be suicidal to refuse a consultation. Only lately one of the medical men most widely known for his wisdom, in the American Medical Association and the profession at large, Dr. S. C. Busey, of Washington, proclaimed that the rule forbidding such consultations should be so modified or explained as to permit them in cases of emergency. This is exactly what the Medical Society of the State of New York made its official policy in 1882. We considered it more honest to admit by law what was constantly being done, and to decree precisely that for reasons of humanity and in an urgent case a consultation should not be refused. For this sin we, the body of the Medical Society of New York, were expelled from the American Medical Association.

It would not be proper to dismiss the subject of the position of medical men without referring to them as sanitarians. It is to be taken for granted that all family physicians are sanitarians in the families they have charge of. In their societies public hygiene is frequently the subject of discussion. Practical work in that direction is evidenced by the Sanitary Commission of the Civil War, the effective labors of the New York Academy of Medicine in the reconstruction of the quarantine islands in the harbor of New York, and its defensive work at cholera times; the—it is true, futile—efforts of all the large societies of the country in favor of the re-establishment of the National Board of Health, which perished because a shortsighted Congress refused the required appropriation; and the intelligent activity, under the direction of medical men, of our municipal boards of health. It is true they are hampered by the greed of politicians. Imagine that in New York the president of the board of health must not be a physician! Whether that is more sad or more ludicrous does not matter. The only consolation the citizens of a republic have, when they contemplate such an anachronism, is that they have nobody to blame for it and have nobody to correct it but themselves.

But I do not wish you to believe that we American doctors are altogether angelic. Wings have not grown from our scapulæ yet. We are not such good citizens as you may believe from what I had to praise. Indeed, there is no class of citizens that take less interest in municipal and political, other than sanitary, affairs than doctors. It is true, their vocation takes all their time and is exhausting; but the examples of European parliaments, in which good medical men are representing the people, should not be lost on us. With us, however, most of the medical men in State

legislatures are not the best representatives of the profession from which they claim they came, and whenever there is a medical man in the Congress of the United States, you would not know he was one unless you were told. There is at present a senator of the United States—think of Rome and of Æmilius Paulus and of Cato, think of France and Arago and Nélaton, of Germany and of Virchow—who calls himself a homœopathic physician—no; a homœopathic doctor—and is the staunchest adversary of the medical profession and the solidest champion of the anti-vivisectionists.

Societies.—In democratic communities the free will of the collective individuals takes the place of government dicta. In place of orders coming from above, rules are obeyed that are universally agreed upon by co-operating individuals. That explains the early formation of medical societies in our thinly settled country. Two were formed during Colonial times, viz., the Medical Society of the State of New Jersey in 1766, of Delaware in 1776; in 1876 there was only one State in the whole Union that did not have a State medical society. Affiliated with the State Medical society, and sending delegates to it, there are societies in many of the thirty to sixty or more counties of a State. The State societies hold mostly annual meetings, the county societies monthly or quarterly, according to their membership, isolation, and distances. All of these societies are represented in the American Medical Association, which was formed in 1847, with the exception of the Medical Society of our great State of New York, which has been deprived of its membership since 1882 for a reason to which I have referred.

I should state here that the homœopathic and the eclectic practitioners of the States are legally recognized as separate bodies like ourselves, and are similarly organized. It should also be known that there is a certain relation, legally established, between most of the State medical societies and the legislatures of their States. This legal position is not, however, possessed by the American Medical Association. Yet the voice of that body, powerful through its numbers and the character of its membership, is frequently raised in connection with public questions. So is that of other large societies. The New York Academy of Medicine, for instance, has often been the adviser and co-operator of the official bodies of New York City and State, though originally it was not meant to exercise any such influence. Other societies which in large cities are formed for special scientific purposes have no such influence or activity, and do not claim it.

The number of medical societies in large cities has probably become too large. There are many practitioners who are members in many more than one society. Besides the legalized society of the county—I now speak of New York City—having about fifteen hundred members, there is the "Association of the County," with about eight hundred, and a third one lately formed, viz., the Society of Greater New York. If our brethren would only remember that there is more strength in forceful consolidation than in fanciful expansion or multiplicity! but then it is not always strength and harmony that some men are after, but egotistic self-assertion and envy of the success of others. Besides, we have many societies limited to certain neighborhoods on account of the great distances, and special societies such as the pathological, neurological, ophthalmological, dermatological, obstetrical; also a large and active German Medical Society; and last, but by no means least, the New York Academy of Medicine, which I mentioned before. Let me say a few words about it, for it illustrates some of the differences between America and Europe.

When our New York Academy of Medicine was founded in 1847, it was well understood that it was to differ materially from what is called an Academy of Medicine in Europe. The latter is always a government institution, and in some way or other supported by centralized national means or accumulated funds. Its members comprises the intellectual and sometimes the social heads of the profession only. Young faces are but seldom seen among its fellows. Membership is, as a rule, obtained after a long life of successful scientific pursuits only. Their labors and efforts are not always intended for immediately practical aims or objects, but they become beneficent by the action of that logical force which ordains that there is no scientific result, no truth ever so abstruse, that will not finally terminate in some tangible application. Though all this be true, the limitation and exclusiveness of membership result in a sort of aristocratic estrangement from the masses of the medical profession, and still more from the community at large.

The New York Academy of Medicine has a broader democratic basis. The high and the lowly, the old and comparatively young, the mature and the youthfully ambitious combined for the same purpose. The Academy is not connected with any school or college. It is self-supporting, and carried on in the interest of the whole profession, whether members or not. There are no fees or emoluments of a private or individual nature. It is a democratic community, with equal duties and rights. It is not subsidized by the State or municipal corporation. Its aims are the elevation of the profession to a higher scientific standard for increased public usefulness. Having been a member these forty-three years, I have known it when it was small, and have followed its growth with grateful and hopeful eyes until it was established in its present palace, with its ever-increasing public medical library, second in size and importance in the country; its absence from medico-political fights about the advisability or superfluousness of a written code of ethics; its impartial and non-political interest and co-operation in all public sanitary questions; with its labors in matters of quarantine, cholera, and watershed; with its generosity to members and non-members alike; with its rooms taken up by many large and small special societies so as to form the medical head-centre of the metropolis; and with its ten sections in constant working order. These have given the young and deserving men, during more than a dozen years, the opportunity for legitimate competition, for obtaining a hearing and making their reputations, which are due—next to themselves and their honest work—to the New York Academy of Medicine. Ask me, ladies and gentlemen, for a medical institution, democratic, enlightened, independent, generous, and progressive, the daughter of a country free, independent, progressive, —and I shall give you the name of the New York Academy of Medicine.

Some Facts on Men and Institutions.—During the time of the War of Independence there lived Bard, whose papers on diphtheria are to-day examples of good observation and elegant diction, and Rush, one of the signers of the Declaration of Independence, a fertile writer and famous teacher; a little later Dunglison the lexicographer, Drake, the author of the "Diseases of the Mississippi Valley," and Mitchell; then men like Wormley, whose "Microchemistry of Poisons" appeared in 1867. Contemporaneously there were Bigelow, the inventor of litholapaxy, and Oliver Wendell Holmes, who wrote on the contagiousness of puerperal fever in 1843; then came Harry P. Bowditch, Meigs, Clark, Flint, I. W. Draper, and Beard. Remember, I speak of the dead, of some of the dead only. Of modern times I shall mention no names: but the many studies on malaria, amœbæ, blood, and diagnosis in general, commend themselves to the studious expert.

The literature of these few generations is very fertile; even smaller men did meritorious work. In 1835 it was Fisher, of Boston, who discovered the fontanelle murmur, and in 1832 it was a country doctor in Canandaigua that gave the first plausible explanation of the crepitant râles of incipient pneumonia. What should always be remembered is this, that all the men I mentioned were engaged in the practical work of their profession; and that some of them had enjoyed no other instruction than what the insufficient schools of the country could furnish.

Thus it appears that no faulty system of teaching, no defectiveness of schools, hamper a man whose stimulus is necessity from within, and an ideal. Sometimes this alone is sufficient for unusual results. Think of Marion Sims, and, in spite of his insufficiency as a pathologist, of the impetus his genius gave to gynæcology.

But this is not what is best known in Europe about us. What we are principally credited with is the introduction of anæsthesia into practice.

Dr. Long, of Jefferson, in the State of Georgia, removed a tumor under ether. But it was a dentist, William Jennings Morton, who successfully gave ether to a patient on whom Dr. J. Collins Warren operated for a tumor, in the Massachusetts General Hospital in Boston, on October 16, 1846. Before this assembly of medical men and laymen I confine myself to what Lecky says in his "History of European Morals": "It is probable that the American inventor of the first anæsthetic has done more for the real happiness of mankind than all the philosophers from Socrates to Mills." Nothing remains to be said except that not only was the discovery made in America, but even the name anæsthesia was coined by an American, Oliver Wendell Holmes, great as an anatomist, as a physician, a poet, and a scholar.

Our perfect ambulance system has been largely imitated in Europe; to a small extent also the night medical service for the poor.

Thus, for the humane purpose of medicine you will admit America exhibits a good record. In many other respects it does not excel, but equals Europe. Its hospitals and operating-rooms are like yours; many, I have been told, better than yours. There is no country in which the demands of antisepsis and asepsis are more scrupulously obeyed than ours. The medical attendance on hospitals, however, is capable of improvement. In Europe a distinguished man is known for his lifelong connection with a special hospital. That is less so with us. The ambition to be on a hospital staff, the democratic tendency of the authorities to be fair to the greatest possible number, are the reasons why the hospital staffs are unduly large, and the year is divided up into alternating temporary services, and men are compelled, in order to have hospital services through the whole year, to seek them in different institutions. The improprieties and drawbacks of this arrangement have so long been felt that the establishment of permanent services, mostly of a special nature, has been resorted to in some hospitals. One particular disadvantage of our system of cutting up our hospital services you may have noticed is this, that our hospitals, while being a source of constant improvement to the lucky incumbents of the medical places, have not contributed to medical literature in the shape of special scientific reports, with the exception of the last few years.

The assistantships are in almost every case in the hands of young graduates who obtain their places after competitive examinations. Their terms of service range from one and one-half to two or two and one-half years, in semi-annual advances from grade to grade. This method affords a great many young physicians an opportunity for more or less independent work, guided by their superiors, who make their gratuitous daily visits during their term of service. That is how the people of the United States derive immense benefits from the facilities afforded to a very large number of young graduates before they enter into private practice.

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THE CARE OF PATIENTS DURING SURGICAL OPERATIONS: WITH SOME METHODS OF PREVENTING SHOCK AND INFECTION.[1]

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Surgery has reached that stage of perfection in aseptic, antiseptic, and operative technique, that it seems there is little room for improvement. Nevertheless, in spite of our most painstaking and apparently perfect precautions, occasionally some disturbing element gains an entrance and death results. In many of the cases terminating fatally, supposedly from infection, the surgeon is perplexed in his search for the true cause or source of the infection. Far too often we hear, "The operation was successful, but the patient died." In these obscure cases, the cause of death is sometimes infection, sometimes shock, and many times the two combined. Shock and infection do sometimes occur in cases in which all the ordinary and usual preventive measures have been taken, the customary precautions being usually found amply sufficient to protect the ordinary case.

I shall lay stress on a few facts which call attention to some of the more insignificant (as they are unusual) but subtle sources of wound infection, and at the same time present some few methods which may tend to diminish the potency of these occasional factors as carriers and sources of infection.

In the preparation for an operation, as, for instance, a laparotomy, all instruments, suture material, sheet and dressings—in fact, inanimate objects—may be rendered completely sterile by means of dry or moist heat. But the animate structures which take part in, or come in contact with, the wound cannot be made absolutely sterile. That the skin of operator or patient is not capable of absolute sterilization without producing death of the tissue cells, has been conclusively demonstrated by many investigators, notably Welch of Johns Hopkins University. Complete annihilation of surface bacteria on the hands of operator and assistants, as well as on the field of operation, is vastly important. In order to attain this perfection in technique, it has become necessary that we have a more thorough knowledge of the bacteria present in or on the normal skin. Much study and investigation have been devoted to this subject by such men as Bizzozero, Bordone-Uffreduzzi, Unna, Maggiora, Mittmann, Fürbringer, Preindlsberger, Robb and Ghriskey, and Welch.

The skin, owing to its location, is constantly coming in contact with some form of contamination from external objects. Many species of bacteria find on its surface a place for development and reproduction. Mittmann mentions seventy-eight different species, of which fifty-six were cocci. Preindlsberger describes thirty-two species, of which twenty-eight were cocci. Maggiora isolated twenty-nine micro-organisms, of which twenty-two were bacteria, three budding fungi, and four moulds. Bizzozero isolated and described the so-called bacillus epidermidis which he obtained from the skin between the toes. Along this line, the following experiments were carried out by the author:

[1] Paper presented to the Thirteenth International Medical Congress, Paris, August 2–9, 1900.

Towels used with the laparotomy sheet were taken after the operation was completed, and small pieces removed. The small portion of towel was dropped into bouillon, and the bacteria were allowed to grow. Three such tubes were made from different cases.

The skin was examined in six cases, as follows: After the usual preparation of the site of operation, the skin was roughly scraped until a mass of epithelial cells was freed. These separated epithelial cells were inoculated in bouillon and in gelatin, sterile cultures. During the course of the operation, small pieces of skin were cut out of the wound margin. These pieces were dropped into bouillon tubes and the bacteria allowed to grow. The growths in all these tubes were practically identical, being composed of a short bacillus, the staphylococcus pyogenes, and other cocci. Cultures of these bacteria were inoculated into animals not in shock and found to be non-pathogenic; while in animals in which shock was artificially produced by exposure and manipulation of the viscera, they were found to be pathogenic. Details of these experiments will be found later on in this article.

The exposed surface is not usually the seat of abundant growth of bacteria, but indentations and folds especially predispose to their rapid growth, as in the axilla, groin, umbilicus, between fingers and toes, and under the nails—this latter location teaches a lesson as to the need of surgical cleanliness.

Welch, in 1891, was the first to call attention to one bacterial species, named by him staphylococcus epidermidis albus, which he regarded as the inhabitant of the normal skin, owing to the regularity with which it was found in cultures from the skin. It is practically similar to the staphylococcus pyocyaneus albus. It liquefies gelatin, slowly coagulates milk, and is feebly pyogenic. It is found along hair shafts in the follicle, in which situation it is able to withstand the ordinary process of disinfection, and remain in place unchanged, in cases in which cultures from surface skin will give a negative result.

Robb and Ghriskey[1] examined stitches in thirty laparotomies and fifteen perineorrhaphies. In thirty-three of these cases pure cultures of staphylococcus epidermidis albus were obtained, and in other cases were found staphylococcus pyogenes aureus, staphylococcus flavus, and streptococcus pyogenes; and in conclusion he says: "We have no sure and absolute method of rendering the field of operation entirely free from organisms, owing to the impracticability of destroying the superficial layers of skin. The staphylococcus epidermidis albus is found in the skin with such regularity that the latter situation may, for all practical purposes, be regarded as its natural habitat, and our methods are not successful in reaching those bacteria in the depth of the structure." It is usually innocuous and is often found in wounds in which healing by first intention has been perfect. But Welch looks upon it as the cause in cases in which slight elevation of temperature and moderate suppuration have been present; and as the most common cause of stitch abscess. Robb and Ghriskey claim that the number of bacteria is increased by use of the drainage tube or other foreign body, too tight ligatures or sutures, and by the presence of any necrotic tissue. They also call attention to the fact that germs are more prone to multiply if catgut is used than if other suture material is employed.

Among the other important bacteria found in or on the skin might be mentioned other white and yellow cocci, and, unless careful study is made of the growth, some of the white cocci may be mistaken for the staphylococcus pyogenes aureus (this later being found rarely anywhere but on the hands of surgeons, surgeons' assistants, and masseurs). Also bacillus pyocyaneus and bacillus coli communis are found rarely in the skin.

The skin of the hand of the surgeon may be protected during the course of an ordinary operation by gloves made of thin rubber. These are capable of absolute sterilization, are water-proof and germ-proof. But the skin of the patient at and surrounding the site of the wound still contains germs deeply situated. An attempt should be made to prevent infection from this portion of skin coming in contact with the wound or from any article or substance which in turn might come in contact with the wound, as effectually as infection from the skin of the operator's hands is now prevented. The usual laparotomy sheets and towels, while far superior to having the skin uncovered, are capable when wet of transmitting infection from the surrounding skin area to the wound margin, or even to the peritoneum or peritoneal cavity; from them infection may be transmitted to the sponge, instruments, or hand which may be placed in contact with them at such times. Again, in cases of resection of bowel, or when pus is evacuated, the ordinary laparotomy sheet is little or no protection to the surrounding skin. The infectious matter is absorbed by the cloth, and it remains in contact with the skin and perhaps the edges of the wound for a greater or less length of time, thus rendering the entire and perfect removal of infectious germs almost an impossibility, and those remaining act in the future as a source of infection. During the course of the operation, these laparotomy sheets become wet with warm water, which soon becomes cold, and the body heat is lowered considerably by evaporation, thus greatly increasing the danger of shock, and, in turn, of infection.

To obviate the above objections to the usual methods of procedure, and also to reduce to some slight extent the danger of shock and infection, it is recommended, after the usual steps in cleansing the field of operation are taken, to place over it a sheet of thin rubber which extends around and fits closely to the body, being held in place by straps and buckles.[1] This is made in different sizes, each with an opening which may be placed directly over the site of incision, or it can be left to be opened by the surgeon as an artificial skin. It fits closely and does not interfere with the field of operation. The usual linen laparotomy sheet may be used in addition over this, if the operator so desires. This rubber protective has the following advantages: (1) It diminishes the danger of infection from the skin; (2) it prevents contamination of the skin; (3) it reduces the tendency to shock by protecting the exposed area of the body and thus preventing the loss of heat by evaporation.

The precautionary measure taken by some surgeons of securing the peritoneum to the skin by means of a few stitches, which leave the intervening edges exposed, does not afford complete protection to the wound margin. If this central opening in the rubber sheet is cut in flaps, these can be folded over the wound margin and into the peritoneal cavity, and held in place by means of a self-retaining retractor. In this way less time is consumed, while the skin and wound margins, as well as the peritoneum, are excluded from the field of operation.

Having isolated the skin and wound margins, it is necessary to consider further protection to the abdominal cavity and the wound edges from possible contamination arising from the opening of a viscus or false cavity. In order to make clear the method for preventing this infection, the operation of gastro-enterostomy may be regarded as the most typical for illustration.

A square sheet of rubber dam is made with two

[1] Bulletin of the Johns Hopkins Hospital, April, 1892.

[1] "Improved Methods during Surg. Operations," Journal of the American Medical Association.

small openings which are reinforced by a rubber band forming a collar, these openings being from three to six inches distant from each other. This protector is laid over the abdominal wound, and that portion of the stomach to be incised is drawn through one of the openings and a loop of intestine for anastomosis through the other. This portion of viscera thus excluded from the abdominal cavity, and the constriction band around each, retard any undue escape of contents, and at the same time keep the contaminating material on the outside where it can be easily removed from the rubber cloth by flushing or other means, and at no time can it come in contact with the peritoneal cavity or other viscera. At the completion of the operation, this shield is readily removed by dividing it with scissors, thus freeing the anastomosis, which is carefully dropped back into the abdominal cavity and the latter closed as the operator prefers.

The steps in an end-to-end anastomosis would be about the same as those above mentioned. For cholecystotomy or a similar operation, a protective with but one opening would be necessary. In an emergency, or when a special protective shield cannot be had, one might be improvised for the occasion from rubber dam, puncturing small round holes where desired. But in this case the constriction at the rings or openings would not be so diffused nor so uniform as in the one specially made. It is obvious that by the use of this shield the following advantages are gained:

(1) Absolute exclusion of the abdominal cavity from the danger of infection (*a*) by escape of visceral contents; (*b*) through outside influences.

(2) Prevention of excessive escape of visceral contents.

(3) Partial if not perfect control of hemorrhage, by the pressure exerted by the rubber band or collar.

(4) Reduction of the liability to trauma of the viscera by handling: (*a*) Being covered with rubber, they are less liable to injury. (*b*) The "collar" holds them simply in position and there is no need of tugging and pulling.

(5) Minimizing of the tendency to shock: (*a*) By being covered, the viscera escape the evil effects of handling. (*b*) Non-exposure of the viscera prevents evaporation, and in consequence there is no desiccation or loss of heat.

In abdominal operations, even when we have used every precaution against infection, there is still another important factor, namely, shock. The use of the word shock may appear unscientific, inasmuch as it represents such a diversity of etiological factors and pathological conditions, with a most complex symptomatology. What is sometimes considered to be shock following an operation may be a form of infection obscured by the symptoms of shock. According to Küster,[1] vaginal methods are less dangerous than abdominal, but though the chief danger of the latter is attributed to shock, as a matter of fact infection of the peritoneum, even when there are no clinical or post-mortem signs of peritonitis, is very often the real cause of death. Autopsies of fatal cases ought to include bacteriological examination of the secretions of the cavity.

It is well recognized clinically that susceptibility to infection is acquired through the shock following serious operations. The experiments on animals by Canalis and Morpurgo,[2] also by Tizzoni and Cattani, establish the above clinical observations, and in even mild forms of shock the subject is more susceptible to the infection that occurs during ordinary abdominal operations. Natural immunity to infection seems lessened or suspended, according to the degree of shock.

[1] British Gynæcological Journal, 1899–1900.

[2] Fortschritte der Medicin, 1890, Nos. 18 and 19.

Aside from the questions of virulence, the point of inoculation, and the dose of infection, we are confronted with the problem of susceptibility or non-susceptibility of the case undergoing operation. Pasteur immersed a hen in cold water, causing her to lose resistence to anthrax. Pertuschy kept a frog at a temperature of 25° and 35° C., causing it to become susceptible to anthrax infection, which resulted in death. In my previous experiments upon dogs in the study of surgical shock,[1] I observed that when shock was artificially produced, the animal was subject to infection following the symptoms of shock. Animals in which surgical shock was reduced, as by the use of heat applied within the abdominal cavity, and also within the stomach, such as the hot-water bag,[2] rarely died from infection. These observations led to a most interesting series of experiments to determine how far high temperatures applied to the abdominal cavity, and also within the stomach, would stimulate the vessels and tissue cells and prevent the growth of pathogenic micro-organisms introduced into the abdominal cavity. Cobbet and Melsome found a comparative local immunity to streptococcus erysipelatis produced by the presence of hyperæmic exudate in a rabbit's ear, from previous inflammatory attacks. Metchnikoff and Issaeff[3] found that by first injecting sterile bouillon into the peritoneal cavity of guinea-pigs, no infection would take place when cholera vibrios or pneumococci were inoculated the following day; but when no such stimulation of the peritoneum had taken place, the animals died from the infection. Walther and Ravighi, cited by Löwy and Richter,[4] rendered the animal hyperthermic and lessened susceptibility to infection. This was also done by Filehne.[5] Walther found that artificial heat applied to the surface prevented infection; Ravighi, that artificial warming prolonged the life of rabbits infected with bacilli of rabbit septicæmia and anthrax bacilli. Löwy and Richter came to similar conclusions by producing hyperthermia by cerebral puncture. The following experiments made by the author seem to indicate that the application of heat by the methods soon to be described not only prevented shock and reduced shock when present in the animals experimented upon, but markedly increased the immunity to infection, while animals in shock, not so stimulated by the action of heat applied to the abdominal cavity or within the stomach, showed increased susceptibility to infection.

In cœliotomies, especially operations on the upper abdominal area, in liver, stomach, and intestinal surgery, this factor of shock followed by infection is one of the most important sources of danger to the life of the patient. In the above-described methods, I have called attention to the manner of preventing injuries in handling the viscera and methods for preventing desiccation of exposed viscera and loss of heat. The application of heat to the viscera is for the purpose of stimulation, and it is usual to apply hot sponges for this purpose. The heat in the wet sponges is soon dissipated, and instead of supplying heat the sponge abstracts it from the viscera and surrounding tissues. The sponges cannot be changed frequently enough to keep up the temperature. To avoid this, I have placed within a gauze pad a small, thin, rubber hot-water bag. These are made in different shapes and sizes for various uses.[6] In some cases the

[1] Journal of the American Medical Association, June, 1897, p. 1160.

[2] *Ibid.*, January 11, 1896, p. 79.

[3] Annales de l'Inst. Pasteur, vol. vii., 1893, and other papers in the same publication.

[4] Virchow's Archiv, 1896, vol. cxiv.

[5] Proceedings of Physiological Society, August 11, 1894; Journal of Physiology, 1894.

[6] Journal of the American Medical Association, June 9, 1900.

gauze is not needed for absorptive purposes, but simply for holding back the viscera. The hot-water bag alone may then be inserted into the abdominal cavity in the shape of a ring, to act as a coffer-dam for the operative field. The rubber bags may be rendered absolutely sterile, and then be partially filled with sterile water and heated in a receptacle or bath to the desired temperature. The degree of temperature which I found most useful is about 48° C.

The value of heat obtained by the introduction of hot water into the abdominal cavity is well known; also that it is necessary to maintain heat. There are many objections to the placing of water directly within the abdominal cavity. The danger of spreading infection is especially important, and it has been claimed that some of the evil results following this method have been due to "flooding" the endothelial layers of the peritoneum; and it is impossible to maintain the heat for any considerable length of time, as it is so quickly absorbed that it no longer acts as a stimulant to the end nerves. With the hot-water rubber pads or bags, we possess all the advantages in preventing shock by heat stimulation, with none of the above-mentioned disadvantages.

There must be a distinction made in the measures resorted to in the prevention of shock when it is imminent, and those when profound shock is present. Of all measures for preventing shock, the application of heat is one of our most valuable agents. In previous contributions on this subject,[1] I have shown that splanchnic congestion in shock is most readily reduced by the application of heat to the splanchnic area.

The advantages of hot-water pads are: (1) The continuous application of heat at the required temperature. (2) They are soft and yielding like a water-bed. (3) They can be changed at will and can be removed through a small opening. (4) At the end of an operation, before the abdominal cavity is closed, a hot-water rubber pad is placed under the line of closure and covered with a small gauze pad to catch any blood or discharge. This bulges the walls upward sufficiently for the more accurate closing of the abdominal wound. In removal, the pad is partially pulled through the small opening at the end of the wound, the water enters the extracted portion, and the bag is easily withdrawn, far more easily than gauze can be dragged out.

Experiments.—Experiment I. Dogs Nos. 1 and 2, brothers; black mongrels nine months old; weight respectively 8 and 9 kgm. The animals were prepared with the usual aseptic precautions.

Dog No. 1: The abdomen was opened and exposed to a draught of air at a temperature of 15° C., for one hour. The viscera were drawn out and subjected to the insult of manipulation, care being taken not to produce any visible trauma. Profound shock resulted, shown by the pallor, slow pulse, coldness of the skin, low temperature, the respiratory and vascular failure, There was marked visceral disturbance. One loop of pure culture of virulent staphylococci pyogenes aureus was inoculated along the upper viscera by stroke culture and along the stomach and upper intestines. Another loop was applied similarly over the lower intestinal walls. A mixture of one loop and sterilized water was sprinkled over the viscera. The abdomen was closed in the usual way. The animal still remained in profound shock. On being placed in a warm room, reaction took place.

Result: General peritonitis and death on the fourth day. Post-mortem showed multiple abscesses, and bacteriological examination showed staphylococci pyogenes aureus.

Dog No. 2: The abdomen was opened and exposed to a draught of air, and the viscera were handled as in the case of the first dog. Small rubber hot-water bags containing 100 c.c. of water were sterilized and placed in the upper and lower portions of the abdominal cavity. The temperature of water in the bags was 50° C. Instead of the bluish congestion of the veins observed in the first animal, they retained more the purple shade, and the viscera assumed the bright crimson shade of simple hyperæmia. Although the viscera were exposed freely to the air, there was no marked embarrassment of the heart and circulation, or of respiration. The body temperature at the end of the experiment (one hour and fifteen minutes) had reached 40° C., rectal temperature. The bags were removed from the abdominal cavity, and a loop of pure virulent culture of a staphyloccus pyogenes aureus was inoculated into the upper portion of the abdominal cavity and a small loop into the lower portion of the abdominal cavity. A loop of virulent culture in 10 c.c. water was sprinkled in the abdominal cavity. The abdomen was closed, no shock being evident.

Result: There was no peritonitis; no infection. The stitches were removed on the tenth day. In three weeks the abdomen was again opened and a gastro-enterostomy performed. A few adhesions were found at the site of the old operation, but no evidences of infection. Bacteriological examination was negative.

Experiment II. Scotch terrier mixture; weight 6 kgm. The abdomen was opened, and the viscera were exposed to a draught of air for one hour and ten minutes. The viscera were handled under aseptic precautions. Evidences of shock were present. I introduced hot-water bags into the abdominal cavity and observed an increase in the action of the heart and circulation within five minutes. The bluish condition of the tongue improved, and a change was noticeable in the mouth. Respiration was still markedly shallow. A hot-water bag containing water at 50° C. was then placed in the stomach. This hot-water bag was attached to a double recurrent tube, and water was allowed to play through it continuously at a temperature of 55° C. As the bag was introduced into the stomach and hot water was forced into the bag, it stimulated the circulation at once, and more chloroform was demanded to increase anæsthesia. When all of the symptoms of shock were reduced, virulent staphylococci were introduced into the upper and lower portions of the abdominal cavity; 10 c.c. of four days' growth in bouillon was also introduced into the abdominal cavity. The abdomen was closed. No evidences of shock were present. Soon after coming out from the anæsthetic, the animal was able to run about without any evident distress.

Result: No infection occurred, and no increase in temperature, and at the end of one month a second operation was performed on the same animal, and the bacteriological examination was negative.

Experiment III. Yellow mongrel, weighing 10 kgm. The abdomen was eviscerated under aseptic precautions, with an exposure of one and one-half hours. The animal showed shallow respirations, pallor, slow heart beat, low temperature, cold surface. All the evidences of shock were present. Pure cultures of streptococci pyogenes were introduced into the abdominal cavity over the walls as well as over the visceral layers. The abdomen was closed. The animal remained in profound shock for several hours. Upon being placed in a warm room, a gradual reaction took place.

Result: Marked septicæmia followed, with diffuse peritonitis; the animal died on the fifth day. Post-mortem showed streptococci in the abdomen and also in the heart.

[1] Journal of the American Medical Association, June 11, 1896; *ibid.*, June 19, 1897. Also Proceedings of the Am. Gastro-Ent. Association, 1900, "Splanchnic Circulation in Relation to the Stomach and Intestines."

Experiment IV. Black-and-white dog, weighing 11 kgm. The viscera were exposed and roughly handled. Hot-water bags were placed within the abdominal cavity in the upper and lower portions of the abdomen—three or four small bags at one time. These were changed at intervals of about ten minutes, or as soon as the temperature of the water fell below 50° C. The temperature of the animal rose to 40° C.; respirations were deep, and the circulation showed peripheral injection of the arterioles, and hyperæmia of all the abdominal viscera as the result of the heat stimulation. Virulent cultures of streptococci were introduced into the upper and lower portions of the abdomen; also a bouillon culture was distributed throughout the abdomen. The abdomen was then closed under aseptic precautions and sealed. There was no shock evident, and the following day the animal ate meat, and seemed to be well. The animal lived for one year after that, with no evidence of infection.

Experiment V. Rabbit weighing 1,500 gm. The viscera were exposed to a cold draught of air for one hour. I then introduced staphylococci pyogenes and sealed the abdomen.

Result: Diffuse peritonitis with localized abscesses.

Experiment VI. Rabbit weighing 2,000 gm. The abdomen was opened and the viscera were exposed; hot-water bags were placed in the abdominal cavity for one hour; temperature of water in bags 50° C. Hyperæmia of the viscera with well-established peripheral circulation took place. Staphylococci were introduced into the abdominal cavity.

Result: The animal recovered without infection.

Experiment VII. White-and-gray rabbit, weight 1,800 gm. The viscera were exposed. Hot-water bags were introduced into the abdominal cavity for one hour; temperature of the water in bags 50° C. Inoculation was with streptococci pyogenes.

Result: General diffuse peritonitis; septicæmia; death. Bacteriological examination revealed streptococci.

Experiment VIII. Black-and-white rabbit, weight 2,400 gm. The viscera were exposed for one hour. A hot-water bag was placed in the abdominal cavity during this time and changed as the temperature of the water in the bags decreased. Streptococci were placed in the upper and lower portions of the abdominal cavity. The abdomen was then closed.

Result: No infection; no peritonitis. Post-mortem was made one month after and no evidences of the inoculations were present.

Experiment IX. Brown-and-white guinea-pig weighing 500 gm. The abdomen was opened, shock produced, and inoculation made with staphylococci.

Result: Death.

Experiment X. Red-and-white guinea-pig. The viscera were exposed, and small hot-water bags were introduced into the abdominal cavity. Exposure was made for three-quarters of an hour. Inoculation was made with staphylococci. No shock was present.

Result: The animal died next day.

Experiment XI. White-and-black guinea-pig. Shock was produced and the animal inoculated with staphylococci.

Result: Death.

Experiment XII. Guinea-pig, weight 750 gm. Death occurred after shock, after infection with streptococci.

Experiment XIII. Guinea-pig. Exposure of viscera was done and a hot-water bag introduced into the cavity. The animal was inoculated with streptococci.

Result: The animal died same night.

Experiment XIV. Guinea-pig. The viscera were exposed and hot-water bags were introduced for one hour. It was inoculated with staphylococci in the abdominal cavity.

Result: No infection. Post-mortem in one week revealed no foci. Bacteriological examination was negative.

Experiment XV. Guinea-pig. The abdomen was opened; also the stomach exposed, and the intestines were drawn out. Desiccation was allowed, and a hot-water bag was introduced; the temperature of the animal rose two degrees.

Result: No shock; no infection.

Experiment XVI. Guinea-pig. The viscera were exposed and a hot-water bag was kept constantly in the stomach. I introduced mixed culture of staphylococci and streptococci.

Result: No shock and no infection.

Experiment XVII. Small yellow guinea-pig, weighing 500 gm. I opened the abdomen and applied heat; heat also was applied to the stomach internally. A mixed culture of staphylococci and streptococci was introduced.

Result: The animal died same evening.

Experiment XVIII. Guinea-pig weighing 600 gm. The viscera were exposed and a hot-water bag was placed in the abdominal cavity and in the stomach; this was continued for forty-five minutes. A mixed culture of streptococci and staphylococci was introduced.

Result: No shock and no infection. Examination at end of two weeks bacteriologically was negative.

Experiment XIX. Under aseptic conditions, the abdomen of a dog was opened and the viscera were exposed for one hour. Staphylococcus albus cultures taken from the skin of patients who had been aseptically prepared for operation were introduced into the upper and lower portions of the abdomen.

Result: The animal died the third day, evidently from shock and infection. Examination showed small foci of growths, which proved to be staphylococci albus, similar to those introduced.

Experiment XX. Scotch terrier, mixed. The abdomen was exposed for an hour, and hot-water bags were introduced into the stomach and abdominal cavity. Staphylococci albus taken from cultures from skin of patients before operation were used, after aseptic preparation.

Result: No shock and no infection.

Same animal one month later: The abdomen was opened and shock produced, followed by attempts at resuscitation with hot-water bags.

Result: The animal died next day from shock and infection.

Experiment XXI. Large black mongrel. Hemorrhage of 600 c.c. was induced. Cannulæ were placed in the femoral artery and jugular vein to measure blood pressure. The venous pressure was not sufficient to raise mercury. There was the characteristic pressure of shock induced by exposure of viscera. The blood pressure fell to 57 mm. A hot-water bag was introduced into the stomach, the water at 55 C. At the end of three minutes the blood pressure was raised to 75° C.; at the end of five minutes it reached 100° C., and at the end of ten minutes had reached 130° C. with an accelerated respiration. The hot-water bag was withdrawn, and the animal was allowed to go under shock again. Observed at the end of half an hour, the pressure had fallen to 80 mm., but upon introduction of the hot-water bag it rose to 140 mm. The bag was again withdrawn for a short time, when the pressure fell to 75 mm. The animal was then infused intravenously with saline solution, 400 c.c. The abdominal cavity was then infected with staphylococci.

Result: The animal died next morning in shock.

Experiment XXII. Mongrel dog fairly well nourished. Gastro-enterostomy was performed. The viscera were exposed and the skin and edges of the

wound covered in with rubber dam. A rubber bag containing water at 48° C. was introduced into the abdominal cavity, this acting as hot pad or sponge to prevent shock. The exposed viscera being protected with rubber dam, small openings were cut in the rubber, and the viscera to be operated upon were drawn through these openings. At the same time, constrictions were made with rubber around that portion of the stomach which was operated upon. The corresponding portion of the jejunum was covered in the same way, it being drawn through a similar aperture in a portion of the rubber dam. The edges of the dam covered entirely the abdominal opening. These excluded air from the abdominal cavity and prevented any injury to the exposed viscera. The operation lasted two hours, the time being purposely prolonged. The jejunum was joined to the stomach by double suture. The rubber dam was found wholly to protect the viscera from contamination from the stomach contents or the contents of the bowel, and at the same time to prevent loss of heat and desiccation of the viscera, thus preventing shock. The rubber dam also prevented leakage from the stomach and intestines, and hemorrhage was averted. After suturing the viscera, the rubber dam was slit and removed. A hot-water bag was then placed underneath the abdominal wall. This, pressing upward against the abdominal wall, held it in place for suture, and at the same time lessened the danger of the viscera coming in contact with the needle. As soon as the suture joined nearly to the upper angle of the wound, a portion of the bag was drawn out through this small opening and the fluid in the bag forced into the extruded portion. The bag was then easily withdrawn. The abdominal cavity was then closed.

Result: The animal showed no symptoms of shock or infection. It was fed meat the following day, and the stomach showed remarkable digestive activity.

Experiment XXIII. Scotch terrier. The abdomen was opened and the viscera were exposed, and hot-water bags were placed in the abdominal cavity. The temperature of the bags was 55° and 58° C. Exposure lasted one hour and twenty minutes. The animal was inoculated with virulent cultures of staphylococcus pyogenes albus. The high temperature produced definite stimulation. After closure of the abdomen and sealing of the wound, the animal escaped and ran four blocks before capture. The exertion caused the animal to vomit bile, and show signs of exhaustion.

Result: The dog died at the end of twenty-four hours. The post-mortem revealed a marked hyperæmia of the stomach and intestines, exudate extending over the upper and lower portions of the abdomen, and mucus at different points. Upon the intestines were found what appeared to be blebs following burns. Cultures were made from the exudates, from the duodenum, and from the small intestines.

Experiment XXIV. Mongrel weighing 7½ kgm. The viscera were exposed and hemorrhage of 400 c.c. was induced. Profound shock followed. An injection of 500 c.c. of saline solution was made subcutaneously, and the animal was sewed up, after inoculation with colon bacilli.

Result: The animal recovered from shock, but died in one week. Colon bacilli were found in the spleen. There was general peritonitis. Death was the result of infection following shock.

Experiment XXV. Dog weighing 8 kgm. The viscera were exposed and a hemorrhage of 400 c.c. was induced. The hot-water bags were placed in the abdominal cavity and stomach, and the animal was infused intravenously with hot saline solution. It was then inoculated with fresh cultures of colon bacilli above and below, and the wound sutured.

Result: No evidences of shock and no infection.

One month later the same animal was subjected to gastro-enterostomy. Bacteriological examination at this time was negative. The animal recovered.

Experiment XXVI. Large setter. I exposed the abdomen and performed gastro-enterostomy. The animal was then inoculated with cultures of staphylococci albus made from the skin of patients after preparation for operation.

Result: Shock from which the animal did not recover; it died on the sixth day of general peritonitis. Staphylococci albus were found which liquefied gelatin in culture.

Experiment XXVII. Large black mongrel. I exposed the viscera and removed one and one-half feet of intestine, following this with anastomosis. Operation was prolonged one and one-half hours, with frequent manipulation of viscera and exposure. Shock was produced. Staphylococci albus obtained from skin of patients before surgical operation were introduced.

Result: The animal died on the fourth day.

Experiment XXVIII. Dog weighing 6 kgm. Evisceration was done.

Result: The animal lived three hours. It had not been inoculated.

Experiment XXIX. Dog. It was placed on a hot-water bed, and the abdomen opened and exposed to a draught of air. The viscera were exposed to the air for forty-five minutes. Tortuous veins stood out in dark relief upon a livid background. There was a marked fall in temperature, and reflexes were absent. The anæsthesia was withdrawn, as none was required. The breathing was shallow, pulse rapid and weak, and tongue pale. The abdomen was closed at the end of one hour and fifteen minutes. The operation was carried out under aseptic precautions.

Result: The animal died in three days.

Experiment XXX. Dog. It was placed upon hot-water bag, and the viscera were exposed to the air until profound shock was produced. Notwithstanding the heat from the hot-water bag, which was 120° C., there was marked visceral congestion with anæmia of the surface, shallow breathing, and loss of reflexes, even after withdrawal of the anæsthetic. The animal was in evident collapse. A hot-water bag was placed in the stomach, at a temperature of 53° C. The water was forced into the bag by a double tube so that the temperature did not vary, and its application was followed by stimulation of the respiratory centre, heart, and circulation. Hot-water bags were also placed in the abdominal cavity. The viscera regained color and lost appearance of venous congestion. The heart became more rapid, the surface warm, and shock was reduced. At the end of an hour and forty-five minutes the viscera were returned and the abdomen was closed.

Result: The animal completely recovered.

Experiment XXXI. Black dog, weighing 13 kgm. The field of operation was prepared aseptically, as in all the other experiments. The viscera were manipulated with rubber gloves. Shock was produced with evidences of collapse; 400 c.c. of physiological saline solution was injected intravenously. The abdominal cavity was inoculated with bacilli taken from the skin of patient over the field of operation after its having been prepared for operation.

Result: The animal died on the fifth day of peritonitis. Bacteriological examination showed a mixed infection.

Experiment XXXII. Dog weighing 14½ kgm. The viscera were exposed. It was inoculated with staphylococci taken from the skin of a patient over the field of operation. The animal was infused subcutaneously with salt solution.

Result: The animal died on the fourth day. Bacteriological examination showed staphylococcus.

Experiment XXXIII. Dog weighing 12 kgm. It was infused subcutaneously with salt solution and inoculated with staphylococcus pyogenes aureus.

Result: The animal died in two days of peritonitis. No cultures were made.

Experiment XXXIV. Dog weighing 13 kgm. The viscera were exposed and shock was induced. It was infused subcutaneously with saline solution, after a hemorrhage of 400 c.c. had been induced.

Result: The animal died on the second day.

Experiment XXXV. Black-and-white guinea-pig. The viscera were exposed and shock was induced. It was inoculated with staphylococci taken from the skin.

Result: The animal died on the second day of general peritonitis.

Experiment XXXVI. Gray rabbit. It was placed upon a hot-water bed; temperature of water in bed, 45° C. It was then inoculated with virulent colon bacilli. The operation lasted for one hour.

Result: The animal died of general peritonitis. Colon bacilli were found.

Experiment XXXVII. Dog. It was placed on a hot-water bed, and the abdomen was opened in a warm room. The viscera were exposed and the animal was inoculated with a mixed culture of bacteria and cocci taken from the skin.

Result: The animal died on the third day.

Experiment XXXVIII. Dog weighing 14 kgm. The viscera were exposed and manipulated. It was inoculated with mixed cultures of colon bacilli from fæces and staphylococci albus and other cocci taken from the skin of a patient before operation. A hot-water bag was placed in the abdominal cavity.

Result: The animal died the following day.

Experiment XXXIX.—Gray-and-white rabbit. The abdominal wall was cleansed as usual and a large median incision was made. Hot-water bags were introduced into the abdominal cavity, beginning with water at temperature 48° C. and raised to 50° C. for forty-five minutes. The stimulation to the viscera was well marked. The peritoneum was inoculated with virulent staphylococcus pyogenes albus. The abdomen was closed and sealed.

Result: No shock, no infection; recovery.

Experiment XL.—Gray rabbit for control. It succumbed under anæsthesia.

Experiment XLI.—White-and-yellow guinea-pig. I opened the abdomen and inserted hot-water bags into the abdominal cavity. Temperature, 48° C., raised to 50° C. Time, forty-five minutes. Evidence of marked stimulation was shown. The animal was inoculated with virulent mixed staphylococcus culture, and the abdomen was closed.

Shock Prevented—Inoculation.

Number.	Animal.	Stimulation.	Inoculated with	Length of Operation.	Recovered.	Died.	Bacteriological Examination.	Subjected to Second Operation.	Traces of Infection.	Remarks.
1	Dog	Hot-water bags	Staph	1 h. 15 m.	1	..	.....	1	None.	Bacteriological examination negative.
2	Rabbit	do.	do.	1 h.	1	..	.....	....	....	No traces of infection.
3	do.	do.	Strep	1 h.	..	1	Strep.	....	....	Diffuse peritonitis.
4	do.	do.	do.	.....	1	..	.. ..	1	None.	
5	Guinea-pig	do.	Staph.	¾ h.	..	1				
6	do.	do.	Strep	.....	..	1				
7	do.	do.	Staph	1 h.	1	..	.....	1	None.	
8	do.	do.	Strep. and staph.	.....	1	..	.....	....	do.	
9	do.	do.	do.	.....	..	1				
10	do.	do.	do.	¾ h.	1	..	.....	1	None.	
11	Dog	do.	Staph.	1 h.	1	..	. .	....	....	Died of shock and infection, second operation.
12	do.	do.	.....	2 h.	1	..	.....	1	. .	Escaped, and ran four blocks after operation; died of peritonitis.
13	do.	do.	Staph. pyog. albus.	1 h. 20 m.	..	1				
14	do.	Hot-water bed	Mixed cultures.	.. ....	..	1				
15	Rabbit	Hot-water bags	Staph. pyog. albus.	¾ h.	1	..	None.			
16	Guinea-pig	do.	Virul. mixed staph.	¾ h.	1	..	None.			

Shock Induced—Inoculation—Infection.

Number.	Animal.	Method of Resuscitation.	Inoculated with	Length of Operation.	Recovered.	Died.	Bacteriological Examination.	Subjected to Second Operation.	Traces of Infection.	Remarks.
1	Dog	None	Staph.	1 h.	..	1	Staph.	.	.....	Gen. peritonitis with abscesses.
2	do.	Hot-water bags	do.	70 m.	1	..	.....	.	None.	Bacteriological examination negative.
3	do.	None	Strep	1½ h.	..	..	Strep.	..	.....	Heart and abdomen infection.
4	do.	Hot-water bags	do.	.....	1	..	.....	..	.....	Lived for one year; no trace of infection.
5	Rabbit	None	Staph.	1 h.	..	1	.....	..	.....	Diffuse peritonitis.
6	Guinea-pig	do.	do.	.....	..	1				
7	do.	do.	do.	.....	..	1				
8	do.	do.	Strep	.....	..	1				
9	do.	Hot-water bags	.....	.....	1	..	.....	..	.....	Showed no trace of infection.
10	Dog	None	Staph.	1 h.	1	.	Staph. a.	..	.....	
11	do.	Hot-water bags and saline solution.	do.	1½ h.	..	1	.....	..	.	Subjected three times to shock during operation.
12	do.	Saline solution.	Colon bac.	.....	1	..	Colon bac.	..	.....	General peritonitis.
13	do.	Hot-water bags	do.	.....	..	..	.....	1	None.	
14	do.	None	Staph.	.....	1	..	Staph.	..		do.
15	do.	do.	do.	.....	..	1				
16	do.	do.	No inoc.	.....	..	1				
17	do.	Placed on hot-water bed.	do.	1¼ h.						
18	do.	Placed on hot-water bags and hot-water bag in cavity.	do.	1¾ h.	1					
19	do.	Saline solution	Mixed bac.	.....	..	1	Mixed infec.			
20	do.	do.	Staph.	.....	..	1	Staph.			
21	do.	do.	do.	.....	..	1	.....	..	. . .	Peritonitis.
22	do.	do.	.....	.....	..	1				
23	Guinea-pig	None	Staph.	.....	..	1				
24	Rabbit	Placed on hot-water bag.	Colon bac.	1 h.	..	1	Colon bac.	..	.....	General peritonitis.
25	Dog	Hot-water bag	Mixed cocci.	.....	..	1				
26	Guinea-pig	None	Mixed staph.	10 m.	..	1	.....	..	.....	Acute peritonitis.

Summary of Tables.

Animals inoculated after shock without heat stimulation applied to the splanchnic area: Dogs, 14; died, 13. Guinea-pigs, 7; died, 6. Rabbits, 4; died, 4
Animals inoculated after application of heat stimulation to splanchnic area to prevent shock: Dogs, 9; died, 2. Rabbits, 4; died, 1. Guinea-pigs, 8; died, 3

Result: No shock or infection; recovery.

Experiment XLII. — Control, black-and-yellow guinea-pig. The abdomen was opened the same as in No. XLI. Stimulation by hot-water bags was omitted. The viscera were exposed for ten minutes. Inoculation was made with staphylococcus, as in No. XLI.

Result: Death. Post-mortem showed acute peritonitis. There were no other marked pathological changes.

In these experiments it is difficult to explain the mode of action of the hot-water bags placed in the abdominal cavity and within the stomach. Heat stimulation thus applied to the splanchnic area for a definite length of time seems to be not only anti-bacterial but also antitoxic in its action. It is not altogether clear whether this result is due simply to the effect of heat acting directly upon the tissues, producing chemical changes, or to the physiological increase in the circulation, or through nerve influence acting upon both tissue cells and circulation. It is evident that blood changes are produced. Experiments seem to indicate that molecular chemical changes are produced—that the "side chains" in the albumin molecule are altered. It is a significant fact that heat applied to the external surface does not result in the same effect produced by heat applied internally.

In connection with the above experiments the following report of surgical cases may be of interest, in which similar precautions were taken against infection and shock:

Case I.—Mrs. J. P.——; operation for carcinoma of the pylorus, a gastro-enterostomy being performed and anastomosis secured by means of the Murphy button. The exposure of the viscera to air was followed by marked congestion of the viscera. In thirty minutes there was apparent collapse. The anæsthesia was withdrawn and artificial respiration attempted, but without resuscitation. A hot-water bag was placed in the stomach, which stimulated respiration, the heart, and circulation. The viscera changed from the bluish shade of congestion to mild hyperæmic tints. The surface grew warm, perspiration appeared upon the forehead and body, and a restoration of the circulation peripherally showed in the return of color to the finger-nails, and signs of shock disappeared. Recovery was complete, the patient leaving the hospital and living for one year afterward.

Case II.—Mrs. McG——, aged forty-five years; hemorrhage from bowels; estimated loss of blood from bowels over one quart. All signs of shock were present, including anæsthesia, disturbance of vision, thirst, cold surface, blue lips; the face wore an anxious expression. The patient experienced a feeling of impending death. The intra-gastric resuscitator (hot-water bag) was introduced into the stomach, and within twenty minutes the symptoms has disappeared, with the exception that the hands and feet were cold; at the end of forty-five minutes these were warm. No other treatment for reduction of shock was used. This was repeated the following day, and the patient felt so well after treatment that she requested a daily treatment, which was instituted for one week.

Case III.—A. C——, aged fifty-two years; gastro-enterostomy and gastrostomy were performed for cancer of the œsophagus, middle portion. The patient was anæsthetized with ether. Upon opening of the abdomen and seizing of the stomach, the patient ceased to breathe. Artificial respiration was employed. While saline solution was being prepared for infusion subcutaneously, three hot-water bags were placed in the abdominal cavity, one in the upper portion near the diaphragm, one in the lower portion, and the third in the side. These stimulated respiration at once. The blue, cyanotic appearance of the patient gave way to natural color. So great was the improvement in his condition that the saline solution, when ready, was not considered necessary, but was held in readiness should signs of collapse reappear. The author's valve operation for gastrostomy was performed, and just before closure of the abdomen the bags were withdrawn.

Result: The patient recovered without shock; the temperature did not rise, and the patient lived six months.

Case IV.—J. I. L——, aged fifty-eight years; carcinoma of the pylorus, atrophic cirrhosis of the liver, and insufficiency of the kidneys. A hot-water bag was placed in the stomach during the entire operation, which lasted one hour and forty-five minutes. No shock was apparent and no infection followed. The patient lived four months.

Case V.—Mrs. W——, aged seventy-two years; operation for benign stenosis of the pylorus. There was also insufficiency of the kidneys. Gastro-enterostomy was performed. A hot-water bag was placed in the abdomen and one in the stomach; temperature of water in the bag in the stomach, 53° C., and of that in the bag in abdomen, 48° C. No shock and no infection followed. The patient lived six months, and subsequently died of uræmia.

Case VI.—William J. K——, agd forty-seven years. Exploratory operation. A large tumor occupying the entire epigastrium and a portion of the umbilical region was found. Diagnosis: Pancreatitis hæmorrhagica and peripancreatitis. The patient went into profound shock with congestion of all the vessels that were exposed; there was anæmia of the surface, and collapse was imminent. A hot-water bag was placed in the stomach, the temperature of the water contained in the bag being 53° C. In fifteen minutes the patient was completely restored from the shock and there was no evidence of collapse; respiration was restored, as were the heart and circulation. The abdomen was closed, and the following day the patient again showed marked symptoms of shock. A hot-water bag was again placed in the stomach at the same temperature as on the previous day, and complete restoration followed. The patient lived one month, and died from the above pathological lesions.

Case VII.—Mrs. M. B——, thirty-six years old; operation for appendicitis and oöphoritis by a prominent gynæcologist. In a preliminary curettage, the uterus was accidentally punctured, and when the abdomen was opened it was found that the fundus was completely lacerated and some of the contents had escaped into the peritoneal cavity. After cleansing away the débris from this accident, an ovariotomy was performed and also an appendectomy. The patient showed marked symptoms of shock; there was marked anæmia of the surface, with very shallow breathing, tachycardia, small and almost imperceptible pulse, and collapse seemed unavoidable. I chanced to be in the hospital at the time the operation was going on, and was called in to resuscitate the patient. Placing a rubber bag with a double tube in the stomach, I introduced water into the bag at a temperature of 53° C. This was allowed to remain in the stomach, and a continuous current was kept playing through the bag, about 500 c.c. of water remaining in the bag all the time, for about one-half hour. This resulted in a complete restoration from shock and collapse. The following morning the patient exhibited signs of shock, and I was again called and carried out a similar procedure. At the end of twenty-five minutes there was complete restoration, and from this time the patient made an uneventful recovery, without shock or infection.

Case VIII.—J. J. S——, aged forty-one years; operation upon the cystic duct; operator Dr. Newman. A case of atrophic cirrhosis of the liver, and atrophic gall bladder. The gall bladder was opened, the stone removed, and the wound packed. Shock was present,

but reduced by the use of a hot-water bag in the stomach. The patient died on the fourth day, of shock or infection, or both.

Case IX.—Mrs. B. A. C——, aged forty-three years; chronic enteritis of seven years' standing, and contracted liver. I opened the abdomen and placed hot-water bags in the abdominal cavity and also introduced one into the stomach. The gall bladder was drained for four weeks. The patient suffered no shock or infection or signs of exhaustion from the operation. She completely recovered.

Case X.—E. J. K——, aged forty-eight years; referred by Dr. Beveridge of South Dakota. She suffered from benign stenosis of the pylorus, resulting from cicatricial ulcer. There was an immense dilatation occupying the epigastric and umbilical regions and the great curvature reaching into the hypogastric region. The patient weighed but one hundred and four pounds, having lost sixty-eight pounds since the illness began, and was very weak, stenosis of the pylorus being complete. Hot-water bags were placed in both the abdominal cavity and the stomach, and a gastro-enterostomy performed. In this patient, a rubber dam was placed over the abdominal opening and one spread over the abdomen below the wound to prevent infection. The stomach was drawn through a small aperture in the rubber dam and a loop of the jejunum drawn through another small aperture in the rubber dam. This was done for the purpose of preventing any escape of stomach contents into the abdominal cavity, and also to prevent hemorrhage by the constriction of the viscera drawn through the small apertures. Anastomosis was made by a double row of sutures. The rubber dam was then cut, and the viscera were freed and replaced in the abdominal cavity, and the wound was sutured. There was no shock following the operation and no apparent exhaustion. The patient was fed the following day and continued to improve, to gain in weight, and was discharged in four weeks. At the last report, two years and one month since operation, the patient had gained in weight (60 lb.) and strength and continued his work regularly on the farm.

Case XI.—I. J. H——; operation for stenosis following duodenal ulcer in the first portion of the duodenum, just beyond the pylorus; periduodenitis, with adhesions. Hot-water bags were placed in the abdominal cavity after being opened and rubber dams adjusted, as in Case X. The stomach was drawn through an aperture in the rubber, and the intestines were drawn through another slit. Gastro-enterostomy was done, with anterior suture. The operation lasted one hour and twenty-five minutes. Hot-water bags were changed at intervals, keeping the temperature of the water at 48° C. There were no infection and no shock. The patient was fed the following day, and he made an uneventful recovery.

Case XII.—J. G. T——, aged forty-four years; stenosis of the pylorus with gastric dilatation. Gastro-enterostomy was performed. Hot-water bags were placed in the stomach and also in the abdominal cavity. The operation lasted one hour and fifteen minutes. The patient recovered.

Case XIII.—J. G. F——, aged fifty-one years, complained of gastric disturbance, icterus, and general emaciation. Examination showed a contracted liver, contraction of the stomach, insufficiency of the kidney, and general fibrosis. The operation was exploratory. A contracted gall bladder was found, which was opened for drainage.

Result: The patient died on the fourth day. Death was the result of "exhaustion," probably infection.

Case XIV.—Mrs. B. A. J——, aged thirty-one years, complained of constant vomiting and occasionally vomited small quantities of blood; she also complained of icterus. The liver area was contracted and the urine contained albumin. The stomach was markedly contracted. Preparation for the operation was made in the usual manner and the incision made, after which the rubber protectors were adjusted, hot-water bags having been placed in the abdominal cavity. The gall bladder was distended and the rubber shield pulled around it. The gall bladder was then opened and exploration for stone made, which proved negative. The gall bladder was then sutured. During the operation, the bags in the cavity were changed frequently. The abdomen was then closed, but drainage of the gall bladder was continued for four weeks. The patient made an uneventful recovery.

Case XV.—Mrs. J. L——, forty-one years old, presented condition of cicatricial stenosis in the rectum, due to an ulcer. During the operation, the patient went into collapse, following apparent shock. I introduced a hot-water bag into the stomach at a temperature of 53° C. This resulted in resuscitation after five minutes, and the operation was completed. The patient made an uneventful recovery.

Case XVI.—Mrs. P. McC——, thirty-nine years old, suffered from chronic diarrhœa, with blood discharges. Examination of the fæces showed tubercle bacilli. Upon opening of the abdomen, tubercle infection of the ileum and a small portion of the ascending colon was revealed. Hot-water bags were placed in the abdominal cavity. A part of the ileum, the cæcum, and a portion of the ascending colon were drawn through apertures in the rubber protector and a resection was made, with anastomosis between the ileum and colon. The patient experienced no shock and no secondary infection, and was discharged from the hospital five weeks later, apparently much improved.

Case XVII.—F. L. R——, thirty-six years old, complained of frequent vomiting and emaciation. Examination showed dilatation of the stomach with obstruction. The usual aseptic precautions were taken; the abdomen was opened, hot-water bags were placed in the abdominal cavity, and the rubber protector was adjusted. Examination showed cicatrical stenosis just beyond the pylorus. Gastro-enterostomy was decided upon. The stomach and intestine were drawn through slits in the abdominal protector; the stomach was opened and the mucous membrane everted. A long longitudinal incision was made in the intestine. The stomach was invaginated into this large opening in the intestine, and the intestine sutured transversely to the long axis of the bowel, making the intestinal opening of sufficient size to accommodate the stomach. The remaining portion of the intestinal incision was sutured in the following manner: At the upper extremity of the everted mucosa, the intestine and stomach were united by two rows of sutures, the first including the intestine, the everted portion of the stomach, and the serous coat of the stomach. The second row was the ordinary Lembert stitch, thus causing sero-serous apposition, the everted mucosa of the stomach acting similar to the ileo-cæcal valve. This large opening prevented stenosis or spur, the valve preventing regurgitation and the everted portion preventing closure of the gastric opening. From this operation there resulted no shock, no infection, and no vomiting. The patient made an uninterrupted recovery; he was able to take liquid food the following day and was given chopped meat on the fifth day.

Case XVIII.—J. B. P——, fifty-one years old; carcinoma of the œsophagus; alcoholic for twenty-five years, atrophic cirrhosis of the liver and interstitial nephritis. I opened the abdomen and introduced hot-water bags in the abdominal cavity. Temperature of the water in the bags was 48° C. Turck's valve gastro-enterostomy was performed. Before the complete sutur-

ing of the stomach to the peritoneal wall, the bags were withdrawn through a small aperture. The operation covered one hour and fifteen minutes. There were no shock, no infection, and no evidence of exhaustion following the operation. The patient was fed at once through the fistulous opening. Seven months after operation he was still alive.

Conclusions.—I. Pathogenic and non-pathogenic bacteria, found on and in the skin before and during surgical operations, may produce infection.

II. The skin, especially in abdominal operations, is a source of infection that may cause death, though all usual precautions are particularly taken. Susceptibility to infection is produced in cases of lowered vitality and weakened condition; or in cases in which shock is present, from whatever cause, in a mild or severe form.

III. The present methods yet in use, of towels and laparotomy sheets, do not sufficiently protect the field of operation.

IV. The use of the rubber protector which is made to fit close to the skin more thoroughly prevents the danger of infection from the skin, and also lessens the liability of the skin becoming contaminated from the escape of visceral contents, pus, or other infected material occurring during the operation.

V. The peritoneum may become infected from the escape of visceral contents or from any infected cavity opened during surgical operations in the abdomen. Infection may result, even after the most careful precautions are taken, notwithstanding the use of gauze and careful packing, now in common use.

VI. When death occurs from supposed "shock" or "exhaustion," especially when the viscera have been exposed to dangers of infection by the escape of visceral contents, the death is probably due more to the infection than to "shock" or "exhaustion."

VII. Whenever practicable, the viscera may be drawn through the small openings of the protective rubber shield overlapping the abdominal wound, as described in this paper, and absolute protection to the abdominal cavity is secured.

VIII. Exposed viscera may be covered with a rubber hood, kept warm by small rubber hot-water bags, thus preventing contamination as well as lessening susceptibility to infection.

IX. Animals naturally immune to certain bacteria are rendered susceptible by exposure of the viscera to air for one hour or more.

X. Susceptibility can also be produced in an animal naturally immune, by long manipulation of the abdominal viscera, notwithstanding all ordinary precautions are taken. Visible trauma is not essential.

XI. In animals in which susceptiblity is not artificially produced, only slight effects are observed after intraperitoneal inoculation of microorganisms taken from the skin before surgical operations.

XII. When an animal is rendered susceptible by exposure of the viscera to air, pathogenic and many non-pathogenic micro-organisms inoculated may cause infection followed by death.

XIII. Subcutaneous or intravenous infusion of physiological salt solution does not materially render the animal less susceptible, after the exposure and manipulation of the viscera.

XIV. When heat at 48° or 50° C. is applied within the abdominal cavity during the time corresponding to the exposure and manipulation of the viscera (about one hour), inoculation by pathogenic or non-pathogenic germs seldom results in infection and death.

XV. If infection does occur, death is delayed, or seems prevented, as a result of the procedure described. Susceptibility to infection is not materially decreased by the external application of heat.

XVI. Hot-water bags placed in the abdominal cavity during an operation prevent shock or collapse, and also produce a modified immunity or lessen the susceptibility to infection.

XVII. In severe operations, when extreme shock or collapse is present, resuscitation is best accomplished by the application of heat within the stomach and abdominal cavity, by the methods already described.

AFTER-PAINS FROM EXTRACTION OF TEETH.

By CHARLES B. ISAACSON, M.D.,

NEW YORK.

THERE is no condition which is brought oftener to the attention of the medical practitioner than what is called "after-pains" from extraction. There is no subject in dentistry which has been touched upon less, or to which so little special attention has been given, than this condition. Here and there, in a desultory way, suggestions of methods and remedies have been made, but in all of them, as far as my research goes, there has never been any direct attempt to fathom the causes and to approach the condition radically.

This condition of after-pains generally arises one or two days, or even a week, after the offending member has been extracted. The symptoms vary in intensity from causes which I shall proceed to enumerate.

The average practitioner, when called upon to relieve patients suffering with after-pains, or as the Germans call it, "Zahnlückenschmerz," is generally puzzled how to proceed, not knowing the exact nature of the condition presented to him, the appearance being so unusual, the swelling so intense, with undoubted signs, in a large majority of cases, of pus burrowing under and through the tissues, that the first impression is the indefinite expression "blood poisoning," which in ninety-nine cases I look upon as a snapshot diagnosis.

The direct physico-pathological causes are dimly recognized, and relief is sought by the usual antiseptic measures, which, in minor insignificant cases, may be successful.

The local application of cocaine in solution to highly inflamed tissues I hold to be reprehensible; for tissues in that condition do not absorb the medicament, and the danger of a harmful quantity of the drug being swallowed is great. Again, I cannot deprecate too strongly what I may call the wanton use of hot poultices on the face; it seems as if the intervening thickness of the facial muscles is entirely ignored, while the result obtained is only the further infiltration of pus, and the extension of the inflammation to tissues which had been entirely normal, thus causing the original trouble to be exacerbated.

In some cases it may be necessary to use heat in order to lessen the tension, but surely it is only logical to apply the heat directly to the parts affected, which can be very easily done by using pledgets of cotton or pieces of gauze, folded to a sufficient size, steeped in hot water (one or two per cent. solution of carbolic acid is suggested) or a hot infusion of chamomile flowers. The heat is thus applied directly where it is wanted. I have always found cold packs contraindicated.

I wish to enumerate the possible causes of after-pains, and at the same time venture to suggest the means of relieving the same: (1) the retention of the pyogenic membrane in the socket; (2) expansion of the osseous walls; (3) fracture of the alveolus; (4) sundering of the maxillary process and alveolus, with accompanying lacerations of the tissues; (5) the retention of roots and spicula in the socket; (6) that

particular condition of the alveolus and septum from which the gum tissues have been denuded by the encroaching of salivary calculi; (7) the inflammation of the tissues and the undermining of the alveolus from perforation by pus from long-standing pyorrhœal discharges or alveolar abscesses from old roots.

1. The retention of the pyogenic membrane is generally followed by acute pain. When a tooth with septic pericementitis is extracted, the pericementum may or may not be attached to the root. As there is an intense inflammation with plastic exudations, the chances are that the pericementum will still adhere to the lining membrane. In order to relieve this condition, it is necessary to remove all clots, and to curette the socket. For this a small, blunt curette, or preferably a rose burr in the dental engine, should be used. As a soothing application, I have found the following prescription very effectual, used on a tampon in the socket:

℞ Mentholi,
Acidi carbolici,
Tinct. iodi.....āā ʒi.
Ether.,
Chloroform.....āā ʒss.
M. S. External use.

Of course, after the curetting it is necessary to irrigate the socket with a solution of hydrogen peroxide, plus any antiseptic, optional with the practitioner.

2. The expansion of the osseous walls. This condition will require careful examination, and is usually met with when the tooth has been difficult to extract on account of the unyielding walls, and is generally most noticeable when the lower wisdom teeth have to be excised from the thickened alveolus. In a large number of these cases, the outer or the inner wall has been bent, and possibly slightly fractured. In many such cases I have found the usual methods of irrigating and packing of little or no avail. The suffering is usually intense, while the swelling interferes with deglutition, and the pocket becomes a veritable receptaculum for mucus, food, and unhealthy granulations. In these cases I have managed to obtain relief in a very short time by using the rose burr and cutting away the bent ridge, burring away all the irregular edges, making the parts as smooth as possible. This is to be followed by irrigating and packing, and, I believe, with signal success. In minor cases, in which the alveolus has been bent out of shape, compression of the parts, with thorough cleansing of the cavity, will answer. I have always been suspicious of cases in which the alveolus has been luxated, and always feel more confident when I have removed that part.

3. Fracture of the alveolus. This would require the removal of the fractured part, smoothing of all the irregular points, the usual thorough irrigation and antiseptic treatment.

4. Sundering of the maxillary process and alveolus, together with laceration of tissues. This will present to the practitioner the appearance of a large surface, intensely inflamed, caused by the gum contracting over the serrated edges (for, like all tissues, the gum forms a cicatrix, which exerts considerable pressure). The gum, in trying to contract over these sharp points, becomes intensely inflamed, the pus burrows underneath, forming pockets along the whole ridge, and owing to the sack-like condition is generally in a septic condition.

The treatment in this case is to relieve the condition by one or more incisions parallel to the axis of the maxillary; then with the curette, or still better with the burr, all irregularities of the alveolus and maxillary should be cut away, so that the surface is absolutely smooth. A thorough irrigation of the parts and packing them with antiseptic gauze will bring about desired results. In deeper cavities I have used almost every remedy recommended, but have found that none possessed the analgesic properties of iodoform, and though this is so objectionable by reason of its odor, it seems to do its work.

5. When there is retention of the root, and spicula are in the pocket, the cavity is to be cleansed of the spicula; and if the root cannot be removed by forceps or is too small to be grasped, it can be burred out.

6. This condition is a peculiar one, but easily recognized and diagnosticated. This occurs mostly with teeth which have become elongated from want of antagonism; the roots are more or less exposed; deposits take place on them, pushing the tissues farther up from the alveolar wall, leaving it and the septum denuded. After extraction (these teeth are often pulled out by the patient himself), the gum refuses to cover the necrotic wall and septum—hence painful consequences follow.

Relief in this case is very easily obtained by cutting away the dry, friable, necrotic bone until the healthy bone is reached. The usual antiseptic treatment and irrigation are in order.

7. Perforation of the alveolus from an invasion of pus. When repeated perforations have taken place in the alveolar wall, it may be assumed that the nutrition of this bone has been largely interfered with, impaired, or arrested, and that the wall thus undermined really becomes a sequestrum. The appearance of such a condition would be a large pocket, a bulla of pus outside the ridge, considerable swelling, and possibly the burrowing of pus in several directions. This condition, I have noticed in a large number of cases, takes place long after extraction. The treatment for the same would be a crucial incision, removal of the necrotic wall or sequestrum, and a smoothing of the parts, irrigation and packing as in the preceding cases.

As these cases come under the observation of physicians who are called in to correct the blood-poisoning, which the patient is always supposed to have, and as a great deal of censure is given to the dentist for having extracted the tooth so brutally or so unskilfully, I wish to say that I have sufficient respect for the ability of my confrères to know that these conditions are never produced intentionally, and that they are due to causes which may be beyond their ken, and which arise unexpectedly. Much may be ascribed to the neglect of the patient. The medical practitioner, not being familiar with the mouth, resorts to general antiseptic treatment, whereas these conditions, as before mentioned, can be known only to the dental practitioner and oral surgeon, and should be handed over to the dental practitioner instead of worrying the patient with a long course of treatment, futile in the end and generally accompanied by a liberal dose of opium.

In performing these operations, I have found it more advisable to do so by the aid of ethylic chloride or the injection of cocaine. The use of nitrous-oxide anæsthesia I have found impracticable on account of its short duration and the danger of using the dental burr in a hurry. Of course, in some cases, anæsthesia by ether or chloroform is absolutely necessary to perform the operation thoroughly.

I have not mentioned the possible inoculation from unclean instruments. Such cases have to be diagnosticated *per se*. I have omitted to mention the pains which may, and often do, arise in neurasthenic patients; pains which persist in syphilitic patients; and finally the vagaries of the female nervous system during pregnancy and the catamenia. These require the careful attention of the medical practitioner for constitutional treatment, with the advisable collaboration of a dental surgeon. Every practitioner fastens

upon some remedy which has proved faithful to him; so the selection of any preparation, from mercuric bichloride down to boric acid and formalin solutions, is purely optional.

To conclude, I wish to convey the idea that such pains are caused only by foreign substances, whether they are spicula, sequestra, tissue, clots, mucus, or food retained in the socket; and the removal of these is paramount in any local treatment that can be used.

101 East Sixtieth Street.

A New Method of Catheterization of the Eustachian Tube.—G. Ostino, noting that when the letter "e" is pronounced the soft palate raises itself and the Eustachian cushion approaches the median line, suggests the following method: A mark is made on the curve of the catheter 7 cm. from its tip. The catheter is then passed in the usual manner until the mark is opposite the entrance of the nose, this distance of 7 cm. being the average distance between the anterior and posterior nares. The patient then phonates "e" (English) in a continuous tone, at which moment the catheter is rotated externally. Ostino claims that this manœuvre will positively engage the tip of the catheter in the pharyngeal orifice of the tube.—*Archivo Italiano di Otologia*, etc., x., 1, 1900.

Curable Forms of Hydrophobia in Man.—G. Daddi reports the case of a young surgeon who was bitten by a dog in the left popliteal region; the wounds were not deep, and were cauterized with pure ammonia. The patient came to the Anti-hydrophobic Institute in Florence for treatment merely as a precautionary measure, being firmly convinced that the dog was not mad. An examination of the dog's head proved that it had rabies, but the patient was kept in ignorance of the fact. He developed fever, paralysis of the detrusor urinæ, paraplegia with abolition of patellar reflexes, and pains in the lower limbs; but the symptoms finally subsided, and complete recovery ensued. By a process of exclusion, the author comes to the conclusion that the complex of symptoms was due to inoculation with the virus from a rabid dog.—*Rivista Critica di Clinica Medica*, June 30, 1900.

Colic Pains.—Lucke analyzes the various possibilities involved in the etiology of colic, concluding that the painful seizure is always the result of tension, and that muscular spasm, though often a predisposing or aggravating factor, is not, as usually thought, to be considered the prime cause. When the increase in pressure is so gradual that dilatation can keep pace with it, no colic results, as is true of the cases of painless hydrops of the gall bladder; when the stoppage is sudden, however, as when it is due to an impacted gall stone, the pressure rises rapidly and the tension produces severe pain. Intestinal colic and the pain due to impaction of a renal calculus in the ureter are explicable on the same grounds. Pure renal colic unaccompanied by the existence of stones is due to an intense and sudden congestion.—*Wiener klinische Wochenschrift*, July 5, 1900.

The Roentgen Rays in Diseases of the Nose, Throat, and Neighboring Organs.—John MacIntyre, who has done more work in this special direction than any one else, makes a strong plea for the systematic examination of cases with the *x*-rays in order to obtain accurate information as to the relative value of these and other methods of diagnosis. In the majority of cases of traumatic lesions, aneurism, malignant disease, glandular enlargement, fluid effusions, deposits in the lung, etc., other signs are, as a rule, present, and the shadows obtained by the *x*-rays have, therefore, only a place among the different aids to diagnosis; but in a minority of cases he has been able to obtain by the rays information which otherwise could not have been obtained. He believes that in the hard tissues we may profitably use the rays in the study of the anatomy of the nose, antrum, and spine, and may detect fractures and injuries of the nose and maxillary walls and tumors. In the soft tissues we may be able to make out cardiac enlargement, transposition of the viscera, mediastinal gland enlargement, malignant and other neoplasms of the jaw and chest, abscesses, collections of fluid in the chest, deposits in the lung, etc. Moreover, we can ascertain the presence of foreign bodies in the antrum, nose, pharynx, upper-air tract generally, and in the œsophagus.—*Journal of Laryngology*, July, 1900.

A Case of Acetanilid Habit.—G. W. Gaines writes that some four years ago acetanilid was prescribed for a negro adult suffering from rheumatism. He found that he was relieved by its administration, but on leaving off the medicine for a few days the pain returned. So he began taking it constantly each day. Now he uses two ounces each week and has been doing this for some months. It is not stated whether the man suffers any ill effects of his habit.—*New Orleans Medical and Surgical Journal*, July, 1900.

Abscess of the Cerebellum.—M. Dieulafoy describes a case with the details of the post-mortem findings. Abscess of the cerebrellum is nearly always due to otitis. The symptoms which it causes are occipital headache, vertigo, ictus, loss of equilibrium, titubation, vomiting, nystagmus, cervical contracture, optic neuritis, muscular asthenia, somnolence, torpor closely allied to coma. Facial paralysis and paralysis of the external oculomotor nerve may occur, as in the case described. In abscess of the cerebrum the motor disorders, the paresis, contractures, and spasms are on the side opposite to the lesion and to the otitis, and word-blindness and hemianopsia further constitute the differential diagnosis. Tumors of the cerebellum, as glioma, gliosarcoma, etc., give the same complex of symptoms, but rarely in so simple a form, as their tendency to invade surrounding parts causes the addition of other symptoms. Surgical intervention is the only form of treatment possible in cases of cerebellar abscess.—*Bulletin de l'Académie de Médecine*, June 26, 1900.

The Varicose Osteo-Hypertrophic Nævus.—Klipper and Trenaunay under this title describe a congeries of symptoms which they consider sufficiently constant to be grouped as a specific disease. In the light of their own observations and of many cases culled from the literature, they would establish the following as the characteristic tripos of the symptomatology: (1) A nævus covering the lower extremity and metameric in its distribution; (2) varicosities limited to the diseased side and congenital, or dating from early infancy; (3) hypertrophy of all the tissues of the diseased side, but involving particularly the bony structures, which are increased in length, breadth, and thickness. In addition to these there are many other less important and more variable lesions. The skin may be wrinkled and dry, show scars of old ulcers, or be covered with desquamating patches resembling ichthyosis; sometimes elephantiasis is a complication, or the cutaneous surface may be indurated and scaly. The hair is usually absent in the neighborhood of the nævus. The nails are striated, brittle, and deformed. Hyperidrosis may exist, and frequently the deformity is increased by the hypertrophy of the cellular and fatty tissue, which may produce more or less circumscribed tumors.—*Archives Générales de Médecine*, June, 1900.

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ANTITYPHOID INOCULATION.

THE question as to whether inoculation against typhoid fever is a successful means of either prevention or cure, or of both, is of the utmost importance to this country as well as to almost all the countries of Europe in the present unfortunate combination of events in the Far East. China is a land in which sanitation is at a notoriously low ebb, and whose inhabitants wholly disregard the ordinary laws of hygiene as understood by Western people. This being so, judging from the experience gained in former wars, disease will doubtless figure more largely in the death roll among the troops engaged in the task of bringing about order in the Celestial Empire than will injuries produced by shot and shell.

Of all the maladies which strike down the soldier in the field none claims so large a share of victims as does enteric fever. This is a truism. Even in lands where sanitation is carried out in a more or less effective manner, there have as yet been discovered no absolutely sure methods of preventing this disease or of staying its spread when it has once broken out and has gained headway among a large body of men. This fact was plainly demonstrated in the military camps formed in this country during our war with Spain. It is true that typhoid fever is classed as a preventable disease, but it is an extremely difficult matter to prevent it under all the conditions of war, and infinitely more difficult to check its ravages when its germs are being disseminated within the confines of a camp.

Undoubtedly strict sanitary supervision and care will go far toward preventing an outbreak of this disease and toward nipping in the bud a threatened epidemic. But when all has been said that is to be said on the subject, it must be acknowledged that much yet remains to be learned concerning the etiology and the most effective mode of fighting and controlling the disease. It is therefore—and especially in view of the crisis in China—with feelings of the liveliest and most serious interest that the reports of the results of the serum treatment of enteric fever, to which many British soldiers now in South Africa were subjected, are being watched by scientific and medical men throughout the world. Although inoculation against typhoid fever has been practised in the British army in India for a few years, and although Professor Haffkine declares that it has been successful in reducing the mortality there to a very large extent, the statistics to hand are not sufficiently convincing altogether to uphold this statement, and the method may to all intents and purposes be said to be now on its trial. Opinions of the medical men serving with the British army in South Africa are conflicting. Sir William MacCormac says: "No decided opinion can yet be given on this point, since there are no sufficient data for statistics. The observations made seem to show that those inoculated are less apt to take the disease, or if they are attacked they have it in a milder form; but the question is still *sub judice*." Dr. Conan Doyle writes in the most eulogistic strain in regard to the immunizing or rather the protective properties of the serum. He says: "There is one mistake we have made which I think will not be repeated in any subsequent campaign. Inoculation for enteric fever was not made compulsory. If it had been so I believe that we should (and, what is more important, the army would) have escaped from most of its troubles. No doubt the matter will be fully threshed out in statistics, but our strong impression from our own experience is that although it is by no means an absolute preventive it certainly modifies the course of the disease very materially." Surgeon-General Jameson, as was mentioned in the MEDICAL RECORD of July 21st, does not seem to be very enthusiastic in respect to antityphoid serum as an immunizing agent, although he naturally speaks in somewhat guarded terms.

A correspondent of the *Lancet* from the front gives his views as follows: "At present it is perhaps too early to condemn inoculation against typhoid fever. It certainly does not prevent a person from contracting the disease, and it seems doubtful whether the inoculated person will show any greater immunity than the non-inoculated person. Slight attacks have occurred in both classes of patients, and two in this hospital have succumbed to the disease. On *a priori* grounds one would hardly expect that a preventive-serum treatment would be successful in a disease which, after it has existed for something like three weeks, cannot protect a person from a relapse. Moreover, second attacks are by no means unknown, and one patient had a most severe second attack of typhoid fever from which he died; so that a previous attack does not seem either to protect from the disease or to lessen its severity."

Again, to judge from the statistics relating to the action of the serum during the siege of Ladysmith, the conclusion one would arrive at is that, while inoculation affords a measure of protection from attack, those inoculated suffer more severely when seized with enteric fever than those not inoculated. Nevertheless, if Dr. Conan Doyle and others are right in claiming for antityphoid inoculation protective properties however modified, a most valuable discovery has been surely made. Further and more accurate statistics from Africa will be needed to elucidate the matter, and until that time no decided opinion regarding the value of the serum can be formulated.

FISTULA AFTER OPERATIONS FOR APPENDICITIS.

When a fistula, with mucous or fecal discharge, persists after an operation for appendicitis we have to deal with a situation always awkward for us, and uncomfortable or dangerous for the patient. We know that a fistula is most likely to result in those cases in which, in the presence of suppuration and necrosis of tissue, operation is deferred, and least likely to occur in cases in which the appendix is removed while the inflammatory process is confined to the interior of that organ, and the wall of the cæcum is in healthy condition. This gives us a good idea of some of the local conditions which are followed by fistula, and enables us to lay down rules which do not favor delay in the operative treatment of the disease.

When we find the cæcum swollen and œdematous, with purplish or even black or dark-green spots in its wall in the neighborhood of a more or less gangrenous and sloughing appendix, we know that a fistula is not infrequently the sequel, and we also know that the local conditions mentioned are seen in those cases in which operative intervention has been delayed beyond safe limits. Some of these fistulæ heal spontaneously after longer or shorter intervals even when they are left severely alone, and others pursue a course of extreme vexation to patient and surgeon. The best treatment for them does not seem to be settled, if we can judge by a recent discussion at the meeting of the American Medical Association, but there is certainly no doubt that the only cure is by operation, which is, however, attended with considerable mortality. Some fistulæ appear as practically straight tracts lined with granulation tissue and leading to the cæcum at or near the original insertion of the appendix. Such fistulæ will at various times discharge mucus, gas, pus, or fecal matter in varying proportions. In addition to straight fistulæ like these, there may also be present various degrees of tortuosity and complexity, and there may be branches running into various parts of the iliac and pelvic connective tissue which can add considerably to the difficulty of an attempt at operative cure.

We may also sometimes see fistulæ which are caused by the presence of a larger or smaller remnant of the appendix with its mucous membrane, which goes on secreting and thus furnishes the discharge. This sort of fistula is apt to be most amenable to the milder forms of surgical work, but is not likely to undergo a permanent spontaneous cure. The chances of spontaneous cure in the other form is not great if the condition has shown that it will not heal within eight or ten weeks from the operation for the acute disease, and something of a radical nature will probably have to be done. The operation which will be found to give the best results is one started as an exploration following the tract, and developing its sinuosities and general character, and then proceeding as conditions demand. If we arrive in this way at the cæcal wall and find a more or less ragged opening through it, without much change in the iliac connective tissue, or even if there is considerable, a suture may be successful In order to be so, however, it must be done with great exactness, and we must remember that we have no longer the advantage offered by the quick adhesion of fresh peritoneum to depend upon, but that we are working in more or less refractory connective and muscular tissue. The sutures should be applied as is done in the case of wounds of the bladder, and it seems a good plan to treat the more superficial parts of the wound to some extent at least by the open method. Great care is necessary to prevent some of the secondary tracts from escaping our attention. If some such attempt, perhaps necessarily repeated, is made in these cases of fistula, it will probably very rarely be necessary to perform the much more serious operation of intestinal resection, which is decidedly not free from risk.

SATURNINE INTOXICATION THROUGH THE USE OF LEAD OINTMENT.

Too much emphasis cannot be laid on the injunction, in the treatment of a given condition, to seek the cause and direct therapeutic measures against it, although it is appreciated that it is necessary at times to give consideration to individual symptoms. Thus, in the treatment of anæmia or of glottic spasm or of convulsions, it is of the utmost importance to determine the underlying factors, for unless these are removed a permanent curative result cannot be hoped for. The convulsive seizure that sometimes attends the onset of acute febrile disorders can scarcely be looked upon as a physiological manifestation: else it would be more common than it is. Under such circumstances a careful study of the family history may reveal some predisposing influence. When the tendency to convulsions is thus well defined it may sometimes be counteracted by the timely administration of a sedative, such as the bromides. If, for instance, it is known that a child is generally seized with convulsions as a result of febrile disturbance, the attack may often be aborted by prompt treatment with bromides at the time. Less is certainly to be feared from this sporadic administration of the sedative than from the convulsive seizures themselves.

A febrile convulsion may be epileptic or uræmic or due to auto-intoxication, or possibly to poisons introduced from without. Some observations bearing upon the last-named mode of origin are recorded by Hahn (*Archiv für Kinderheilkunde*, B. 28, H. 3 u. 4, 1900), who briefly records two cases in children under treatment for eczema of the scalp with lead ointment, in which convulsions occurred and saturnine intoxication was suspected, and a third case of similar kind, also attended with convulsions, in which death resulted and the existence of plumbism was determined chemically. This last case occurred in a child nine months old, presenting an old and neglected eczema of the face and head, for the relief of which an ointment containing lead oxide was prescribed, the mother being carefully instructed to return at short intervals. This injunction was, however, not obeyed, and after the lapse of four months the little patient was found in convulsions, without fever and with a hard, running

pulse. In spite of removal of the ointment, the application of sulphur, and the administration of bromides, the convulsive attack was repeated, and the child subsequently became comatose. A dark line was found on the gums around one of the teeth. The fontanelle was bulging; the knee jerks were increased; the eye-grounds were normal. The urine contained a trace of albumin, and uric acid in large amounts. Lumbar puncture was performed, and 20 c.c. of clear fluid permitted to escape. The child, however, failed to rally, and death resulted. Histological examination failed to disclose any degeneration of the ganglion cells of the cerebral cortex, and chemical examination revealed the presence of lead in the brain tissue. It is pointed out that the diagnosis in this case might have been overlooked if it had not so happened that the condition was being eagerly searched for. The convulsions were not distinctive, and the subsequent coma might have been due to uræmia or to persistent cerebral pressure. Uræmia was, however, excluded by the results of examination of the urine, and a number of cerebral disorders by the results of lumbar puncture.

THE THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

The Paris Congress, a full report of which, cabled by the special correspondents of the Medical Record, is presented to our readers in this issue, will undoubtedly be looked back upon as one of the more notable of this series of international gatherings—notable for its numerous attendance if not for its scientific importance. The attraction of the *fin-de-siècle* Exposition doubtless drew many whose scientific ardor might not otherwise have impelled them to travel so far to take part in a purely medical meeting. The large attendance of the Germans sufficed to offset the absence of the English, who were kept away partly because of the not very cordial political relations between France and their country, and also by the fact that the meeting of the British Medical Association at Ipswich was held at the same time. The Americans were in greater force than at any previous international medical congress, except, of course, the one at Washington, and they were not only present but took a prominent part in the proceedings of several of the sections. Dr. Jacobi, in his well-meant though rather unnecessarily apologetic address, presented the claims of American medicine to recognition by the world at large; but if the physicians and surgeons of the United States will speak for themselves at future congresses as they did at this, there will hereafter be no more need of apologists for American medicine than there is now, we take the liberty of reminding our eminent fellow-citizen, of apologists for American politics. Full as is our special report of the scientific work of the congress, it is impossible to judge from it of the real importance of the work done at Paris, and it will be necessary to wait for the more complete mail reports in order to form a just estimate of the congress on its scientific side. That it would be a success socially was a foregone conclusion. The Frenchman as a host is unapproachable.

News of the Week.

Sanitary Reforms in Manila.—Dr. J. J. Curry, recently in the Philippines, is reported in an interview on the health conditions of the islands as follows: "The hygienic conditions are greatly improved. The board of health has made a new city of Manila. The people seemed to know nothing of sanitary laws, and did not know what sanitation meant. The lepers have been rounded up, and are kept in a large roomy hospital with spacious grounds, which was formerly a convent. A tent quarantine has been established for plague and other diseases. Native and Chinese inspectors have charge of their respective quarters, and have done efficient work. The general condition of the troops is very good, considering their hard work and long marches. The supplies, both food and medical, are plentiful, even in the interior, although they have to be drawn for miles and miles in bull carts. Hospitals are established all over the islands and in every garrison town. In the larger hospitals there are trained women nurses in addition to the hospital-corps men. The convalescent hospital at Corregidor Island is a splendid institution, beautifully situated on the crest of a hill, where it receives the cool breezes of the China Sea."

Erratum.—In a report of the meeting of the American Association of Genito-Urinary Surgeons, published last May, Dr. Chismore was credited with recommending a particular preparation of urotropin. He writes that he was incorrectly reported, not having recommended the preparation in question, but having inquired what the experience of others with it had been.

Yellow Fever.—Several cases of this disease were discovered on August 2d at Tampa, Fla., which are supposed to have been imported from Cuba. On August 3d Dr. Weedon, of the State board of health, issued a statement announcing that there had been one death there from yellow fever, and that there were two other cases known to exist in the city at that time. In Havana, despite stringent sanitary precautions, yellow fever is now on the increase, fifty cases being under treatment on Tuesday of this week. The mortality has been thus far usually low. This disease is also reported to be on the increase in Pinar del Rio. The Louisiana board of health decided on August 2d to enforce a quarantine of five days against all Central American fruit vessels carrying passengers. The Louisiana inspector at Port Limon, Costa Rica, has reported several cases of suspicious fever and one of acknowledged yellow fever, and it is believed the board has information of the presence of the disease at others of the Central American ports. The United States Consul at Progreso, Mexico, reports that yellow fever in malignant form prevails at Merida, Yucatan, and that the epidemic is spreading.

Dr. S. A. Knopf, of this city, has received the international prize of 4,000 marks offered by the Berlin Tuberculosis Congress for the best popular essay on

"Tuberculosis as a Disease of the Masses and How to Combat it." The committee of award was composed of some of the best-known clinicians and sanitarians of Germany, among them being Leyden, B. Fränkel, Gerhardt and Leuthold. There were eighty-one competitors. According to the terms of the competition, the German committee for the erection of sanatoria for the tuberculous will publish the essay in a cheap form for popular distribution. Dr. Knopf already enjoys a wide reputation as a worker in this field, and to him was awarded in 1898 the Alvarenga prize of the College of Physicians of Philadelphia for an essay on "Pulmonary Tuberculosis, its Modern Prophylaxis and Treatment in Special Institutions and at Home."

Dr. G. E. Morrison, the Peking correspondent of the London *Times*, is a physician who received his medical education in Melbourne and London. He is thirty-six years old and an Australian by birth.

An Ambulance Wrecked.—An ambulance of the Harlem Hospital, in which were seated Dr. Levy and the driver, was struck by a trolley car of the Second Avenue line on Saturday. The ambulance was thrown against an elevated railroad pillar and badly wrecked. Dr. Levy was thrown out and received some injury.

The Physicians of Lake Keuka.—The second annual meeting of the physicians of the Lake Keuka (N. Y.) region will be held at the Grove Springs Hotel in that resort, on August 14th and 15th. The programme contains twenty-nine titles of papers to be read at the meeting. The secretary of the association is Dr. W. W. Smith, of Avoca, N. Y.

The Prince of Wales was elected an honorary fellow of the Royal College of Surgeons on the occasion of the centenary of the society's foundation on July 26th. His Royal Highness is now a full-fledged, all-around honorary medical man, the Royal College of Physicians having made him an honorary fellow some time ago. We believe he still lacks the honorary M.D., but he can buy that in Chicago for a pound or two.

The International Congress of Deontology and Professional Medicine was held in Paris on July 23d to 27th. Many subjects relating to medical ethics and to the dispensary and hospital abuse were discussed, but most of the papers were of local interest, dealing with conditions peculiar to France and happily unknown as yet in our own country. Some of the points of medical etiquette discussed were amusing in their triviality, and gave occasion to the exercise of an amount of casuistry that would have delighted a medieval theologian. Concerning the word "deontology," Dr. Grasset said it was created by Bentham, the British jurist, who published in 1747 a work entitled "Deontology, or the Science of Duty." Dr. Lereboullet, the president of the congress, defined medical deontology as the science of the duty of the medical man to the public, to his patients, and to his professional colleagues. Deontology sprang from the soul. It followed the principles of equity; it engendered a sense of refinement; it produced harmony; it obliterated strife; and, though the most vague, it was the most powerful force, directing the life and the daily acts of the physician.

Recognition of a Predecessor of Pasteur.—A monument has been erected at La Teste de Buch, in the Department of the Gironde, France, to Dr. Jean Hameau, the humble practitioner whose study of viruses, published in 1836, partly anticipated the discoveries of Pasteur.

Sir William MacCormac was unanimously re-elected president of the Royal College of Surgeons of England for the fifth time at its centenary meeting on July 26th. Sir William Savory was president for three years in succession, but Sir William MacCormac holds the record for length of service.

The Lunacy Exhibit at Paris.—Secretary T. E. McGarr, of the State commission in lunacy, has been awarded the first prize at the Paris Exposition for the best exhibit showing the progress made during the past hundred years in the care of the insane. Mr. McGarr's exhibit of photographs, statistics, and working models collected from all parts of the country form a complete presentation of the progress in the therapeutics of insanity in the United States during this century.

A Leper Colony in the Philippines.—A board consisting of Major Louis M. Maus, surgeon, Capt. George P. Ahren, Ninth Infantry, and Capt. W. E. Horton, assistant quartermaster, has been convened by General McArthur in Manila to select an island in the Philippine archipelago for the segregation of lepers, to prepare plans and estimates for suitable buildings thereon, and estimates of salaries for the necessary officials and employés. The board is also charged with fixing the ration and other allowances for the support of such leper colony.

The Medical Work in China.—The army medical staff of the Department of California has begun preparations for the care of sick and wounded in China, initiating its work by sending out twelve ambulances and fifty hospital tents. Some uneasiness has been caused by the breaking out of glanders among the twelve hundred horses at the Presidio stables belonging to the various cavalry regiments and awaiting shipment to China. As soon as the presence of glanders was discovered, the eight infected animals were shot, and it is hoped an epidemic may be averted.

Sewage in the Seine.—Despite the rapid succession of congresses on medicine and hygiene in Paris this summer, the health conditions of that city are far from satisfactory. The water-supply is so limited that it is shut off a large portion of each day, and it is feared that an actual water famine may be experienced. Then the sewer system seems to have broken down, and vast quantities of filth are poured into the Seine because the territories at a few miles' distance from Paris which were to receive it for agricultural purposes are not sufficiently extensive. The manufacturing dis-

tricts close to the capital have apparently no sewerage system at all, with the consequence that below Paris, all along that picturesque bend of the Seine which extends as far as St. Germain, the river is charged with filth of all sorts and sends forth horrible emanations.

Davos.—The health-resort companies at Davos-Platz and Davos-Dorf have combined, and the two resorts will be conducted under one management to be known as the "Kurverein Davos."

The Study of Tropical Medicine.—It is stated in *The Lancet* that the Liverpool School of Tropical Medicine has received a communication from the expedition which was despatched last month to America *en route* for Brazil, to the effect that, at the suggestion of Surgeon-General Sternberg, the expedition had joined for a short period the official yellow-fever expedition which the government has just despatched to Cuba.

The Plague in London and Hamburg.—Four cases of plague were discovered on a steamer arriving at London from the East the first of this month. The disease was among the Lascars in the crew, and two of those affected died. A case has also been discovered on a ship recently arrived at Hamburg from the Orient. In both cities all possible precautions have been taken to prevent the spread of the disease.

Dr. Frederick E. Potter, of Portsmouth, was unanimously nominated for governor of New Hampshire by the Democratic State convention on August 1st. Dr. Potter is a graduate of the medical department of the University of Vermont in 1860. As elections usually go in New Hampshire, there is not much danger that the candidate will be forced to give up his practice in order to discharge gubernatorial duties.

Gagging the Contract Surgeons.—An interesting fact has come to light in connection with the inquiry which the British government has instituted into the hospital management during the war. The civilian surgeons employed in the military hospitals have been required by the British Army Medical Department to sign a contract not to divulge in any way what their impressions may be on hospital matters.

The Cecil County (Md.) Medical Society.—At a meeting held August 2d, Dr. William T. Skinner, of Glasgow, Del., read a paper on "Typhoid Fever with Particular Reference to the Temperature Range." Dr. Howard Bratton, of Elkton, Md., presented a communication on "Some of the Unusual Manifestations of Typhoid Fever." Dr. A. Robin, of Newark, Del., read a paper on "The Widal Test, with Demonstrations."

The Lehigh Valley Medical Association.—The twentieth annual meeting of this association will be held at the Neversink Mountain Hotel, near Reading, on Thursday, August 16th. The programme includes: (1) The president's address, "Relation of Medical Professions to the Physical Culture of Children," by Dr. Israel Cleaver, of Reading, (2) the address upon invitation of the Berks County Society, by Dr. J. Milton Duff, of Pittsburg, on "Modern Obstetrics"; (3) the annual address before the Lehigh Valley Medical Association, by Dr. F. A. Harris, of Paterson, N. J., on "Certain Pathological Conditions of the Fallopian Tubes of Interest to the General Practitioner."

The Eyesight of School-Children.—Dr. Wallace Pyle, who was commissioned by the Jersey City board of education to examine the eyes of the pupils of Public School No. 1, has submitted a report of his investigation. He examined three hundred and fifteen pupils. Of these only sixty-nine had perfect eyes, and seventy-one of the whole number were in danger of permanent injury because of neglect to provide them with glasses. In the majority of cases the defect was slight and capable of correction by glasses. There were nine cases of trachoma.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 4, 1900. July 28th.—Medical Director G. W. Woods detached from the naval hospital, New York, August 18th, and ordered home and to wait orders. Medical Director H. J. Babin ordered to duty in charge of the naval hospital, New York, August 18th. Passed Assistant Surgeon L. L. von Wedekind detached from the *Indiana* and ordered to the naval hospital, Chelsea, Mass., for treatment. Assistant Surgeon M. K. Elmer ordered to the Boston navy yard, August 1st. July 31st.—Pharmacist F. T. Gordon warranted pharmacist from July 25, 1900. August 1st.—Passed Assistant Surgeon T. W. Richards detached from the *Machias* when put out of commission, and ordered to the *Indiana*. Assistant Surgeon C. H. Delancy ordered to additional duty at the naval hospital, Newport, R. I. Assistant Surgeon A. Stuart detached from the *Yankton* and ordered to temporary duty on the tug *Fortune* at the New York navy yard, August 4th.

Obituary Notes.—Dr. Elisha Chenery died at his home in Boston on August 1st. He was born in Livermore, Mass., on August 23, 1829. He began the study of medicine at Bowdoin College, and afterward entered Harvard Medical School, from which he was graduated in 1853. In 1862 he passed for a surgeon in the army, and started for the front, but soon after was taken ill, and compelled to resign. After thirteen years of practice in Maine, he went to Massachusetts, residing three years in Cambridge, and since 1870 in Boston. He was a member of the Maine Medical Association, also a fellow of the Massachusetts Medical Society, and a member of the American Medical Association.

Dr. Frederick W. Hulseberg was killed recently by a Filipino sniper near Majajay, fifty-five miles from Manila. He had been in charge of the hospital there for several months. He was born in India, but came to this country from England while a boy. He was in the insurance business in this city for several years, and then entered the Yale Medical School. Upon graduation he was appointed on the house staff of the Connecticut General Hospital in New Haven, but resigned to enter the army as acting assistant surgeon, and was sent immediately to the Philippines.

Progress of Medical Science.

Journal of the American Medical Ass'n, Aug. 4, 1900.

Four Cases of Malaria Associated with Acute Abdominal Pain.—J. A. Capps reports a number of cases from the Massachusetts General Hospital, in all of which (1) there were intermittent fever, nausea and vomiting, and enlargement of the spleen; (2) there was acute abdominal pain of such intensity that exploratory laparotomy was considered by men of experience; (3) the acute pain subsided along with the fever and with the other symptoms after the administration of quinine; (4) typical intracellular forms of the tertian parasite of malaria with motile pigment granules were present in the peripheral blood, but were never very numerous; (5) leucocytosis was invariably absent; (6) a considerable degree of anæmia of the secondary type existed. The pain was attributed to some coexisting disease or to neuralgia from malarial poison, or to both combined. Multiple neuritis in malarial subjects, supra-orbital and intercostal neuralgias, cardialgia, enteralgia, etc., are discussed with the pathology of the condition. Periodicity, enlargement of the spleen, and especially the finding of organisms in the blood, lead to the diagnosis in cases of abdominal pain of obscure origin.

Myomectomy per Vaginam.—J. Riddle Goffe points out the value of myomectomy as contrasted with hysterectomy for fibroids, and the superiority of the vaginal method, carrying out his conservatism in gynæcological surgery. He believes in removing the diseased portions but saving the uterus. Three illustrative cases are reported, in which the general rule is followed that uteri presenting small fibroid tumors are usually retroverted. He believes that the displacement affords the necessary conditions for the development of the tumors, and that the origin is very close to interference with the circulation as a cause. The facility afforded by the vaginal method of approach for the cure of the retroversion is an additional factor in its favor. There is also less danger, convalescence is smoother and simpler, there are no visible scar and no danger of hernia.

Myofibroma Uteri.—H. J. Boldt finds the greatest number of these tumors to be encapsulated and readily enucleated. He believes that fibromyomata arise from the muscularis of the capillaries. The greatest number of adenomyomata, however, have their origin in the Wolffian body. The various changes which may occur in fibromyoma are discussed. Sarcoma is to be suspected if a tumor long stationary begins to give rise to complex symptoms. Abdominal hysterectomy in the hands of an expert should not give a greater mortality than simple ovariotomy. There is a limited field for electricity, but only for palliative treatment, and it is indicated only in interstitial growths of moderate size. Ligation of the uterine arteries is a method which does not bear the test of time.

Arrhythmia Cordis Complicating Fibromata Uteri.—J. W. Bovée concludes as follows: (1) Arrhythmia cordis is not yet well understood; (2) as a complication of fibromata uteri it is exceedingly rare; (3) it has a serious import, the degree of which depends upon the condition causing it; (4) its presence as a complication of conditions requiring surgical operations necessitates a careful inquiry into its cause before the operation is performed; (5) it is a contraindication of more or less influence in all cases requiring surgical operation; (6) if not due to a severe pathological lesion other than that for which the operation is to be performed, its presence does not necessarily prohibit operation, but offers an additional obstacle to the patient's recovery.

Improved Technique in Major and Minor Surgery of the Female Generative Organs.—By H. R. Newman.

The Value of Section Work and how to Advance it.—By Edwin Rosenthal.

The Angiotribe in Abdominal Surgery.—By H. M. Taylor.

The New York Medical Journal, August 4, 1900.

Hysteria; its Nature and Etiology.—C. L. Mix believes that hysteria in its local manifestations is limited to psychical processes. Although the disturbed centre is in the cerebral cortex, still all the manifestations of hysteria appear in all possible territories of the nervous system. The nature of the disturbance of the cerebral cortex may be one of three types: (1) There may be a deadening of the sensory excitability of the cerebral cortex resulting in symptoms of hypæsthesia, anæsthesia, hypalgesia, and analgesia; or a deadening of the cortical motor discharge, resulting in paresis and paralysis. (2) There may be an intensification of the perception of the entering impulse manifested by hyperalgesia and hyperæsthesia; or an intensification of the energy of the motor discharge, resulting in spasms and convulsions, often reflex in character. (3) There may be confusional interpretation of entering impulses, manifested by symptoms of paræsthesia; or confusion in the motor discharge of cortical cells, resulting in hysterical ataxia, and in such contractures as are due to the imperfect distribution of motor impulses to groups of opposing muscles. Predisposing causes include heredity, age, sex, protracted and exhausting diseases, sexual disorders, and faulty home-training. Exciting causes are psychical and physical trauma, suggestion, and various toxæmias.

Appendicitis; When to Operate.—J. H. Carstens advises to operate when the diagnosis is made, except when the environment is bad, when no experienced operator or proper facilities are at hand, and in mild first attacks. As regards diagnosis, he says that if we bear in mind that in most cases the patient first complains of pain in the region of the stomach with more or less nausea, and has a high temperature, but notice that, as often happens in such cases, the pain in the region of the stomach and the nausea subside within twenty-four hours, and that the only soreness complained of is in the region of the appendix (always assuming that opium has not been given), then we shall not make a mistake very often in diagnosticating appendicitis.

On the Treatment of Metacarpal Fracture.—Carl Beck believes that metacarpal fragments can be invariably held in place by elastic pressure. For this purpose two rubber drainage tubes of moderate size are chosen, which are lightly pressed into the adjoining interosseous spaces so that they fill them up to a certain extent. They are kept *in situ* by adhesive-plaster strips. Thus the recurrence of the displacement is prevented. The whole is surrounded then by a moss splint, a material which, after being dipped in cold water, adapts itself to the contours of the hand like a plaster-of-Paris splint, over which it possesses the great advantages of being absorbent and much lighter.

Glandular Complications of Acute Follicular and Acute Suppurative Amygdalitis when Accompanied with Grippe.—W. C. Phillips has found this class of cases quite frequent during the past year. The disease has in some cases involved the superficial, in others the deep, glands. The cases generally present the usual type of grippe symptoms with follicular tonsillitis, the patient's apparent recovery being followed by pain in the side of the neck, a very extensive swelling, and a rise of temperature. Suppuration has occurred in his experience in about half the cases. In one instance, long streptococci were found in the pus.

A Case of Enlargement of the Liver and Spleen Succeeding Chronic Catarrhal Cholangeitis.—By S. S. Cornell.

The Present State of the Galvano-Caustic Operation of Bottini for Ischuria.—By Grenville MacGowan.

Vulvo-Vaginitis in Children.—By H. B. Sheffield.

Boston Medical and Surgical Journal, August 2, 1900.

The Transportation of Disease by Dust.—Harold C. Ernst says that of the irritant action of dust upon the respiratory apparatus there can be no doubt, as is illustrated by the photomicrographs of the dust from the streets, which show a variety of minute jagged particles of mineral and vegetable origin. This material also carries living forms of the higher bacteria. E. Germano has thoroughly studied the subject of the possibility of the transmission of pathogenic bacteria by dust. He concludes that it is a settled matter that they must be dry to render their transportation by dust at all probable. The bacteria of typhoid, cholera, plague, influenza, and gonorrhœa resist drying for so long a time that their chances of transmission are slight. The streptococci, pneumococci, and diphtheria bacillus may be carried by dust, as they show great variation in their resistance to drying. The diplococcus intracellularis, the staphylococcus of suppuration, and the bacillus of tuberculosis are still more resistant to drying, and the spore-producers—anthrax, malignant œdema, tetanus, etc.—may resist drying for an indefinite period. The conclusion would seem to be that the danger from dust is greater from its direct irritant qualities than from the chance of transportation of any infectious disease.

The Effects of Dust on the Upper Respiratory Tract.—Samuel W. Langmaid says that for many years he has observed that whenever a dust-storm occurred there was an outbreak of sore throats. Recovery from swelling and ulceration of the larynx in tuberculosis of the throat is made much more difficult by the irritating effects of a dusty atmosphere. The author scores the senseless way in which macadamized streets are cleaned; the constant watering, with almost no sweeping, together with the attrition of the surface by passing vehicles, soon pulverizes the surface and leaves a layer of dirt which is again wet down, to be later transformed into clouds of dust under the influence of strong winds. Better pavements should be put down in the beautiful and expensive city of Boston, where probably more irritating dust can be found in the atmosphere than in any other region east of the Mississippi River.

Effects of Dust upon the Lungs.—Vincent Y. Bowditch urges agitation in Boston in regard to obtaining an abatement of the "dust nuisance." He recalls good work already done by medical men in reference to street watering, but says that in consequence of the lack of proper pavements the citizens of Boston have had to endure in this open winter a vile atmospheric condition. He has patients with delicate throats and lungs who have to be housed absolutely, when with the streets in proper condition they could enjoy the mild, bracing air out-of-doors. Asphalt is not an ideal pavement, but with proper care and regulation to prevent its being constantly torn up or replaced by inferior material, it has thus far proved in our American cities the one which possesses the greatest advantages and the fewest disadvantages of all pavements used here.

Asphalt Pavements; their Nature and Desirability.—By Clifford Richardson, expert on asphalt, New York.

Recurrent Luxation of the Ulnar Nerve.—By F. J. Cotton.

Philadelphia Medical Journal, August 4, 1900.

Antistreptococcic Serum: a Case in Which it Was Used with Apparently Remarkable Results.—D. H. Galloway reports the case of a young woman suffering from a large swelling, believed to be an abscess, in the neck. The patient's condition was critical, but an operation was deemed inadvisable. Antistreptococcic serum was administered in a dose of 10 c.c., and repeated the following day and again two days later, as the supposed abscess was diminishing in size. Six doses in all were given. There was no positive proof that the swelling in the neck was a streptococcic abscess. If it was, however, the author thinks, there could be little doubt that the antistreptococcic serum saved the patient's life, for neither of the consultants believed she would survive either with or without an operation.

Congenital Tuberculosis.—Benjamin F. Lyle reports the case of a child born at term, of a mother who was practically moribund of tuberculosis at the time. The child was evidently ill from the time of its birth; its temperature was subnormal during the first four weeks, then for twelve days was slightly above normal, and finally hyperpyrexia ensued. The appetite was good until the second week before death, which occurred about ten weeks after birth. Post-mortem examination showed tuberculous deposits in the lungs, liver, spleen, kidneys, and bronchial glands. The author thinks the case was one of congenital tuberculosis.

A Case of Conjunctival Burn; Recovery Without Symblepharon.—By Howard F. Hansell.

Morbid Conditions Caused by the Bacillus Aerogenes Capsulatus.—By William H. Welch.

The Early Recognition of Ectopic Pregnancy.—By DeWitt G. Wilcox.

Medical News, August 4, 1900.

The Treatment of Summer Diarrhœa in Infants.—C. G. Kerley says the true nature of summer diarrhœa is not appreciated by the rank and file of the profession. If we can bear in mind that in so-called "summer diarrhœa" we have a disease due to virulent organisms, much will be accomplished. The child is poisoned. Cholera infantum is due to direct infection. There is a tendency for summer diarrhœa to get well if left to itself. The treatment is simple, consisting chiefly in elimination and diet. Irrigation is of value by means of a soft catheter, No. 14 English. The writer has discarded the white of egg in milk in favor of dextrinized barley. Opium must be used with great caution. The utmost cleanliness must be observed in preparing the infant's food.

The Consumptive in Los Angeles.—William H. Duckman says many patients with phthisis come annually to Los Angeles. Many arrive exhausted and gasping for breath, only to die within a few days. The family physician is too often responsible for permitting this. There is no approach to a specific remedy. Country life in the open air, easily digested food, precautions against negligence, and striving to get well are the essentials.

The Methods of Closure of Abdominal Incisions.—By M. H. Richardson.

The Lancet, July 28, 1900.

Carbohydrates and Disease.—E. Pritchard and E. H. Colbeck enumerate as the chief methods on which the organism relies for the disposal of supplies not requisite for ordinary physiological processes: (1) Complete metabolism by the tissues, with removal by the excretory organs (luxus consumption); (2) loss of appetite, vomiting, diarrhœa, and protective coating of the absorbing surfaces with excess of mucus; (3) the metabolism of the food into incompletely oxidized end products and their removal from the body with more or less detriment to the organism; (4) growth of normal tissues (hypertrophy), and growth of degenerate tissues (mucoid, amyloid, adepoid); new growths (tumors, granulations), and leucocytosis; (5) loss of tissues, discharges (purulent, mucous, serous, etc.), and hemorrhage; (6) active metabolism with the production of heat (fevers); (7) development of kinetic energy, restlessness, spasms (tonic and clonic); (8) parasites. They study especially certain clinical problems suggested by the third heading of the foregoing list. They believe that an excess of carbohydrates is responsible for many diseased conditions such as rachitis, rheumatism, and diabetes. This condition of carbohydrate excess they designate as glycosachthæmia. The article goes quite extensively into certain problems in physiological chemistry which cannot be followed here.

Tachycardia Following Enteric Fever.—C. Burland treated two hundred and sixty-five cases of enteric fever on one of the transports returning from South Africa to Southampton. The lowest pulse rate in this series was 72 per minute and the highest was 150, an average exactly of 95.25. In fifty-six per cent. the pulse rate was 80; in twenty-five per cent. it was 95; in ten per cent. it was 100; in five per cent. it was 110; and in four per cent. it was from 120 to 140. All the cases were in the convalescent stage when seen by the writer, whose attention was attracted by the uniformly rapid pulse rate. He thinks this may have been due to the great privations to which the patients had been subjected previous to their illness. The treatment was simple, consisting of free stimulation with brandy and champagne, while digitalis, carbonate of ammonia, and strychnine were the drugs chiefly relied upon, the latter being administered hypodermically in several extreme cases.

A Case of Abscess of the Parotid Gland Presenting Unusual Symptoms.—In a boy aged ten years, under the care of W. J. Beveridge, the helix of the ear was tilted forward by an abscess situated in the groove behind; the position of the zygoma was marked by a hard groove, below which there were œdema and deep fluctuation; and there was considerable œdema over the temporal region and extending down to the mastoid process. Both tonsils were slightly swollen. The pus sac behind the ear was opened, and in twenty-four hours an incision was made into the parotid and a gauze drain inserted. Considerable pus came away in the course of a few days, and the œdema gradually subsided.

A Further Note on the Influence of the Temperature of Liquid Hydrogen on Bacteria.—A. Macfayden and S. Rowland find that no appreciable effect is produced on the vitality of such organisms as bacilli acidi lactici, typhosus, diphtheriæ, anthracis, coli communis, and staphylococcus pyogenes aureus, etc., by immersing them in tube cultures in liquid hydrogen, in which for about ten hours they are exposed to a temperature of −252 C. The hydrogen was contained in a vacuum-jacketed vessel immersed in liquid air.

Addison's Disease and Leucoderma.—Samuel Wilks, who was a pupil of Addison, says that many cases of leucoderma have been sent to him during the last half-century as supposed cases of Addison's disease, but in no single case has this assumption proved to be true. The paper is in the main a historical study of the status in clinical medicine of Addison's disease, and a repudiation of certain views concerning its relation to leucoderma which the writer asserts have been wrongly attributed to him.

Pancreatitis with Special Reference to Chronic Pancreatitis, its Simulation of Cancer of the Pancreas, and its Treatment by Operation, with Illustrative Cases.—Clinical lecture, by Mayo Robson.

The Present Position of Pharmacy.—Presidential address before the British Pharmaceutical Conference, by E. M. Holmes.

Notes on Thrombosis of Cerebral Veins Occurring in a Case of Chlorosis.—By E. F. M. Neave.

Hammer-Toe and Hallux Valgus and Rigidus.—Clinical lecture, by W. Haward.

The War in South Africa; Jottings in Burghersdorp.—By H. Caiger.

A Case of Actinomycosis.—By E. T. Jones.

The British Medical Journal, July 28, 1900.

Oral Sepsis as a Cause of Disease.—William Hunter says that for every case of gastric or other affection traceable to pyorrhœa alveolaris a hundred are found associated with other dental and oral conditions of sepsis. All the various stomatitides are septic in nature and often connected with bone disease (teeth), and no pus organisms are so virulent as those grown in connection with bone necrosis. Mouth asepsis is to be secured by: (1) the direct application to the diseased tooth or inflamed gum of carbolic acid (1.20), repeated daily for just so long a period as the patient will persist in keeping his necrosed tooth or fang, still better (2) the removal of all diseased useless stumps, (3) the most scrupulous daily sterilizing by boiling of every tooth-

plate worn; and (4) on the part of dentists the avoidance of too much conservative dentistry and of the use of contrivances like "bridges" which cannot possibly be kept aseptic.

A Case Bearing upon the Pathology of Acromegaly.—P. G. Lodge relates a history in which there was stiffness of the right knee, which wore off gradually during the day, but soon became constant. There were swelling, prominent veins, and pain on motion. Nine months after amputation for round-celled sarcoma the hands began to enlarge, and enlargement of the other knee occurred. The patient died. It was thought that secondary deposits might have involved the pituitary body and thus caused enlargement of the hands. No autopsy was made.

Hysteria in the Male.—W. T. Greene relates the following case. During a paroxysm of pain from ingrowing toe-nail there was complaint of severe heart-pain, and the patient slid from the chair to the floor and was seized with violent paroxysms, throwing himself about, striking the head, and snapping with the teeth at friends who tried to restrain him. On recovery there was no recollection of what had occurred. The single attack was attributed to nervous exhaustion as a result of severe pain in the toe.

Dark Sclerotics and Fragilitas Ossium.—A. Eddowes has observed the tendency to broken bones in those having very dark sclerotics. At the recent meeting of the Dermatological Society of Great Britain he showed such a case and mentioned others. Surgeons seem not to have noted the association. The transparency of the sclerotics indicates a lack of fibrous tissue in the framework of various organs, and might explain the want of toughness in the bones of these individuals.

A Case of Aneurism of the Abdominal Aorta Pointing Posteriorly, in which the Initial Symptoms Were those of Chronic Colitis.—A. Ernest Maylard gives a case of a patient who showed a marked pulsating swelling in the back close to the spine, which was for a long time puzzling. The patient died suddenly by probable internal rupture of the aneurism.

An Address of Welcome.—Delivered by the president of the Royal College of Surgeons, Sir William MacCormac, Bart., K.C.V.O.

An Account of Some Researches into the Nature and Action of Snake Venom.—By Capt. Robert Henry Elliott.

On the Physiological Action of Senecio Jacobœa.—By J. L. Bunch.

Fibromyoma of the Vagina.—By Lieut.-Col. Patrick A. Weir.

Case of Inversio Uteri.—By D. M. McVeagh.

Berliner klinische Wochenschrift, July 16, 1900.

Functional Diagnosis of Kidney Disease.—L. Casper and P. F. Richter advocate the use as a test of phloridzin followed by ureteral catheterization. They find that upon the introduction of this substance the body reacts through the separation of a sugar whose place of origin is in the kidneys. After the introduction subcutaneously of a quantity of phloridzin, it is found that healthy kidneys excrete within one-half an hour to one hour equal quantities of sugar. A damaged kidney will excrete less than its healthy neighbor. If the disease is far advanced the excretion of sugar is reduced to a minimum or is entirely absent. The authors believe that further experiments along this line will enable us to make the diagnosis of renal affections more accurately than has hitherto been possible.

Methods of Identification of the Tubercle Bacillus, with Demonstrations and Practical Employment.—Max Wolff enumerates three methods of identification, namely, the microscopical, cultivation in media, and inoculation of healthy organisms with a pure culture. The latter may be done subcutaneously, through the abdominal cavity, in the anterior chamber of the eye, and by inhalation. The various details of all these methods are fully set forth. Finally he says that inoculation may occur through the digestive tract, as can be experimentally proven, and also we can inject directly into the blood. The article contains nothing especially new, but is an excellent *résumé* of current methods of experimentation.

The Etiology and Therapy of Tabes Dorsalis.—By P. K. Pel.

Tissue Change in Diabetes Insipidus.—By G. Vannini.

The Pathology of Morbid Growths.—By O. Israel.

Munchener medicinische Wochenschrift, July 17, 1900.

A Hitherto Unrecognized Property of Alcohol in the Sterilization of the Hands.—Braatz comments on the two views that have been taken regarding the rôle played by the alcohol which is so prominent a factor in most of the methods of hand-disinfection. It is maintained by some that it is mainly through its property of dissolving fat that it is useful, for in this way the corrosive-sublimate solution is enabled to come into closer contact with the skin, while other observers claim for it great intrinsic antiseptic power. It is a fact, however, that other substances, such as ether, which are better solvents of fat than alcohol, or bodies which surpass it in germicidal power, alike fail to produce the same good results, and we are furthermore between the horns of the dilemma, since the more nearly absolute the alcohol is, the greater is its fat-dissolving faculty, while the more water it contains, within limits, the better it acts as an antiseptic. The author endeavors to clear up the matter by advancing the theory that it is in abstracting air from the pores and fissures of the skin that the true value of the application lies; a previous treatment with alcohol enables subsequent aqueous solutions to penetrate much more thoroughly and completely into all the macroscopic and microscopic interstices of the cutaneous surface.

The Early Diagnosis of Tabes.—Erb emphasizes the necessity for watchfulness to avoid overlooking incipient or atyphical forms of this malady. In evidence of the protean character of the disease he cites five case histories in which there were practically no objective symptoms at all, and even subjectively the disturbances present were of the slightest, consisting variously of obscure lancinating pains, slight hyp- or hyper-æsthesia, lassitude, diminished sexual vigor, headache, etc.; pupillary sluggishness or inaction was, however, noted in several instances. On the other hand, a case is reported in which the patient was not suffering from any subjective symptoms whatever, and yet on examination was found to have lost his tendon reflexes and to give both Romberg's and Westphal's symptoms. In doubtful cases the author considers the presence or absence of a syphilitic history as of the greatest importance; when preceded by a specific infection symptoms which otherwise would be negligible assume the gravest significance. It is in the recognition of these anomalous types of the disease (the formes frustes of French observers) exhibiting a tendency to run a sluggish course or even apparently lie dormant for years, that the greatest care is needed, for these are precisely the cases which seem most amenable to treatment.

Alcohol Dressings.—Graeser has found permanent applications of strong (ninety-per-cent.) alcohol of great service in combating all inflammatory conditions in which there is a tendency toward suppuration. The explanation offered is that the alcohol by the chemical irritation produced causes a local dilatation of the blood-vessels, and the richer blood-supply means an increased formation of alexins and consequent greater capacity for resisting the spread of infection. The technique employed consists in the application of thick layers of gauze which are saturated with alcohol and then covered with some impervious material, such as gutta-percha paper. The dressing is left in place for days at a time, but about once every twelve hours it is necessary to resaturate it with alcohol.

Comparative Observations on the Value of the Mechanical and Ahlfeld's Alcohol Disinfection as Opposed to Mercury Disinfection, Especially that with Mercury Ethylendiamin.—By Krönig and Blumberg.

A Method of Determining the Exact Size of Objects by Means of their Roentgen-Ray Shadow, and the Determination of the Size of the Heart by this Method.—By Moritz.

Experimental Observations on Disinfection of the Hands. IV.—By Paul and Sarwey.

The Antiseptic Value of Oxycyanide of Mercury.—By Sicherer.

The Clinical Diagnosis of Diaphragmatic Hernia.—By Hirsch.

Diabetes Insipidus.—By Strubell.

Deutsche medicinische Wochenschrift, July 19, 1900.

The Preparation of a Bubonic-Plague Serum from the Peritoneal Exudate of Infected Animals.—Terni and Bandi emphasize the disadvantages and dangers connected with the preparation and use of the serum made according to Haffkine's method. It is necessary to have very virulent cultures of the bacteria. It is difficult to obtain the serum in any quantity and the immunity produced does not manifest itself until ten or twelve days have elapsed, while if the individual inoculated has already been infected the treatment would only serve to aggravate the severity of his disease. With the idea of producing a serum that might be obtained in large quantities in a short space of time, and in which there should be present substances capable of conferring on the organism a passive immunity, making it able to resist infection until the moment when active immunity should have been caused, they experimented with the peritoneal exudate of rabbits into whose abdominal cavities virulent cultures of plague bacilli had been injected. This serum contains pure cultures in abundance, and after fractional sterilization and the addition of small quantities of carbolic acid, sodium carbonate, and sodium chloride, it is ready for use. No disadvantages at-

tend its employment; it may be readily obtained in considerable quantities; the determination of the dose for each individual lot of serum is easily and quickly effected; experiments on man and animals show that no local or general disturbances are produced, and immunity appears earlier and is of longer duration than is the case with the serum of Haffkine.

The Theory of the Pasteur Inoculations for Rabies.—Marx formulates his belief as follows. The virus of rabies is modified, but not killed, by its passage through rabbits. On subsequent injection into man, in consequence of its diminished activity it is killed before it can reach the central nervous system. The constituents of the disorganized microbes are thus set free, and by their presence the necessary stimulus is given to those organs which produce the specific anti-bodies for rabies. Experiments on monkeys showed that while they promptly succumbed to injections of the virus of street rabies, they were resistant to virus that had been passed through the bodies of rabbits. When the infection, instead of being made subcutaneously or intramuscularly, was effected by injection into the chambers of the eye the monkeys died with characteristic symptoms.

Clinical Contributions to the Occurrence of Tetany and the Other Tonic Spasms in Gastric Dilatation.—By Ury.

A Report on the Influenza Epidermic of February, 1900, in the Obstetrical Clinic at Greifswald.—By Möller.

Investigations on the Parasitical Nature of Eczema.—By Scholtz.

French Journals.

Nectrianine.—Mongour and Gentes describe experiments carried out with nectria ditissima in cancer. The drug nectrianine is derived from the parasitic fungus of the so-called cancer of trees. The external aspect of these vegetable cancers is often strikingly similar to the appearances of cancer in the human being. Cultures of the fungus show cylindrical conidiæ, an illustration of a pure culture being shown. The following conclusions are drawn from the first communication of Bra and Mongour and from the present observations: (1) Injections of nectrianine are without danger. (2) In none of the patients affected with cancer did the treatment arrest the evolution. (3) It did not prevent the production of tumors at a distance, nor modify the glandular enlargements. (4) The normal course was pursued. (5) In most cases hemorrhage was decreased and there was less fetid discharge. Most of the cases had already reached an advanced stage. Further tests are justifiable in spite of the unfavorable showing.—*Le Bulletin Médical*, July 18, 1900.

Salt in the Alimentation of Epileptics.—Edw. Toulouse gives a résumé of his observations and experiments which go to show that by diminishing the amount of salt in the food of epileptics the therapeutic action of the bromides is in a large measure increased. The previous work of Ch. Richet and himself in this direction is referred to. Tables give the results of tests, showing the effects of increased and diminished salt supply in reference to the result obtained from bromide medication. The author thinks the fact established that decrease in salt supply intensifies the effect of the bromides, and that the bromide of sodium seems to be the least toxic and to approach more closely in nature the sodium chloride which it should replace.—*Gazette des Hôpitaux*, July 21, 1900.

Pneumonia in the Obese.—H. Huchard believes that in the prognosis of pneumonia we cannot regard the degree of virulence of the microbe by itself. Among other elements to be reckoned with is that of obesity. In treatment of pneumonia in fatty subjects we can employ: (1) bleeding, either local or general; (2) digitalis, not with the aim of introducing a cardiac tonic and not with the end in view of meeting a morbid intoxication with a remedial intoxication; (3) milk diet and diuretics (theobromine); (4) chloride of sodium.—*Journal des Praticiens*, July 21, 1900.

A New Sign of Alcoholism.—Maridort describes a sign which he learned from the late Professor Quinquaud. It consists in a series of quick tappings or the sensation of slight shocks made by the phalanges when the patient's fingers are spread apart and extended and pressed perpendicularly against the palm of the experimenter. It is only after a few seconds that the phalangeal shock is felt, and then only in case the subject is an alcoholic.—*La Médecine Moderne*, July 18, 1900.

American Journal of the Medical Sciences. August, 1900.

Clinical Notes of Cases of Pernicious Anæmia.—F. P. Henry finds in well-marked cases of this disease (1) a reduction of the number of the red corpuscles to a degree that is normal in the cold-blooded animals. It is the rule to find in this disease, when well advanced, less than 1,000,000 corpuscles per cubic millimetre. Figures like these are normal in the cold-blooded animals. (2) In pernicious anæmia many of the corpuscles are much increased in size, so much so that they have received the name of megalocytes. Many of them are quite as large as the corpuscles of the lizard and eel. (3) They often show a tendency to assume an oval outline, which is that of the corpuscles of the cold-blooded animals. (4) Finally, to make the resemblance complete, nucleated red corpuscles are commonly present in the blood of pernicious anæmia. The clinical facts brought out in the paper are evident from the following case-headings. Case I.—Profound anæmia, with all the characteristics of the pernicious type; peripheral neuritis, with paralysis of extensors; bronzing of skin, with freckle-like spots upon its surface. Result fatal. Case II.—Profound anæmia following repeated epistaxis; characters of the blood as regards number of red corpuscles and percentage of Hb. the same as those of pernicious anæmia; convulsions following transfusion, the giver of the blood being epileptic; continued fever; death. Case III.—Extreme anæmia, with percentage of color higher than that of number; marked gastro-intestinal disorder; great improvement under the use of arsenic and orexine. Case IV.—Under observation six years, during which there have been several slight and two severe relapses, chronic gastro-intestinal catarrh, with marked exacerbations preceding and during the relapses; complete restoration to health. Case V.—Extreme anæmia of less than one year's duration; pleuritic effusion of left side; death from erysipelas.

Pernicious Anæmia; a Study of One Hundred and Ten Cases.—R. C. Cabot gives the results of his examination of these cases, including blood counts. From this analysis he makes up a composite symptomatology as follows: (1) a slow, insidious onset without recognizable cause; (2) remarkable freedom from pain; (3) striking absence of emaciation (in most cases); (4) the frequent presence of symptoms suggesting disease of the spinal cord; (5) paroxysmal attacks of diarrhœa and vomiting, occurring without any obvious relation to diet or to treatment, preceded and followed by periods in which digestion and absorption were performed without apparent difficulty; (6) the tendency to great spontaneous improvement in all the symptoms, followed by rapid and inevitable relapse; (7) a reduction in the red corpuscles to a point below 2,000,000 per cubic millimetre, without a corresponding reduction in the hæmoglobin; a reduction in the number of leucocytes, and especially in the number of polymorphonuclear neutrophiles; the presence of large numbers of oversized, well-stained red corpuscles, some of them containing nuclei (megaloblasts), together with a tendency to abnormal staining reactions and to an oval shape in the red corpuscles.

The distinctive features in the diagnosis of secondary or symptomatic anæmia are: (1) the presence of a well-recognized cause; (2) the steady progress of the symptoms, especially in malignant disease. If gastro-intestinal symptoms are present they seldom improve spontaneously; (3) emaciation; (4) the blood.

Minor Form of Cardiac Dilatation.—Beverley Robinson finds this condition in anæmic girls just past the age of puberty. They suffer from menorrhagia, constipation, and flatulence. The cardiac fluttering so often seen in these cases, and generally considered functional, he believes to be due to actual organic change requiring iron and oxygen, rest and massage, and restricted hours of mental effort. But they also require, and in the beginning of treatment it is absolutely essential, small repeated doses of strychnine and digitalis until their hearts sufficiently respond to enable us to make satisfactory use of other means to restore bodily activity. In these cases the action is as a rule rapid, and the first sound is exaggerated and seemingly irritable. Our best results come from the strychnine and digitalis in moderate doses for a week or two, to be followed by a prolonged course of iron.

Experimental Research Showing that Uric-Acid Secretion is Not Regularly Diminished in the Periods Preceding Epileptic Seizures.—J. J. Putnam and F. Pfaff examined the twenty-four hours' urine from two patients, the test being made twenty-nine times. The tabulated results cannot be said to bear out the statements which have been so emphatically made, either as regards the low excretion before the epileptic attacks or the high excretion after them.

Endothelioma of the Skin Developing in the Scar-Tissue of Lupus Vulgaris; Angiosarcoma of the Skin.—By J. A. Fordyce.

A Comparative Study of Digitalis and its Derivatives.—By John P. Arnold and Horatio C. Wood, Jr.

A Clinical Summary of the Literature on the Inoculability of Carcinoma.—By Joseph Sailer.

Multilocular Cystoma of the Pancreas.—By Reginald H. Fitz.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SOUTH AFRICAN HOSPITAL COMMISSION—SPECIAL EXTRAORDINARY MEETING OF THE BRITISH MEDICAL ASSOCIATION; ATTEMPT OF THE COUNCIL TO DISFRANCHISE MEMBERS AND CAPTURE THE FUNDS AND MANAGEMENT OF THE ASSOCIATION—LEAD AS AN ABORTIFACIENT—FINSEN'S TREATMENT BY LIGHT—COMMISSIONS AND GUARDIANS—NATIONAL HOSPITAL FOR PARALYSIS.

London, July 20, 1900.

On Tuesday Mr. Balfour was able to give the names of the additional members he had agreed to place on the commission of inquiry into the army hospitals in South Africa. The gentlemen chosen are Sir David Richmond, ex-lord provost of Glasgow, and Mr. Frederick Harrison, general manager of the London and Northwestern Railway Company—our largest railway. Both men have experience of the sort likely to prove useful, Sir David in administrative affairs, and Mr. Harrison's knowledge must be most important in considering transport. But Mr. Burdett-Coutts was not satisfied, and gave another demonstration of his want of that common-sense recommended by Lord Roberts. Mr. Coutts endeavored to controvert the ruling of the speaker and renew his attack on Professor Cunningham, but he was put into his place by the Speaker, to the delight of a chuckling House. Only one other person indorsed the silly notion that an examiner of army surgeons in anatomy must be a tool of the War Office.

On Wednesday the extraordinary general meeting of the British Medical Association, called to pass the new regulations framed by the Council, was held in Exeter Hall, and most emphatically refused to sanction the alterations and by implication condemned the Council and all its works. The hostile tone of the meeting was evident from the first. The chairman, Dr. Ward Cousins, was scarcely equal to the occasion, genial and popular though he be. At times the meeting might be described as uproarious. The proceedings began by objection being taken to the presence of the solicitor to the Council, who was not a member of the association, Mr. Victor Horsley and Dr. Brierly pointing out that actions for libel (*sic*) might arise. On a vote he was directed to withdraw. Mr. Brown demanded that the opinion of counsel (Mr. Beaufort Palmer), under which the council of the association were acting, be read. This was done. Complaint was made that amendments of which due notice had been given had not been put upon the agenda paper. To this the secretary replied that counsel had advised that the wording of the notice of meeting precluded any amendment being moved (a smart move that on behalf of the Council!) After a suggestion of adjournment in order that the notice might be amended had been negatived, the chairman introduced the resolution. He much regretted that the solicitor had been excluded. He and Mr. Fowke were the best friends the association had. Amid much laughter and cries of "No!" he proceeded to draw a pathetic picture of these two officials toiling for the common good, while the members who laughed were comfortably asleep rolled up in their blankets. He said that the new articles were only aimed at the removal of discrepancies and contradictions, and that there was very little real difference between the existing and proposed new articles. The powers of the annual meeting would remain unaltered by the new articles. From this the chairman seems to have been completely hoodwinked.

Dr. Robert Thompson described the origin of the new articles. He pointed out the absurdity of the association's being ruled by an annual meeting at which often only thirty members were present.

Dr. Bernard O'Connor said the new articles would take away all power from the members and make the council absolute. This was done by what he would not call chicanery, but verbal subtlety.

Dr. Rentoul advocated that limited proxy-voting should be allowed at general meetings; no person to be proxy for more than fifty members, and such proxy voting to be allowed only on motions of amendment.

He also proposed that the representation of branches should be equalized and the Council reduced from one hundred and one to forty-seven members.

Dr. Douglas complained that members had for years maintained that the Council acted illegally in ignoring resolutions passed in annual meeting, and now this was admitted to be the case. The Council meant well, but did badly.

Mr. Victor Horsley, who was received with loud applause, said he himself had been ruled out of order under an interpretation of the articles that was now admitted to be illegal, but no apology was forthcoming. He urged the rejection of the resolution and the reorganization of the association after careful study of its needs, by a special committee if necessary.

Dr. Ritchie also opposed the resolution. He said that in drawing up these regulations the Council had ignored the recommendations of a committee appointed to consider the subject. The unattached members were not considered.

On the resolution being put, it was declared that the three-fourths majority necessary to pass it was not obtained. Apparently an absolute majority of those present voted against it.

From the foregoing you will see that the little plot laid by the Council to capture the absolute control of the association and the disposal of its funds has been frustrated. For once the members have seen through the scheme and taken the trouble to refuse assent to changes in the articles of association which might open the door to years of litigation or throw away all the rights of present and future members. A more barefaced attempt could scarcely be imagined. A special meeting called at Exeter Hall to consider some amendments of the articles worded in such a way as to require close attention to grasp their effect—then if that passed without comment the confirmation could be secured next week at Ipswich by one of the old dodges by which the Council has too often secured the passing of its proposals. It is desirable that the general meetings at Ipswich should be fully attended, lest some fresh pettifogging move be attempted.

Professor Wright, of Netley, has been permitted by the director-general to publish the official statistics concerning the anti-typhoid inoculations of the Ladysmith garrison. There were 1,705 inoculated; of these 35 had typhoid, 1 in 487, and the deaths numbered 8, or 1 in 213. The non-inoculated numbered 10,529; of these, 1,489 contracted typhoid, or 1 in 7.07, the deaths being 329, or 1 in 32. These figures at first sight seem to speak well, but have to be discounted by various considerations. Taking the proportion of deaths to the total number of attacks in the two groups, we find it to be 1 in 4.52 in the non-inoculated and 1 in 4.4 in the inoculated. The case mortality, therefore, was not influenced much, if at all, by inoculation, but this point is of less import than the reduction in incidence. It is hardly possible to determine at present the protective power of inoculation, and there seems a probability that different preparations have been used. But on the whole Professor Wright regards the results as encouraging in animals, inasmuch as they show that the proportion, on the one hand, of attacks and, on the other hand, of deaths from typhoid fever was seven times smaller in the inoculated than in the uninoculated. It may, too, be borne in mind that the figures would have been more favorable if those who had previously suffered from typhoid could have been subtracted from the number of uninoculated.

Those who are less hopeful than Dr. Wright cannot say that so far statistics are discouraging, and the enormous importance of typhoid seems abundantly to justify any reasonable experiment. The fact that anti-typhoid inoculation has, I believe, never been followed by serious results should induce any one exposed to its dangers to submit to the procedure.

Cases have been published in the journals during the last few years in which lead-poisoning has occurred from diachylon or some other preparation being taken with the intention of producing abortion. Dr. Ransom, of Nottingham, has added three cases in which cerebral symptoms were prominent, and says his experience leads him to believe that the use of diachylon as an abortifacient is a fast-growing evil. Further, he has obtained from others statements of their experience which quite corroborate this conclusion, and he thinks diachylon should be classed with poisons.

Finsen's "light treatment" is being tried rather fully at the London Hospital, where a department has been fitted up for the purpose with all necessary appliances.

The local government board has warned other guardians that the irregularities at St. Pancras as to commissions may have occurred in their districts, and stating that relieving officers who had been guilty of such practices should not be allowed to continue in office.

The board of the National Hospital for the Paralyzed and Epileptic has replied to the complaints of the staff in a most feeble defence. It declares that the question arises because the staff do not approve of the board allowing patients who can afford to pay to participate in the charity of the hospital. "Supposing that were true," when a board asserts a right to sell the services of the honorary staff to those who can afford to pay, it is high time for the staff to say No.

Malaria.—Methylene blue may be given with confidence whenever quinine is indicated.—Smithwick.

Society Reports.

THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Paris, August 2, 3, 4, 5, 6, 7, 8, and 9, 1900.

(Special Cable Report to the MEDICAL RECORD.)

GENERAL SESSIONS.

First Day—Thursday, August 2d.

THE first general session of the Thirteenth International Medical Congress was largely attended, nearly all of the six thousand members of the Congress and their ladies being present. The opening session was held in the enormous Salle des Fêtes at the end of the Champ de Mars in the Exposition grounds. This great hall, which had been constructed from the old Machinery Hall of the Exposition of 1889, is said to have a seating capacity, when all its space is utilized, of about fifteen thousand. Its expanse of roof, covering an area of about one hundred thousand square feet, is unbroken by a single column, and were its acoustic properties perfect it would be unrivalled among the assembly buildings of the world. The hall, large as it is, was completely filled, and the gala dresses of the ladies and the glittering uniforms of the many dignitaries and military surgeons present made a brilliant scene. The hour appointed for the opening of the Congress was two o'clock, but it was long after this time when the loud rapping of the president's gavel hushed the roar of conversation which was filling the auditorium.

Addresses of Welcome.—M. Loubet, the President of the French Republic, who was to have opened the Congress, was unable to do so, and the pleasant task was delegated to the Minister of Justice. He dwelt upon the satisfaction which Paris and all France felt when, at Moscow three years ago, the representatives of the medical profession throughout the civilized world united in accepting the invitation of the French delegates to hold the thirteenth triennial session in Paris, during the continuance of the Exposition which marked the close of the most progressive century the world has ever seen. Officially as an officer of the Government of France and as the appointed delegate of the President of the Republic, and personally as a humble citizen of Paris and of France, he extended a hearty welcome to the members of the Congress and to the ladies who accompanied them. He was sure their deliberations would result in the advancement of the sublime healing-art, and he confidently hoped that their stay would be a pleasant one—if it was not it would not be the fault of their hosts—and that they would always look back upon the Paris Congress as one of the greatest of the illustrious series of medical reunions.

Address of the President.—M. LANNELONGUE, president of the Congress, then delivered his address, taking as his theme the importance and the value of international congresses, particularly of those called to discuss medical subjects. They tended to promote international intercourse, to break down national prejudices, and to cement the bonds of a common humanity. Whatever the nationality of the individual, each and all belonged to the one great profession of medicine, and this great fact was exemplified and emphasized in no better way than by these international assemblages of medical practitioners.

After this, the presidents of the national committees of the various countries were presented to the congressists and spoke briefly in acknowledgment of their introduction. All were received with applause, but among them Lord Lister was conspicuous by reason of the volume and duration of the acclamation accorded him. Von Bergmann, of Berlin, representing Germany, made a few most enthusiastically received remarks in glorification of France, which he said was the cradle of surgery and of pathological anatomy. He recalled the names of some of the great surgeons of France and of the pioneers in that country in the study of pathology, whose labors had established the foundation upon which the great medical structure was now being erected. Kitasato, of Japan, was among the speakers.

Traumatism and Infection.—PROF. RUDOLF VIRCHOW delivered the first of the general addresses, taking as his subject the relation of bacterial infection and traumatism. A trauma, he said, became harmful to the organism when it opened a portal for the admission of pathogenic micro-organisms, and when it so weakened the individual cells of the tissues that they were unable to overcome the microbes. All was not over when the specific bacteria had invaded the organism, for then began the struggle between them and the vital cells of the body, a struggle which was called disease. If the intruders were too strong, either absolutely by reason of their invincible virulence or of their overwhelming numbers, or relatively because of the weakened resisting-power of the cells, the latter were more or less speedily overpowered, the organism succumbed in the unequal contest, and disease resulted in death. If, on the other hand, the micro-organisms were present in attenuated form or in small numbers, and the cells were in the enjoyment of their normal vital activity and had not been paralyzed by the shock of the initial injury, then the invading bacteria were vanquished and infectious disease was at an end. The province of medicine was to aid these cells in repelling the assaults of the invading hordes by whatever would strengthen the cells or weaken the microbes.

This address was regarded by Virchow's hearers as a full recognition by the great pathologist of the part played by bacteria in the pathogenesis of disease.

At the conclusion of Virchow's address, which was marked by great applause, the president announced that, owing to the lateness of the hour, Professor Pavloff's address, which was on the programme for this day, would be postponed to the second general session to be held on Monday.

The opening session of the Congress was then adjourned.

The President's Reception.—On Friday evening M. LANNELONGUE gave a reception to the members of the Congress and their ladies. The occasion was a brilliant one. It was marked by an excellent concert and the usual buffet supper. Many men of international reputation were present, among them Potain, Pozzi, Dieulafoy, Virchow, von Bergmann, Waldeyer, Weigert, Ehrlich, Ewald, Boas, Kitasato, Sforza, Yersin, Surgeon-General Van Reypen, U.S.N., Weir, Keene, Jacobi, Janeway, Maragliano, Babes, Baginsky, Marfan, and others.

Second Day—Monday, August 6th.

The second general session was held on Monday, the fifth day of the congress, in the grand amphitheatre of the Sorbonne, the proceedings being opened soon after 2 P.M. by M. Lannelongue, the president of the congress. It was announced that the total number of registration of members of the congress was 6,170. Of this number no less than 412 were Americans, the United States being fourth as regards attendance in the list of nations, France of course being first.

Experimental Therapy as an Aid to Physiological Research.—PROFESSOR PAVLOFF, the delivery of whose address was postponed from Thursday, was unfortunately unable to be present on account of a

sudden indisposition, and his oration was therefore read by Dr. Likhatcheff. The address was entitled "Experimental Therapy as a New and Extremely Fecund Method of Physiological Research." The author presented numerous illustrations of the solution of physiological problems, mainly effected through the light thrown upon the subject by the results of therapeutic measures. Physiologists were for a long time greatly embarrassed in their attempts to explain why death occurred after section of the vagus nerve in animals. This was due partly to the complex distribution and function of the nerve. Three solutions were offered: (1) It was assumed that dissolution occurred from suffocation in consequence of paralysis of the laryngeal muscles supplied by the recurrent branch of the pneumogastric nerve; (2) others believed that apnœa resulted from hyperæmia and œdema of the lungs following upon the disturbances of pulmonary circulation and of respiratory function caused by loss of cardiac and pulmonary control; (3) others again attributed the fatal result to distention of the stomach and decomposition of its contents. These suppositions were based upon the well-known results of division of the nerve. There was a loss of sensation and of power in the larynx, cardiac action was at first accelerated and then impeded, the respiratory movements of the chest wall were retarded, the *besoin de respirer* was dulled, and the pulmonary capillaries became distended, the mucous membrane was congested, and inflammatory appearances were noted in the lung tissue; finally the secretory activity of the peptic glands was checked, the cardiac orifice of the stomach was paralyzed, food stagnated and decomposed in the viscus, and the organ became distended. Now, however, all these supposed inevitable changes could be prevented by appropriate treatment, and animals in which the tenth nerve had been divided no longer of necessity died. The death of the organism, this association of individual organs, was found not to be necessitated by the abolition of function of any organ, except, of course, a vital one such as the heart. We were able to treat successfully each organ as an individual, and upon early recognition of the disturbed function we might correct it or supplement it by a vicarious action in some other organ; indeed the machinery of the organism often adapted itself to the new requirements without our aid. As an example of experiment therapy, the results of which had contributed greatly to advance the science of physiology, the speaker referred to the treatment of myxœdema and of cretinism by means of preparations of the thyroid gland.

Some Pathological Problems of the Present Day.—Prof. Burdon Sanderson, of Oxford, then delivered an address with this title. He passed in review the history of the cellular theory of morbid action, citing the experiments and teachings of Schwann, Robin, Kolliker, Cohnheim, and Virchow down to the beginning of the bacteriological epoch in 1878. Pathologists were formerly interested chiefly in the study of inflammatory processes, since this study seemed best adapted to bring out into clearer view the cellular theory and to elucidate some of its unsolved problems. Now, however, the attention of all was concentrated upon the study of micro-organisms as the active agents in the excitation of morbid processes. This devotion to micro-biology had resulted in good in other directions. For example, it had contributed not a little to progress in histology, having led among others to the discoveries of Golgi and Cajal concerning the minute anatomy of the nerve structures—discoveries which might revolutionize neural pathology and therapeutics. It had also led to a plausible explanation of cell-function—that is to say, of the differences in function exhibited by cells of similar appearance and of the chemical action of cells upon each other—this explanation being that the action of the cell was dependent upon the presence of a special ferment developed within the cell itself as a result of its metabolic activity. The author's theory of inflammation was that it was a morbid process resulting from injury to the tissues caused by chemical noxa, but that these were not necessarily of bacterial production. He believed in the existence of two types of morbid action—toxic and biotic. In the first the poison was the exciting cause of the pathological process, in the second this was the result of the vital action of the infecting micro-organism.

American Medicine.—Prof. A. Jacobi, of New York, then delivered an address entitled "La Médecine et les Médecins dans les Etats-Unis" (see p. 201). The distinguished speaker was greeted warmly by the audience, in which were many citizens of his adopted country. Upon the conclusion of this oration the second general session was adjourned. The third and closing general session of the congress will be held on Thursday afternoon.

Reception by the Ladies' Committee.—On Monday evening a reception was given by the French committee of ladies to the members of the congress and their families in the Palace of the Luxembourg. The reception was a brilliant one, but the crowd was too great for comfort.

Third Day—Thursday, August 9th.

The closing session of the congress was held in the amphitheatre of the Sorbonne under the presidency of M. Lannelongue. The attendance was not so large as it had been at the two previous general sessions, and those present were attracted chiefly by the desire to learn the name of the recipient of the Moscow prize.

The Architecture of the Bones of Man and Animals was the title of an address delivered by Professor Albert. The speaker showed how nature, in shaping the skeleton so as best to bear the weight it was obliged to support in the different vertebrates, had followed the same rules as those man had evolved through long experience in the construction of his buildings. In other words, the rules of architecture were those of nature.

Award of the Moscow Prize.—At the opening session of the Twelfth International Medical Congress in Moscow in 1897, Prince Gallitzin, the mayor of Moscow, in his address of welcome announced the foundation by that city of a prize to be awarded at each succeeding congress to the person who in the period elapsed since the preceding meeting had done that medical work deemed to have been of the greatest benefit to humanity. The value of the prize was 5,000 francs ($1,000), and it had been established by the city as the most fitting expression of its appreciation of the honor bestowed upon it in its selection as the place of assembly of the Twelfth International Medical Congress. The first prize was awarded at the Moscow congress, on the motion of Professor Virchow, to M. Henri Dunant, the founder of the Red Cross Society, who was then living in straitened circumstances in Geneva. The second award was made, M. Lannelongue announced, to Señor Ramón y Cajal, of Madrid, for his great work in the study of the nervous elements, the possible benefits of which to mankind were incalculable.

The Fourteenth Congress, the president then said, would be held in Madrid in 1903, the medical faculty of the University of Madrid being charged with the arrangements for the meeting. This announcement was greeted with loud and prolonged applause, at the subsidence of which Professor Fernandez, the representative of Spain, rose and thanked the members of

the congress in his own name, and that of his country and the city of Madrid, for the honor which had been done them in the selection of the capital of Spain as the meeting-place of the next congress.

The president then announced the closure of the Thirteenth Congress in a brief speech, expressing his appreciation and that of his colleagues of the honor the congressists had done them in responding in such numbers to the invitation extended to them three years ago.

THE WORK OF THE SECTIONS.

On Friday the session of the Section on Medicine (Pathologie Interne) was devoted entirely to a discussion of diseases of the stomach and intestine.

Gastric Ulcer.—Dieulafoy read a paper on this subject. The size of such ulcers, he said, might vary from a mere point to a solution of continuity of the area of a silver dollar. After a brief review of the symptoms and complications common to all forms of gastric ulcers, he referred at some length to certain special types. The smallest of these was the so-called erosion which occurred in the form of bleeding points. Those might be numerous and, despite their small size, might give rise to an abundant hæmatemesis. Sometimes one or more solutions of continuity of greater size were formed in the gastric mucous membrane, to which the author gave the name of exulceratio simplex. Although usually superficial, these erosions might extend to the arterioles lying beneath the muscularis mucosæ and result in violent and even fatal hæmatemesis. The simple ulcer was the type of chronic gastric ulcers with a tendency to perforation. Finally there were the specific syphilitic or tuberculous ulcerations, which might also lead to hemorrhage or perforation. It was not rare to see cancer engraft itself on an ulcer of the stomach.

The subject was further discussed by Ewald and Bourget, the latter dwelling especially upon the surgical aspect of gastric ulcer and emphasizing the importance of operation in cases of threatening or actual perforation. Cohnheim read a paper in which he described his new oil treatment of gastralgia, Einhorn presented a communication on idiopathic dilatation of the œsophagus, and Hemmeter one on intestinal peristalsis.

Muco-membranous Enteritis was discussed at some length. Mannaberg, of Vienna, said that a distinction should be made between membranous enteritis and mucous colic, the former being a subacute or chronic catarrhal affection of the large intestine accompanied by evacuations especially rich in mucus, the latter being a morbid condition characterized by paroxysmal crises of colic followed by the evacuation of masses of mucus. The former was simply a catarrh of the large intestine, the latter was a neurosis associated usually with hysteria or neurasthenia. Some of the exciting causes of mucous colic were affections of the genital organs (male or female), psychical disturbances, constipation, and organic intestinal disorders. It was often accompanied by achylia gastrica, nervous dyspepsia, or enteroptosis. The pathological anatomy of membranous enteritis was the same as that of enteritis in general, but in mucous colic there were no appreciable lesions of the intestine.

Boas, of Berlin, said that muco-membranous colitis was a peculiar catarrhal affection marked by a tendency to the formation of mucous casts of the colon. Alongside of this, the more common form, there was another in which, in the interval of the paroxysms, there was no special trouble except constipation; this latter affection was called mucous colic. The symptoms of muco-membranous colitis were constipation, colic, spasmodic atony of the intestine, the presence of mucous or membranous masses in the stools, and a general neurotic state. The clinical course of muco-membranous colitis was absolutely parallel with that of habitual constipation, and measures which would cure the one would cure also the other.

Mathieu, of Paris, discussed this subject chiefly from a therapeutic standpoint. Constipation, he said, was at once the cause and the effect, and presented the chief indication for treatment. In combating it, it was necessary to employ measures which would not increase the secretions, the pain, or the tendency to spasm; castor oil, large enemata, and belladonna were the best remedies. The former might be given in small doses with the morning coffee. The injections should be made slowly with but little pressure, the fluid being at a temperature of about 40° C., and from a pint and a half to two pints and a half in amount. Simple boiled water, solutions of borax or salicylate of sodium, or a weak solution of the neutral ichthyolate of ammonium might be used. Belladonna was often given with good results. Warm local applications and warm baths often exercised a beneficial effect. The general neurotic condition should be treated with nerve sedatives and hydrotherapy. The patients being often weak and emaciated, tonics and a generous diet were indicated.

Pulmonary Œdema.—On Saturday in the same section the question of œdema of the lungs was discussed. Von Basch, of Vienna, said that œdema was due to an arrest of the capillary circulation in the pulmonary alveoli, resulting from the increased blood pressure in the left auricle, and to the afflux of blood from the right heart. The mechanical consequences of these two conditions were a dilatation of the alveoli and an increased resistance of the alveolar walls. In addition there was a transudation into the alveoli in consequence of the stasis in the pulmonary circulation. Dependent upon these morbid conditions occurred a mechanical obstruction to respiration and imperfect aeration of the blood, whence arose dyspnœa. Exudation alone without dilatation and intra-alveolar tension would not cause dyspnœa in any such degree as was generally supposed; indeed, the dyspnœa and cardiac asthma might be developed in the prodromal stage of pulmonary œdema prior to the occurrence of alveolar exudation.

Masius, of Liége, held that pulmonary œdema was of the same nature and pathogenesis as œdema in general, its special characteristics being the result primarily of its location. He recognized three forms —inflammatory, static, and toxic—the second of which was by far the most frequent.

Teissier said that there was clinically a special morbid syndrome to which the term acute œdema, or serous apoplexy of the lung, might justly be applied. This condition should be carefully distinguished from other forms of pulmonary œdema of slow evolution and mechanical origin. It was characterized by a premonitory tickling in the throat or a painful intrathoracic tension, by violent dyspnœa, accompanied by a cough and often by a pinkish, frothy expectoration, and by a multitude of fine râles all over the œdematous region. For the occurrence of acute pulmonary œdema a previous infection (rheumatism, influenza, typhoid fever, pneumonia), or intoxication (Bright's disease, less frequently alcoholism) was necessary. Another essential to its production was some lesion of the heart at its base, in the region of the coronary arteries or in the left ventricle, the exciting cause being something (a cold, strong emotion, excessive fatigue) which produced cardiac spasm or failure. Under this influence, a rapid elevation of pressure in the pulmonary vessels being produced, the already existing blood changes favoring serous exudation, and

the concomitant vasomotor troubles favoring stasis, acute œdema of the lungs would readily occur. Those three pathogenic conditions were typically existent in cases of interstitial nephritis, in which pulmonary œdema was of frequent occurrence. The therapeutic measures which the speaker favored were bloodletting, revulsives, atropine, amyl nitrite, and in some cases rectal injections of carbonic acid gas.

Treatment of Pneumonia.—Vaillard discussed the treatment of infectious pneumonia, the main indication in which was the expulsion from the system of the metabolic products of the pathogenic bacteria. This could best be accomplished by blood-washing—copious venesection combined with intravenous injections of a decinormal saline solution, or artificial serum. The elimination of the toxins and the increase in the resisting-powers of the body were also favored by the cold pack and other forms of hydrotherapy.

Gastro-Enteric Infections in Infancy.—This was the subject of discussion in the Section on the Medical Diseases of Children.

Escherich, of Graz, read a paper on "The Rôle of Micro-Organisms in the Gastro-Intestinal Diseases of Nursing Infants." After referring to a number of examinations made by him and his assistants determining the presence of microbes in the stools of infants, he said that the introduction of any micro-organisms other than those normally present in the intestine, whether the new-comers were pathogenic or not, might cause fermentation of the intestinal contents.

Baginsky, of Berlin, divided these affections into functional (acute dyspepsia) and organic. Of the latter he distinguished the following: (1) Lesions of a catarrhal nature: (*a*) subacute dyspeptic catarrh, (*b*) superacute catarrh, cholera infantum, (*c*) chronic gastro-intestinal catarrh, and (*d*) intestinal atrophy, intestinal cachexia, or athrepsia. (2) Lesions localized in the follicles: (*a*) simple follicular enteritis, (*b*) grave infectious follicular enteritis, dysentery. The functional troubles as well as those accompanied by anatomical alterations were caused by: (1) Endogenous infections or intoxications: (*a*) the direct action of the normal intestinal microbes, the virulence of which is exalted by certain conditions of high temperature, etc.; (*b*) the action of the toxic products elaborated from the alimentary substances under the influence of these virulent microbes. (2) Ectogenous infection or intoxications: (*a*) the action of saprophytic microbes or those common infections introduced with the food and becoming virulent by the favoring circumstances of high temperature, etc.; (*b*) toxic substances already present in the ingested food.

Fede, of Naples, read a paper dealing chiefly with the symptoms and treatment of the chronic forms of gastro-enteritis in infancy. A brief consideration of the anatomical and physiological imperfections of the digestive apparatus of the new-born, he said, would suffice to prevent surprise at the frequency of catarrhal gastro-enteritis, particularly the chronic forms in infancy. The chief symptoms were an obstinate diarrhœa, rectal prolapse, vomiting, fermentation of the gastric contents, and dilatation of the stomach. Among the general symptoms we see pyrexia due to auto-toxæmia of intestinal origin, debility, cachexia, marasmus, and various respiratory, glandular, nervous, renal, and cutaneous complications. Among the sequelæ were Parrot's athrepsia, rickets, Riga's disease, and tuberculosis. The primary indications in the management of chronic gastro-enteritis of infants were for the institution of hygienic measures and an appropriate diet—that is to say, breast-milk. Elimination and disinfection of the intestinal contents were very important, and among the remedies most suitable for these purposes were castor oil, calomel, benzonaphthol, and lavage of the stomach and intestine with solutions of boric acid, carbolic acid, creolin, etc. For the diarrhœa, when too profuse, lactic or hydrochloric acid, preparation of bismuth, tannin, or other astringents were indicated. In cases of pain and nervous excitement, poultices, calmatives (belladonna or even opium), and baths were indicated. When depression was marked, aromatic baths, quinine, caffeine, ether, asafœtida, musk, and injections of artificial serum might be employed.

Marfan, of Paris, followed with a communication on the etiology and pathogenesis of these affections. He divided them, according to their exciting causes, into (1) dyspeptic gastro-enteritis resulting from a faulty elaboration of the food, whether from over-feeding or from too early weaning; (2) primary infectious gastro-enteritis following the introduction of pathogenic microbes into the digestive tract by way of the mouth; (3) primary toxic gastro-enteritis resulting from the introduction into the digestive canal of some chemical poison; and (4) secondary gastro-enteritis which might follow any of a number of diseases. The action of the causes enumerated might, the speaker added, be intensified by extraneous influences, such as summer heat, catching cold, dentition, etc.

The subject was further discussed by Vargas, of Barcelona, and Epstein, of Prague.

Artificial Feeding.—Jacobi, of New York, read a paper on this subject. Human milk, he said, being of variable composition, it was impossible to manufacture an exact equivalent, and the demand for it had no justification. Water was a necessary addition to the infant's artificial food. A decoction of cereals was the proper diluent for the casein of cow's milk. Enough milk-sugar was contained naturally in cow's milk, and the added sugar should be cane—for one reason, because there was a ferment in the intestinal tract of the infant which rendered cane sugar assimilable. There was no necessity for adding fat to cow's milk. Finally common salt must be added to the infant's artificial food. Sterilized cow's milk was not a curative remedy nor an equivalent of human milk, but it was indispensable in cities and wherever pure, fresh milk could not be obtained.

Radiography in the Study of Fractures and Dislocations was the subject of a discussion in the Surgical Section. E. von Bergmann, of Berlin, referred to certain of the causes of non-union after fracture, such as the interposition of muscular fibres between the ends of the fractured bone. Unfortunately we could not diagnose this condition positively by means of the Roentgen rays, but we might be justified in assuming its presence when the image on the fluorescent screen showed the ends of the bone separated by a more or less wide interval, which was always of the same width in whatever position the limb was examined. Certain other causes of non-union, however, could be accurately revealed by the *x*-rays. In fracture of the patella, for example, we might discover by this means three obstacles: (1) Inequality in size of the two fragments, (2) multiple fracture, (3) rotary displacement of one of the fragments. In three cases radioscopy rendered incalculable service by revealing the danger of non-union and thus enabling the surgeon to institute appropriate operative measures. The speaker, thus forewarned, had obtained bony union in more than twenty-five cases of this nature. Another service which radioscopy had rendered was in revealing various fractures of the metatarsal and tarsal bones which were not recognized formerly, being regarded as simple sprains of the foot, and mistreated by massage.

G. Manoury, of Chartres, said that in cases of simple fracture radioscopy was of invaluable service in showing us the number of fragments, their form,

position, extent of overriding, and the location of detached splinters. In order to obtain a sufficient knowledge of the disposition of a fracture, we must radiograph it at two different angles—usually in front and in profile, but no precise rules could be formulated in this respect, for each fracture called for its own angle of observation. The clinical diagnosis of a fracture had lost none of its value since the introduction of radioscopy, but the latter served to fortify or sometimes to correct the former. Although this method of examination was useful in all cases of fracture, there were certain ones in which it was especially important, such as those of the upper end of the humerus, the lower end of the radius, the leg (especially those involving the tibio-tarsal articulation), the astragalus, and the metatarsal bones. Radiography was no less useful in the treatment than in the diagnosis of fractures, for it enabled us better to reduce the fracture and to determine how far this reduction was possible, to rectify any malposition before the callus became so firm as to necessitate refracture, and finally to determine the degree of perfection of the result of our treatment. It furnished us also with a means of estimating the relative value of the different forms of apparatus employed. In cases of complicated fracture, the necessary operative measures could be instituted much more intelligently, and we could determine in advance, in cases of impaction, whether and in what direction it would be necessary to saw the fragments in order to obtain freedom and apposition. The Roentgen rays were of much less value to us in the diagnosis and treatment of dislocations, yet even here they often rendered most valuable service. Unfortunately, however, radioscopy often failed to reveal the obstacles to the reduction of a luxation, since these were commonly in the soft parts. In the study of congenital dislocation of the hip and of the luxations occurring in the course of malum coxæ, on the other hand, the *x*-rays had been exceedingly serviceable.

Among other subjects of interest discussed in the various sections on Saturday were: "Tuberculosis in the Italian Army," by Sforza; "Tuberculosis in the French Army" by Arnaud; "Men of War in Time of War," by Surgeon-General Van Reypen, U.S.N.; the "Bacteriology, Symptomatology, Prophylaxis, and Orrhotherapy of Plague," by Simond, Yersin, and others; "Infection and Immunity," by Féré, Babes, Chantemesse, Maragliano, Nocard, Bernheim, and Ehrlich; "Toxins and Antitoxins," by Roux, Ehrlich, Pane, Vaillard, Vincent, and others; "Etiology of Yellow Fever," by Geddings of the United States Marine-Hospital service; "General Infections in Gonorrhœa," by Taylor, Lassar, and Tommasoli; "Notes on Recent Methods in the Surgery of Fractures, with Special Reference to Massage and Mobilization," by Pickett; "Treatment of Puerperal Eclampsia by Lavage of the Blood (Repeated Venesections and Injections of Artificial Serum)," by Seytre.

Gout.—In the Section on Medicine there was an interesting discussion on the pathogeny of gout.

Sir Dyce Duckworth, of London, said that an inherent vice of nutrition was at the bottom of gout, this vice being expressed by faulty metabolism in various organs such as the liver and kidneys. This trophic vice resulted in the formation of uric acid in excess and its occasional retention in the blood. The nutritional fault might be acquired or inherited, and when acquired might be transmitted to the descendants. The gouty paroxysms were marked by the precipitation of crystals of sodium biurate in the joints and other parts of the body. The influence which controlled these paroxysms, determining their location and their metastases, was nervous, probably bulbar. Articulations or tissues which had been weakened by injury or overuse were those which were most prone to be the seat of the gouty deposits, but the neurosis was the essential feature in the pathogenesis of gout. The presence of uric acid in the blood was in itself alone unable to produce a paroxysm of gout. The deposit of urates was usually permanent, but it might sometimes, especially when in the more vascular tissues, be removed by appropriate treatment. That the pain of gout was not caused by the uratic deposit alone was shown by the fact that enormous deposits might occur in gouty individuals without exciting any pain whatever. Gout was to be regarded as both a blood and a nerve disease, both hæmic and trophoneurotic changes being shown to act as pathogenic factors.

Prof. Wilhelm Ebstein, of Göttingen, held that gout was a more or less chronic malady, the fundamental substratum of which was an hereditary, usually congenital morbid tendency to which had been given the name of the uric-acid diathesis. One could only theorize as to the true cause of this diathesis. The close relations existing between the nucleins and uric acid made it probable that one had to do with an abnormal condition of the cellular nuclei or protoplasm. The individual predisposition, whatever this might be, which could often be traced through generations, was of the greatest importance in the uric-acid diathesis. Certain conditions might arise which were capable of converting this diathesis into actual gout. Among these might be mentioned the following: (1) Other things being equal, gout developed the earlier and the more surely, the more pronounced was the uric-acid diathesis; (2) luxury, idleness, and the abuse of alcohol favored the development of gout; (3) certain intoxications, acute or chronic, often excited an attack of gout in the presence of the uric-acid diathesis; among these might be mentioned bacterial poisons, lead, and the toxic principles of rheumatism, influenza, and syphilis; (4) contagion, which Boerhaave regards of such importance, was a negligible factor; (5) and finally climate appeared also to have no influence in the production of gout. Uric acid was the gouty poison *par excellence*, but whether other products belonging to the alloxur or nuclein bases were also concerned in the production of the disease, it was as yet unable to determine. The offending uric acid was probably that formed from the nucleinic substances of the organism and not that formed from the nucleins of the food. An excess of uric-acid formation seemed not, in itself, to be responsible for the gouty attack, for an enormous formation of this body was often noted in leukæmia without gouty symptoms. The inflammatory and necrotic changes in the tissues were the result of the presence of uric acid, and when the tissues were completely necrosed—but not before—there occurred a deposit of sodium-biurate crystals. Gout might be divided clinically into primarily articular and primarily renal; the first form was the more common and was not incompatible with long life, the second was a more serious malady due to retention of uric acid in consequence of an organic lesion of the kidney.

M. P. Le Gendre, of Paris, reviewed the various theories held at the present day regarding the pathogenesis of gout, and said that against each of them might be raised certain chemical, physiological, or pathological objections. Statistics proved that gout was associated very often with the so-called arthritic diseases, those due to a vice of nutrition, in the individual or his family; the most common of these associated maladies were diabetes and obesity. Diabetes consisted in an inability of the tissues to consume the sugar, to carry to its final equation the transformation of the carbohydrates, and it was most probable that there was in the gouty an inability to elaborate completely the nitrogenous principles.

Among the consequences of this incomplete destruction of albumin was a loading of the system with certain acids, which diminished the solubility of the uric acid present (not necessarily in excess) in the blood, and with certain organic bodies the toxic action of which might cause some of the symptoms of gout. Clinically there was seen also a morbid affinity between gout and interstitial nephritis. In cases of acquired gout the nutritive vice of the cells was brought about by a defective hygiene (abuse of nitrogenous food and alcohol, insufficient exercise and mental overwork) or by a poison such as lead.

Autotoxæmia.—On Wednesday there was an animated discussion on autointoxication, participated in by Bouchard, Ewald, Albu, Gautier, and Brouardel. The majority of the speakers accepted provisionally the theories of Bouchard regarding the pathogenesis of this condition. Two interesting papers on "Extrabuccal Alimentation" were read by Leube and Ewald (the latter will appear in the next issue of the MEDICAL RECORD). Chantemesse discussed the influence for good or ill of an exclusive meat diet upon the course of pulmonary tuberculosis. Blum described a new method applicable to the recognition and treatment of systemic intoxications. Menetrier presented a communication in which he traced the relation of adenomata to ulcer and carcinoma of the stomach.

Arloing read a paper dealing with the history of the attempts at orrhotherapy in combating tuberculosis, and describing the various researches, from Koch's to Maragliano's, made with the aim of producing a really efficacious and safe anti-tuberculous serum.

Among the communications presented by Americans in the various sections were the following: "Non-tabetic Lesions of the Spinal Cord," by Dana; "Treatment of Hypertrophied Prostate," by Ramon Guitéras; "Ischæmia and Atrophy of Muscles due to Tight Bandaging," by Bernays; "Surgery of the Lungs," by J. B. Murphy; "Report of a Case of Ligation of the Abdominal Aorta," in which the patient survived the operation forty-eight hours, by Keen; "Study of Tuberculosis in the United States," by de Schweinitz, of Washington; "A New Operation for Acute Appendicitis," by Weir.

Therapeutic Hints.

Rachitis.—

℞ Phosphori ..... gr. ss.
Ol. amygdal. dulc. ..... ʒi.
Pulv. acaciæ,
Pulv. sacch. alb. ..... āā ʒss.
Aquæ destil. ..... ʒiss.
M. S. Shake and give one to three tablespoonfuls daily.

—KASSOWITZ.

Painful Menses.—

℞ Codein ..... gr. i.
Chloral,
Ammon. brom ..... āā gr. xv.
Aq. camphoræ ..... ʒi.
M. S. From a quarter to half the quantity before retiring. Repeat as indicated.

Creosote Wine.—

℞ Creosote ..... ʒss.
Tinct. gentian ..... ʒi.
Spir. vini rect. ..... ʒviij.
Vini xerici ..... q.s. ad Oij.
In tuberculosis a dessertspoonful several times a day unless much fever is present.

—*Nouveaux Remèdes.*

Lupus Erythematosus.—Strong alcohol containing a little menthol. The patient carries about a vial and applies a few drops every half-hour or so.—HALL.

Dysentery in Childhood.—

℞ Cocain muriat. ..... .05 cgm.
Ergotin. ..... .50 "
Ext. opii ..... .10 "
Aristol ..... .25 "
Ol. theobrom. ..... q.s.
M. ft. supposit. No. x. S. One every two to three hours.

—*Medical Times and Hospital Gazette*, June 9.

Pruritus.—Alkaline baths; starch and linseed meal baths; the continuous bath; Turkish and vapor baths.

℞ Ac. carbol. liq. ..... ʒi.
Liq. potassæ ..... ʒss.
Aquæ ..... ad ʒviij.
M. ft. lotio. S. Apply as required.

—EVANS.

Urticaria.—

℞ Sodii phosphat. ..... ʒi.
M. S. Every three hours.

—WOLFF.

Hyper-Excitability of the Stomach with pyloric spasm, diarrhœa, etc.

℞ Hydrat. chloral. ..... gr. xv.
Aquæ ..... ʒiss.
From fifteen to thirty drops in half a glass of water after each meal.

—ROSENBACH.

Gastric Catarrh.—

℞ Ac. hydrochl. (C. P.) ..... 2.5 gm.
Ac. azotic. ..... 0.8 dgm.
Spt. vini rect. ..... 18. gm.
Aq. font. ..... 150. "
Syr. limonis ..... 100. "
M. S. Teaspoonful in half a glass of water after meals.

Basedow's Disease in Childhood.—

℞ Strontii brom ..... 6 gm.
Strontii iod. ..... 12 "
Aq. destil. ..... 40 "
Aq. menth. pip. ..... 20 "
Syr. menth. pip. ..... 20 "
M. S. Teaspoonful three times a day.

Pertussis.—

℞ Pulv. bellad. rad. ..... gr. ⅛
Pulv. Doveri ..... gr. ss.
Sulphur. sublim.,
Sacch. alb. ..... āā gr. viij.
M. S. At dose. Repeat from two to ten times a day, p.r.n.

Ringworm of the Scalp.—Cut the hair short with scissors, and

℞ Chrysophanic acid ..... gr. xv.
Chloroform ..... ʒss.

Tie a piece of absorbent cotton on the end of a probe and apply to the dry scalp (do not wash the part), saturating the ringworm. One application will often cure. The ringworm will peel off in scales about the third day, and the second application is certain to complete the cure.—BASCOM LYNN.

Heat-Stroke and Sun-Stroke.—Local and general refrigerants. Friction and other measures aiming at restoration of consciousness. To control the thermogenic centres give antipyrin in drachm doses preferably by hypodermic injection.—MOUSSOIR.

Infant Feeding.—After the first two days the infant should be fed at regular intervals of two hours, and from one to one and a half ounces at each feeding. About the third month the intervals should be lengthened to two and one-half hours, feeding three and one-half ounces each time. The intervals should be constantly lengthened, until at the ninth to the twelfth month feeding should be three and one-half hours apart, and seven to nine and one-half ounces in quantity. Until the sixth week two feedings during the night should be allowed; one from the sixth week to the sixth month, when all night-feeding should be discontinued.—ROWELL.

Clinical Department.

REPORT OF A CASE OF CÆSAREAN SECTION.

By DAVID ST. JOHN, M.D.,

VISITING PHYSICIAN AND SURGEON TO HACKENSACK HOSPITAL, HACKENSACK, N. J.

Mrs. H. O——, aged twenty-five years, American, entered Hackensack Hospital on September 18, 1899, in the ninth month of gestation, and feared labor owing to marked spinal curvature existing from infancy. Her general health was good; she was undersized, of dark complexion, weight one hundred pounds.

The following measurements were determined by Dr. St. John and confirmed by Doctors White and Conover:

External between crests of ilium, 9½ inches; external between anterior superior spines, 10 inches; external between trochanters, 11 inches; external conjugate, 6 inches; diameter of outlet, only 2 inches.

Since it was evident that the fœtus could not be born "per vias naturales," Cæsarean section was advised.

The patient was placed upon nutritive diet; the bowels were regulated, daily baths were given, and the abdomen was thoroughly asepticized. Urinary analysis showed alkaline reaction, specific gravity 1.014, no albumin.

At intervals for several days the patient complained of some pains in the back and suprapubic region.

On September 25th, at 2:30 P.M., labor pains beginning, the patient was taken to the operating-room, catheterized, and the abdomen was again thoroughly cleansed with green soap, bichloride solution, alcohol, and ether freely. The operation was performed by Dr. St. John, assisted by Doctors Neer, Conover, Conrad, Swayze, and Scott, with the hospital nurses. A hot vaginal douche having been given, the cervix was dilated, and the vagina was loosely filled with iodoform gauze. Abdominal incision was then made in the median line, six inches long; there was no hemorrhage. The wall was thin, and the intestines were not in the way. The uterus was lifted out and surrounded by warm, sterile gauze. A longitudinal incision was made in the uterus five and one-half inches long; the amnion was punctured, and the opening enlarged with scissors. The child was grasped by the foot, lifted out, and handed to Dr. Conover to be cared for. The cord was clamped and cut. Uterine contractions immediately set in. The placenta having been loosened and delivered, the uterus was then cleared of remaining membranous shreds and loosely packed with strips of iodoform gauze, a strip for drainage having first been run through the cervix.

Dr. Conrad controlled uterine hemorrhage by compressing the uterine arteries with his hands. Thirty minims of aseptic ergotal was given hypodermically as soon as the uterus was emptied.

The uterine incision was then closed by two sets of sutures, the deep with No. 4 silk two-fifths of an inch apart, the superficial with No. 2 silk. The gauze was removed from the uterus before the sutures were tied. The uterus was cleaned of blood and returned to the abdomen. The pelvic cavity was mopped out, though this was little needed, for it had been well protected by sterile gauze and towels. The abdominal incision was closed with extra heavy silk. No drainage was used. The time under ether, which was given by Dr. Neer, was twenty-nine minutes; the time from the beginning of the first incision in the abdomen until the last suture was tied, twenty-four minutes. There was very little hemorrhage. She bore the anæsthetic well. The dressings used were iodoform, iodoform gauze, sterile cotton, and binder. Sterile salt solution was used during the operation.

The cervical drainage was removed on the 27th. The lochia were normal. Seven days after the operation the dressing was changed. The wound was clean and dry. The stitches were removed on the 21st day; the incision had perfectly united.

Twenty-five days after operation the patient sat up for a few minutes. After the first few days, during which time the patient was restless, requiring very careful nursing and stimulation, she regained strength rapidly, and was discharged from the hospital on November 6th, six weeks after the operation.

Mother and child are both well now. The child weighed seven pounds at birth.

Some authorities advise dilating the cervix after the uterus is emptied, but why should any time be lost during this important step in the operation, when it can be done so readily and with no need of haste, just before the abdomen is opened?

Although it is advised to bring the uterus out of the abdomen before incising in all cases in which sepsis is suspected, it would seem to be better to do so in other cases as well, owing to greater ease of handling. Uterine hemorrhage can be effectually controlled by an assistant grasping the uterus firmly low down near the neck with both hands, thus avoiding the dangers of subsequent atony or post-partum hemorrhage so apt to follow when a rubber ligature is thrown around the uterus.

FARADIC ELECTRICITY IN RENAL COLIC.

By CARL D. S. FRÜH, M.D.,

PHILADELPHIA, PA.

Henry H——, aged forty-eight years, was taken severely ill on June 22, 1900, with pains in the left kidney. He gave a history of three previous attacks in which the pains were so bad that he went into convulsions. The regulation treatment with morphine and atropine failed here even to give more than momentary relief. He was then placed on his side with the sore kidney up, the hip and legs elevated, and a faradic current interrupted sixty to eighty times per minute was applied to the front and back of the organ. One half-hour of this gentle tapping of the kidney eased the pain completely. The patient passed water freely and was completely relieved by this treatment.

July 2, 1900.

A LARGE OVARIAN CYST.

By W. C. FISHER M.D.,

CLARINDA, IOWA.

In January, 1900, in my capacity of county physician I was called to see Mrs. T——, eighteen years old, married almost two years. Her family history was good. Her mother and grandmother were still living. About eighteen months previously she had noticed pains in the region of the left ovary. Menstruation was irregular and painful. She noticed a tumor in that region, but did not think seriously of it. This continued with varied treatment until the summer of 1899, when a diagnosis of ovarian cyst was made and operation was advised. At this period she fell in with the faith healers and was sent to Chicago, where she received "spiritual treatment" for some time, but the tumor continued to grow. She returned from Chicago and continued the "absent treatment" plan until June 16, 1900, when I was asked to operate. I called to see the patient and found her suffering from shortness of breath, caused by the abdominal distention.

The cervix uteri was partially prolapsed through the vulva.

The woman was taking but little nourishment, because anything more caused vomiting. Her weight was about one hundred and sixty pounds. The measurement around the waist was fifty-five inches, her previous measurement having been twenty-one inches. She had been in the habit of sitting with the lower end of the tumor resting on a woven-wire cot.

I informed the friends that there was very little to hope from an operation, but it was the only hope, and if it was their wish I would operate. On June 20th, at their request, assisted by Drs. Torrens, Cokenower, and English, of this city, I operated. Upon opening the peritoneum I came upon a fibrinous mass filling the entire pelvic cavity, which had to be divided before I could bring it through the opening, which was about nine inches in length. After removing this portion I came upon a large cyst entirely filling the upper part of the abdomen and adherent to the peritoneum and diaphragm. This was filled with a dark-brown, syrupy fluid. After tying the pedicle and removing the sack, I flushed the abdomen with sterilized water, sutured with silkworm gut, and dressed in the usual manner. The patient recovered promptly from the shock, and her mental condition was clear. She did well, with no fever and a normal pulse (72) until Friday morning the 22d, when she suddenly collapsed and died in a few minutes. Upon opening the abdomen after death I found everything in nice shape; the stump was in good condition, there had been no bleeding, and the abdominal wound was healing rapidly. The tumor weighed seventy-five pounds.

ALCOHOL AS AN ANTIDOTE TO CARBOLIC ACID.

By GEORGE W. SARGENT, M.D.,

SENECA CASTLE, N. Y.

A good deal has been written of late in regard to carbolic acid, notably a paper by Dr. Seneca D. Powell, in the Medical Record of March 11, 1899. Powell says that carbolic acid may be applied to the skin in full strength without harm; that one may dip his hands in ninety-five-per-cent. carbolic acid with impunity if he rinses them promptly in ninety-five-per-cent alcohol.

A short time ago I involuntarily verified these statements to my own perfect satisfaction and that of several witnesses. I had on a table with other things two two-ounce bottles, labelled and filled, respectively, with carbolic acid and alcohol. Having washed my hands I purposed to rinse them in alcohol, and picking up one of the bottles rubbed a liberal amount of the contents over my hands as in the act of washing. I was not a little amazed to find by the oily sensation and silvery color of the skin that I had washed in the carbolic acid. I at once drenched well with alcohol from the other bottle, and was well pleased to see the normal color and feeling return.

Some cases have been reported in which diluted alcohol—and one recently in which pure alcohol—was poured into the stomach in carbolic-acid poisoning, with successful results.

I have learned that stronger ammonia acts similarly to alcohol as a local application, but it would hardly answer for internal use or for use on ulcerating surfaces or in suppurating cavities. Dr. Powell has proven that in such cases as the latter alcohol makes it possible to use carbolic acid in full strength with very beneficial results.

Carbolic acid and alcohol being so common, and so powerful for good or evil, it behooves every one to be familiar with their properties, and anything emphasizing the fact ought to be mentioned. This is the reason I have reported my little experience.

RECURRENT TRANCE.

By C. I. PAGE, M.D.,

LITCHFIELD, CONN.

The following case, which has been under my observation for a number of years, is such a peculiar one in many ways, that I believe a report will be of interest. Mrs. C. E——, aged ninety-one years, widow, mother of three children. There is no insanity in the family. In October, 1875, she was thrown from a wagon, striking her head on the edge of a plank. On examination a small scalp wound was found directly under the occipital protuberance. There were no indications of fracture. She was taken home in a semi-conscious condition, and she remained so for several days, with symptoms of concussion of the brain. At the end of two weeks she was able to perform her usual household duties and appeared to have fully recovered. About two months afterward, while reading, she remarked to her daughter: "I have a headache and feel sleepy, so will retire for the night." The next morning she was found in a deep sleep. On being shaken she awoke for a few seconds and answered questions, but directly was asleep again. She presented the appearance of being under the influence of morphine or an anæsthetic. She would not ask for food or water, but if either were placed to her lips she would eat and drink, but if not continually urged would stop. She did not evacuate the bowels or bladder unless kept awake and requested to do so. The superficial reflexes were diminished, eyelids closed, pupils dilated. There was no muscular rigidity. This trance continued for five days. She then awoke, and for a few hours there was a mild delirium. After this she seemed perfectly rational, but could not remember people she had seen, or conversation which had taken place during the trance. She did not mention her condition, but if it was mentioned she would discuss it freely. She then remained awake continually for four days, and would sit all night reading, sewing, or in conversation with her attendant. At the end of this time she would again sleep. In this manner she lived for twenty-five years, asleep five days, then awake four. This condition of wakefulness and sleep would come with such clock-like regularity that her attendants could tell almost to the hour when she would awake or sleep. As to this condition being genuine there cannot be the least doubt. The woman's mental powers while she was awake were much better than those of the average person at seventy-five years of age. In April last she developed bronchitis and while in a trance died. An autopsy was refused.

A DEATH FROM THE SCHLEICH MIXTURE.

By R. M. STONE, M.D.,

OMAHA, NEB.

It becomes my painful duty to report a death in my practice from the use of the Schleich solution. As yet I have not seen one recorded in the American experience with the solution. As anæsthetist of the Presbyterian Hospital, it fell to me to give the solution to a young woman aged twenty-three, well nourished and fairly robust in appearance; the heart sounds were not clear and sharp, but there was no valvular lesion. She took it kindly and had corneal anæsthesia in six minutes and surgical anæsthesia in two more; she was

carried to the operating-room, and the last preparation was complete in about three minutes more. She was to be operated upon for chronic appendicitis, having recently recovered from her second attack.

After these eleven minutes, the pupils were very small, the lower jaw was relaxed, and anæsthesia was apparently profound as it usually is in my experience with the Schleich solution. The surgeon asked if she was ready, to which I said she was. He made the incision, to which there was a very small reflex; when he separated the muscles, there was a little more. During all this time, I had continued the dropping of the solution at an increased rate because of the flinching. The surgeon had removed the appendix, when the following sequence of events took place. (It should first be said that the incision and separation of the muscles had not caused sufficient reflex to dilate the pupils; they were still small, and the pulse and color were good.)

The pulse then became weak, irregular, intermittent, and then ceased; the respiration, which had been regular, became very rapid for six or eight respirations; while the pulse was failing, but before it had ceased the pupils were observed to be small; instantly they dilated widely, and death was present. Efforts at resuscitation were continued for an hour, with no response whatever. Death had taken place from paralysis of the heart centre, followed by that of the respiratory.

No more horrible experience can happen to a physician than this. It is a dreadful shock to him, and causes him to review his work most carefully and to criticise himself harder than any of his enemies will dare to. Having done this, I can say that my four hundred and forty-one administrations of the Schleich solution, with serious symptoms in only thirteen, and death in but one, still allow me to think that its administration gives more quiet, more freedom from nausea and vomiting during and after, and greater safety, than either ether or chloroform.

A CASE OF DOUBLE FACIAL PARALYSIS.

By GEORGE J. PRESTON, M.D.,

PROFESSOR OF NEUROLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

Paralysis of both facial nerves, occurring simultaneously, is sufficiently rare to warrant the recording of the following case: The patient, a widow aged sixty-five years, had always enjoyed excellent health. She was very well nourished, and her organs were all normal. A few days prior to my visit she had an attack of what her family physician pronounced bronchitis, accompanied by cough, slight fever, and general neuralgic pains. It is important to note that there was at this time a mild epidemic of grippe prevailing. The patient's symptoms were not such, however, as to warrant a diagnosis of influenza. I saw her on June 25th and found that she had a marked facial paralysis of the peripheral type, involving both upper and lower branches of the left nerve; the face was strongly drawn to the right, the tongue was protruded to the left, the left eye could not be closed, etc. There was no impairment of sensation either general or special. On the 27th, or two days later, I saw the patient again and found that the right nerve had become involved. The face, which had been strongly drawn to the right, was now perfectly straight, but practically motionless and without expression, a veritable mask. The patient was unable to close either eye, and there was a very distressing flow of tears. Speech was much affected, and the movements of the tongue were limited. There was no disturbance of taste, smell, or hearing, and general sensation was entirely normal. A careful examination showed no trace of the involvement of any other nerves, cranial or spinal.

The paralysis gradually improved under strychnine in increasing doses and the galvanic current. In a couple of months the left side was practically well and the right was much improved. I saw this patient a year and a half after the attack, and her general health was excellent. She said that the right side of her face was not yet natural, but there was hardly any paralysis remaining. As was said above, the paralysis was of the peripheral type, and there was absolutely no local cause, such as otitis or trauma. Possibly the patient may have had grippe, or a slight rheumatic diathesis may have been responsible.

There is, of course, no reason why, in cases of facial paralysis due to a distinct neuritis, both nerves should not be involved; in fact, it is hard to explain why only a single nerve becomes involved in cases of neuritis supposedly due to some general systemic cause. However this may be, double facial paralysis is a rare occurrence.

A CASE OF GLANDULAR FEVER IN AN ADULT.

By ABRAHAM MAYER, M.D.,

NEW YORK.

Since Pfeiffer, in 1899, first described the affection known as glandular fever (*Druesenfieber*), little has been written which has added anything to our knowledge of this disease. In this country J. Park West in 1896, in an excellent article in the *Archives of Pediatrics*, described an extensive epidemic occurring in a small hamlet in Ohio, where ninety-six cases occurred in forty-six families, all between the ages of seven months and thirteen years. Dawson Williams describes the disease in Volume XIV. of the "Twentieth Century Practice of Medicine," and is also the author of a similar article in Allbutt's "System." On account of the scanty literature on this subject, it seems well to collect and report observations on cases which may come under our notice. This is the more important as the etiology of this affection is still obscure, and the classification still unsettled.

Of the various observers of this affection, Heubner, von Starck, Rauchfuss, and Hesse consider it a special infectious disease of benign character, while others have doubted the existence of this disease *per se*. Faidherbe, in a recent article in the *Bulletin de la Société Scientifique de Bruxelles*, considers it an unusual form of influenza. It has also been suggested that it may belong to the exanthemata, in which the eruption is absent. But as the symptoms are of the classical kind generally seen with infections, we may at least consider it an infectious malady due to the invasion of some micro-organism, the nature of which, be it staphylococci, streptococci, bacilli, or an organism *sui generis*, has not yet been determined. Bacteriological examinations have been made, but nothing definite has been found as the etiological factor. It is a specific disease, and its clinical syndrome, in the absence of evidence of other specific affections, stamps it as distinct in itself. Its sudden onset with headache, malaise, sometimes vomiting, constipation, etc., and rise of temperature—these symptoms in connection with enlargement of special glands characterize it as an acute infectious fever. It is at least reasonable to consider it such, rather than an obscure affection associated with enlargement of cervical glands. It affects children usually under the age of thirteen years; rarely adults. The lymph glands most commonly affected are those beneath and in front of the sterno-mastoid muscle; occasionally the axillary, in-

guinal, and mesenteric glands become the seat of an adenitis. Pharyngitis or tonsillitis rarely is present. In most cases no local conditions are evident, which makes the theory a fact that the enlargement of the cervical glands is due to an infection from the mucous membrane of the mouth or pharynx. Nor have investigations proved that the enlargement of mesenteric glands sometimes found in these cases is due to an infection from the bowels. This would lead one to believe that the adenitis seems to be the primary lesion, since it has not yet been established where the true porta invasionis lies. Although the relationship of clinical symptoms of this fever to other diseases of an infectious character must be considered, and notwithstanding evidence to the contrary, the early infection of the anterior cervical lymphatic glands makes it probable that the infection first finds its seat of entrance through the mucous membrane of the mouth or pharynx. This was exemplified partially in the case about to be described, in which a culture from the throat exhibited streptococci. It has been noticed that in most cases constipation was a prominent symptom in the onset, and von Starck suggested that the primary seat of infection was in the intestines whence the toxins were absorbed, and the mesenteric glands were the first to become enlarged; and from here the infective agent travelled through the thoracic duct and at its termination on the left side affected the lymphatic glands there sooner than on the right side. This latter conjecture was advocated by Koplik. It is logical and reasonable to assume that such may be the case, just as clinical experience has shown that often in an acute osteomyelitis the premonitory symptoms pointed to the gastro-intestinal canal as the porta invasionis (Kocher).

All observers agree that the disease is rare in adults. It has been my good fortune to observe a typical severe case in a young lady during the fall of 1899, Miss X——, blonde, twenty years old, family history exceptionally good. The patient suffered few of the ills of childhood and had never been sick until November 28, 1899. On the day in question she was suddenly seized with a severe headache and chill which forced her to go to bed. Her temperature rose within twenty-four hours to 104° F., pulse correspondingly high, over 100. She had nausea, vomiting, and anorexia; the tongue was not coated; she was constipated. There was no pain anywhere except a slight rigidity of the neck. The pharynx was only slightly reddened, otherwise the mouth and throat were normal. These symptoms continued for several days, and the aspect and condition of the patient suggested a commencing typhoid. The urine showed a trace of albumin, but no kidney elements. About the fourth day a glandular enlargement was noticed on the left side of the neck, in front of the sterno-mastoid muscle. The following day two or more glands on the same side became involved, with great stiffness of the neck. There was complete loss of appetite. The temperature was 103° F. The neck was extremely sensitive; there was pain on palpation, and the pressure on the surrounding parts caused pain on movement and consequently stiffness of the head. The spleen was much enlarged, the liver only slightly so. Except the above-mentioned symptoms there was nothing to indicate the nature of the disease. The blood had been examined up to this stage (the sixth day of the disease) four or five times, and with the exception noted below nothing abnormal was found. Various specimens were examined for Widal reaction, with negative results. Cultures from the throat were constantly being made, one of which showed the presence of streptococci. There was slight cough without expectation. No abdominal tenderness was present, and as far as could be judged from repeated examinations there was no involvement of the mesenteric glands; but constipation was marked and the bowels had to be moved daily by enemata. These symptoms lasted about seven days, with a gradual amelioration and decline of temperature. On the eighth day the glands on the right side of the neck became perceptible. There was again an increase of temperature to 103° F., and a more decided enlargement of the spleen, which was now painful on palpation. A solitary gland at the angle of the jaw on the right side was decidedly enlarged and caused excessive pain.

Successive involvement of different glands of the neck prolonged the pyrexia (which was of an irregular type) and also the other symptoms for several weeks until January 20, 1900, when the temperature first became normal and remained so. During the course of the disease the highest temperature recorded was when the glands reached their maximum enlargement; the last two weeks showed a range of temperature between 100° and 101.5° F. The pulse was rapid during the height of the fever, and was seldom below 80. The complications noticed were a slight cough in the beginning of the disease, which lasted a few days, and a slight albuminuria which cleared up in a week. But there ensued a gradual and continued constitutional depression and a rather decided anæmia. At the end of the fifth week of the disease an anæmic murmur was heard at the apex, which extended toward the base of the heart. The blood, which had been repeatedly examined, showed the proportion of red to white cells to be normal; but the eosinophiles were trebled in number, were larger than usual, and their granulations were coarser. The erythrocytes were pale and exhibited a deficiency of hæmoglobin.

In making a diagnosis of this case I was puzzled at first, and only by taking into consideration the history and circumstances of the case could a positive diagnosis be made. I had to exclude a secondary adenitis from lesions of the tonsils and pharynx, typhoid fever, tuberculosis, and specific infection. The treatment of the case had been purely symptomatic and sustaining. Nothing seemed to affect the course of the disease.

The total duration of the disease was eight weeks, and convalescence, once begun, continued uninterruptedly, and the enlargement of glands, spleen, and liver gradually disappeared.

After the case was recognized as one of glandular fever, repeated cultures were made from secretions of the throat and blood in hopes of finding a specific organism. Unfortunately they all proved negative with the exception of a single culture from the throat which showed the presence of streptococci. It appeared not unlikely that the micro-organism of this disease would be found in the glands affected. I am sorry to say that a bacteriological examination of the infected glandular tissue was not permitted. No fatal case of this disease has yet been reported.

40 East Sixtieth Street.

PLACENTA PRÆVIA WITH TWINS.

By M. F. HUSSEY, M.D.,
SIDNEY, OHIO.

In the Medical Record of June 2d, there was an article on placenta prævia with twins. Owing to the rarity of it, I desire to add one to the four or five other cases on record.

The case occurred in the practice of Dr. Peebles, of Hardin, Ohio, June 28th, but as the latter had at that time a case of puerperal sepsis under his care, he referred the case without examination to me.

Mrs. T——, aged thirty-five years, is the mother of six living children, all of whose births were normal. She menstruated last on November 1, 1899. During

the present pregnancy she was as well as usual, doing her own work. June 13th, without warning she had a slight hemorrhage. She gave but little attention to this, and next day resumed her domestic duties. On June 25th she had another hemorrhage, more severe than the last, but again the next day resumed her work. On June 28th, while she was in the garden, a severe bleeding started with so much severity as to cause her to take to bed and send for a physician. When I arrived I found her seemingly almost bloodless. There had been no hemorrhage for some little while before my arrival. Upon examination I found a marginal adherent placenta on the left side. I sent immediately for Dr. Peebles, with the request that he disinfect himself and hasten to my aid. I remained constantly with the patient until his arrival, during which time I had used my fingers as dilators, controlling the flow.

We pierced the placenta and ruptured the membranes. The head came down, stopping all hemorrhage. The birth of the first child was followed immediately by the breech of the second one, with but very little flooding. Both children were dead. The woman made an uneventful recovery.

Medical Items.

Character of Modern Chinese.—The following by no means flattering estimate of the Chinese character is given by one who has lived in their country for years and should, therefore, be qualified to judge. He says: "The modern Chinaman we know is the most selfish of mankind, callous as an animal, with only a relic of conscience; disinclined to fight because he thinks of himself first, and utterly corruptible because money is to him the supreme protection; but nevertheless a strong man with a clear head for affairs and with a strong faith, though it is in his civilization and not in any creed . . . He is the most accomplished liar in the world, but he does not love lying as a Hindoo does as a pleasurable intellectual excitement, but lies exactly up to the point where, as his native shrewdness tells him, lying is convenient for his interests."

Lepers in France.—It is estimated that there are about four hundred lepers in France, many of whom are missionaries and nurses who have contracted the disease caring for sufferers in distant countries, and also soldiers and officials from the colonies. They are now scattered about in Brittany, in the Pyrenees, on the shores of the Mediterranean, and in Paris, where there are one hundred and fifty. A committee has been formed at the instigation of Dom Santon, a member of the Benedictine community of Liguge, and also a doctor of medicine, to further measures for the care of lepers in France, and to prevent further spread of the disease. Dom Santon has studied leprosy for a number of years in the course of his travels about the world for this purpose, and his plans to deal with the disease in France have received the approval of the French government. He has acquired property in the Vosges, where he purposes to establish an asylum for lepers, to be called the St. Martin Sanatorium.

British Army Medical Report for 1898.—The London *Times*, in reference to this report, says: "As usual the annual report on the health and sanitary condition of the army loses much of its interest and value by reason of its belated appearance. There seems no sufficient reason for the double delay which occurs in forwarding the report from the medical division of the War Office to the secretary of state for war and in subsequently passing it through the press. Apart from this the report is full of interest and on the whole may be classed as satisfactory. Taking the average strength of the European troops at home and abroad as 202,166, the returns show a ratio of 9,819 admissions to hospital per 1,000 strength, on a strength of 203,980 which includes detached men not shown in the returns the death rate is 10.82 per 1,000. Among the troops in the United Kingdom the admission and mortality rates were somewhat higher than in 1897, but compare favorably with the average of the previous ten years. The chief point noted is the increase in enteric fever owing to the Khartum expedition, ninety cases and ten deaths having occurred after the arrival home of the troops. In Canada the ratios of sickness were much higher than in 1897, but in the West Indies there was a marked improvement, no cases of yellow fever having been recorded and venereal affections being much less prevalent. The latter remark applies also to South Africa, where the general ratios of sickness and mortality differed but little from those of the previous year and the average of the previous decade. Enteric fever was very prevalent, assuming epidemic proportions in Natal, where there was also much sickness from dysentery. In China there was a marked decline in malarial fevers. Plague, which was epidemic among the civil population, only caused eight admissions and one death among the troops. In India there was a decline in the admission and 'constantly sick' rates. The chief causes of sickness were as usual malarial fevers and venereal diseases, which together caused 55.4 per cent. of the admissions from all causes. Malarial fevers and enteric fever were more prevalent, but the admission rates for cholera, dysentery, and malarial disease were less than in 1897, the decline in venereal disease being equal to more than one-quarter of the ratio for the previous year. There were again a few cases of plague in the Bombay command."

Summer Mortality.—*The Evening Post* recently published the following, dated Albany, July 30th: "An article contained in a bulletin just issued by the State board of health furnishes some instructive data on the subject of summer mortality. The summer months in New York State appear to be the unhealthy season of the year. According to the State board of health's bulletin, the summer months show in addition to a large total mortality a great relative preponderance of mortality from the sometimes called preventable diseases and of deaths in early life. Of the local diseases the deaths reported from diseases of the digestive organs are increased. Diseases of the nervous system have a larger mortality than in the autumn and less than in spring and winter. Consumption has fewer deaths in summer. Cancer showed no maternal variation. There are fewer deaths from old age in summer. The deaths from accidents and violence are much increased, thirty-three per cent. occurring in these months; the increase is chiefly due to drowning and the effects of heat."

Hospitals in Roumania.—In the *Archives Orientales de Médecine et de Chirurgie* Dr. Cosma de Ploiesti gives some statistics which appear to show that Roumania is more liberally supplied with hospitals than are most countries of larger size. For a total population of 5,000,000 there are 188 hospitals with an aggregate number of 7,334 beds. All patients are treated gratuitously without distinction of nationality, and the foreigners from neighboring countries admitted every year to the hospitals of Roumania are numbered by thousands. The hospitals are kept up by the state or by the communes, or by the private administrative bodies, called "ephorias," which manage special funds bequeathed by charitable persons. The hos-

pital establishments are subdivided as follows: 53 departmental or district hospitals, with 1,355 beds; 26 communal hospitals, with 756 beds; 33 rural hospitals, with 1,602 beds; 10 belonging to the Bucharest ephoria, with 1,016 beds; 11 under the Jassy ephoria, with 683 beds; 10 maintained out of private funds, with 591 beds; 11 maintained by Jewish communities, with 289 beds; 5 lunatic asylums, with 749 beds; 11 homes for the infirm, with 405 beds; 1 hospital for sufferers from pellagra, with 40 beds; 16 homes for aged, with 324 beds; 2 night refuges, with 60 beds. In addition to these there are 6 nursing-homes, with 137 beds, for paying patients.—*British Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 4, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Cape Nome	July 1st.	17	
Kansas, Wichita	July 21st to 28th	4	
Louisiana, New Orleans	July 21st to 28th	7	4
Massachusetts, Lowell	July 21st to 28th	4	
Michigan, Au Sable Township	July 14th to 21st	1	
Durano	July 14th to 21st	2	
Grand Rapids	July 14th to 21st	2	
Hersey	July 14th to 21st.	1	
Waker Township	July 14th to 21st	1	
Springwell Township	July 14th to 21st	8	
N. Hampshire, Manchester	July 21st to 28th	3	
Ohio, Cincinnati	July 20th to 27th	1	
Cleveland	July 21st to 28th	18	
Utah, Salt Lake City	July 21st to 28th	3	
Smallpox—Foreign and Insular.			
Austria, Prague	June 30th to July 14th	8	
Belgium, Antwerp	June 30th to July 7th	1	
Brussels	June 30th to July 7th		1
England, Liverpool	July 7th to 14th	1	1
London	July 7th to 14th	17	
France, Lyons	June 30th to July 7th		4
Paris	July 7th to 14th		3
Germany, Frankfort on the Main	June 23d to 30th		1
Konigsberg	June 30th to July 7th	1	1
Gibraltar	July 1st to 15th		1
Greece, Athens	July 7th to 14th	1	4
India, Bombay	June 26th to July 3d		3
Calcutta	June 23d to 30th		27
Karachi	June 24th to July 1st	3	2
Mexico, Vera Cruz	July 14th to 21st		5
Philippines, Manila	June 8th to 16th	1	
Russia, Moscow	June 23d to July 7th	12	7
Odessa	June 30th to July 7th	5	1
St. Petersburg	June 30th to July 14th	76	25
Scotland, Glasgow	July 13th to 20th	52	1
Spain, Madrid	June 2d to 23d		43
Straits Settlements, Singapore	June 2d to 9th		2
Switzerland, Geneva	June 23d to 30th	2	
Yellow Fever—United States.			
Florida, Hillsboro County	August 2d	2	
Yellow Fever—Foreign.			
Colombia, Barranquilla	July 1st to 14th		5
Bocas del Toro	July 26th to 31st	4	1
Costa Rica, Port Limon	July 19th	1*	
Cuba, Cienfuegos	July 17th	1†	
Havana	July 16th to 23d		9
Matanzas	July 26th		1‡
Santa Clara	July 21st	2	
Mexico, Vera Cruz	July 14th to 21st		7
Salvador, San Salvador	June 27th	Present.	
Venezuela, Cartagena	June 1st to 30th	16	
Cholera.			
China, Hong Kong	June 16th to 23d	1	1
India, Bombay	June 24th to July 3d		109
Calcutta	June 23d to 30th		55
Madras	June 23d to 29th		1
Plague.			
England, London	August 3d	4	2*
India, Bombay	June 26th to July 3d		49
Calcutta	June 23d to 30th	2	74
Karachi	June 24th to July 1st	2	1
Philippines, Manila	June 8th to 16th	6	3
Turkey, Beirut	July 2d	Present.	

* Suspicious. † On transport *Sedgewick.* ‡ In barracks.

* On P. & O. steamer *Rome.*

The British Soldier's Daily Diet.—In *Pearson's Magazine* for May an account is given of the daily rations of the British soldier. They are as follows: One pound of fresh, salt, or preserved meat; one and one-quarter pounds of bread, or one pound of biscuit, or one pound of flour; one-sixth of an ounce of tea, one-third of an ounce of coffee, three ounces of sugar, four ounces of jam, one-half an ounce of salt, one-thirty-sixth of an ounce of pepper, one-half a pound of fresh vegetables, when procurable, or one pound of compressed vegetables, one three-hundred-and-twentieth of a gallon of lime juice, with one-quarter of an ounce of sugar, on days when fresh vegetables are not issued; one-half of a gill of rum, at the discretion of the general commanding, on the recommendation of the medical officer. Beer is not issued to troops on service, but tobacco is provided on payment. Careful calculations given the writer by a high official in the War Office reveal that the 200,000 who are being fed at the time of writing on home provisions consume in six months 16,000 tons of preserved meats, 16,000 tons of biscuit, 170 tons of tea, 3,000 tons of sugar, 340 tons of coffee, 4,000 tons of jam, 500 tons of salt, 30 tons of pepper, 8,000 tons of vegetables.

Julian Ralph on the British Army Scandals in South Africa.—Julian Ralph says in the London *Daily Mail*: "I am able to bear out much of the worst Mr. Burdett-Coutts has written about the sick and wounded with the army in South Africa. All, however, tend to confirm the results of his experience. In Bloemfontein there were twenty-five hundred enteric patients when I left, and they were in a large proportion left to lie on the ground and be nursed by ignorant and slovenly 'Tommy' attendants. They lay in the water, they were rained on, and the sanitary arrangements were such that, at least in some hospitals, they had to leave their blankets at the risk of death. All the time I was at Bloemfontein I was haunted by the horror of the neglect of and cruelty to the sick. When I was at Kimberley, some of the local physicians were similarly horror-stricken by the condition in which the wounded came to them, trundled over the bad roads all the way from Paardeberg in ox wagons. I have no hesitation in saying that I considered the treatment of the sick and wounded (especially after the main advance from Modder River) primitive, cruel, and almost barbaric, as well as needless and inexusable."

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

BENEATH HAWAIIAN PALMS AND STARS. By E. S. Goodhue. 12mo, 248 pages. Illustrated. The Editor Publishing Company, Cincinnati, Ohio.

A MANUAL OF PERSONAL HYGIENE. By Walter L. Pyle, M.D. 12mo, 344 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, $1.50 net.

ATLAS AND EPITOME OF DISEASES CAUSED BY ACCIDENTS. By Ed. Golebiewski. 12mo, 549 pages. Illustrated. W. B. Saunders & Co. Price, $4 net.

ATLAS AND EPITOME OF GYNÆCOLOGY. By Dr. Oskar Schaeffer. 12mo, 272 pages. Illustrated. W. B. Saunders & Co. Price, $3.50 net.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. By J. Bergen Ogden. 8vo, 418 pages. Illustrated. W. B. Saunders & Co. Price, $3 net.

A TEXT-BOOK OF PRACTICAL MEDICINE. By William Gilman Thompson, M.D. 8vo, 1011 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

CANCER OF THE UTERUS. By Thomas Stephen Cullen. 8vo, 593 pages. Illustrated. D. Appleton & Co., New York.

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EXTRABUCCAL FEEDING.[1]

BY C. A. EWALD, M.D.,

BERLIN.

EVERY disease of the digestive system making the administration of food by the natural channel impossible, or in which the assimilation of the ingesta is impaired to a greater or less degree, confronts the physician with the question whether it is not possible by some other avenue to supply the organism with sufficient nutriment to sustain life and to rehabilitate the damaged nutrition.

This is not the place for an enumeration of the various conditions which may result in such a state of restricted receptive power or imperfect food absorption. The methods of feeding through the œsophagus by means of the stomach-tube also lie outside the limits of the present discussion. It is a question rather of (1) rectal feeding by means of nutritive enemata; (2) feeding through the cutaneous surface by means of subcutaneous or intravenous injections of food stuffs; and (3) feeding after gastrostomy.

While so-called nutrient enemata, *clysmata nutrienta*, have been used by the profession of old, although very different degrees of value have been accorded them by individual physicians and in different times, the two latter procedures are distinctly productions of later date.

At the outset of my discussion I must premise, that none of the above-mentioned means is capable of supporting life indefinitely, and that under no circumstances can any of them be regarded as able to answer the demands of the metabolism of the normal healthy individual. Under favorable circumstances it is possible through the exclusive use of extrabuccal feeding to maintain for some time the nutritive balance of those who in consequence of their sickness exhibit a greatly decreased metabolic activity, in other words those in a very much depreciated physical condition, as I years ago demonstrated by experiment.[2]

In most instances, however, a state of under-nutrition supervenes, in which the body gives off more than it receives through the medium of the extrabuccal feeding. The result of the measure is therefore merely to reduce this deficit to a smaller margin than would otherwise be the case, and, furthermore, it is only a question of a temporary expedient and not of a permanent form of feeding. Therefore the method is of real value only in those cases in which it plays the part of makeshift, tiding the patient over certain critical stages of his disease, or when it is resorted to for some definite therapeutic purpose, as in the treatment of gastric ulcer, hysterical vomiting, dilated stomach, etc., or when employed as "supplementary feeding" in cases of deficient nutrition per os. In other cases one must rest satisfied with having prolonged life for a certain length of time and with its effect of affording the patient some degree of moral comfort.

I. Rectal Feeding.—It may safely be accepted that the secretion of the large intestine is devoid of all peptonizing power and possesses only very slight amylolytic properties. Hemmeter[1] has shown that the aqueous extract of the rectal contents obtained under aseptic precautions is capable, in weakly alkaline solution, of dissolving 36.5–50 per cent. of dried serum albumin in three hours and of converting as much as fifteen per cent. of starch into maltose, but is without steatolytic power. Nevertheless, these properties of the fæces, inasmuch as the action of bacteria was excluded in Hemmeter's experiments, are ascribable solely to the admixture of pancreatic juice which at different times and under various conditions is probably a very variable quantity. As it is customary, however, before the administration of nutritive enemata to cleanse the rectum, this ferment component of the fæces cannot enter into the question. There are to be considered, therefore, only those quantities of pancreatic juice which trickle down to the enema during its sojourn in the intestine, and the effect of the intestinal bacteria which, to be sure, exhibit a certain amount of albumin-splitting power. The production of the Leube-Rosenthal "pancreatic-meat enemata" through the addition of pancreatic-tissue substance to the albumin was only the logical outcome of the formerly prevalent idea that for absorption through the rectal mucosa a previous peptonization of the albumin and conversion of the starch was requisite. Experiment showed that almost the entire amount of nitrogen supplied to the body in the "meat-pancreatic enemata" was absorbed.

Still it must not be disregarded that the preparation and application of such mixtures are inconvenient for both the physician and patient. From personal experience I know that the obtaining of the gland substance and the proper preparation of the mass to be employed in the enemata both present difficulties that, especially in private practice, are not easily overcome. The temptation was therefore great, in view of the advances that had been made in the commercial production of artificial foods and soluble peptone and albumose preparations, to employ these instead of the "pancreatic-meat" mixture. No doubt this has been widely done without attracting especial comment; at any rate I myself have frequently made use of such peptone and albumose solutions, and particularly as additions to the egg-enemata to be described below.

Contrary to a statement of v. Leube's,[2] however, I must observe that even small quantities of peptone, *i.e.*, 50–60 gm. dissolved in 200–250 gm. of water, occasionally produce marked evidence of irritation and are speedily expelled. Still this apparently depends somewhat on the nature of the peptone, for I have noticed that peptones of different sorts behave differently in this respect. This much is certain, that according to my experience peptone solutions are well absorbed and can cause an excretion of nitrogen, and

[1] A paper read at the Thirteenth International Medical Congress, Paris, Aug. 2–9, 1900.

[2] C. A. Ewald: "Ueber die Ernährung mit Pepton u. Nährklystieren." Zeitschr. f. klinische Med., 1887, p. 407.

[1] Hemmeter: "Diseases of the Stomach," 1897, p. 207.

[2] W. v. Leube: "Ueber künstliche Ernährung." "Handbuch der Ernährungs-Therapie," herausgegeb. von E. von Leyden, Abth. i., Bd. ii., p. 490 *ff.*

that Kohlenberger[1] and von Leube never found albumose or peptone in the urine after the administration of such enemata, a proof that these bodies had actually undergone metabolic transformation.

The composition of nutritive enemata was greatly simplified after Eichhorst's[2] experiments on the dog and mine on man had shown that even native albumin in the form of egg emulsion and the casein of milk was absorbable without preliminary peptonization. The absorbability is greatly increased, as Eichhorst had already found, by the addition of table-salt. In the light of these facts, which have been fully substantiated by later observations of my own and others, the use of albumose and peptone preparations has fallen more and more into disrepute until at present they are hardly employed at all.

As a matter of fact, the esteem in which peptones are held as constituents of nutrient enemata rests, as I maintained in 1887,[3] on the setting up of a fallacious analogy with the conditions obtaining in the stomach. While we supply this viscus, when it is diseased and impaired in function, with peptones and albumoses with the (at present also contested) intention of relieving it of a portion of its work, we should never think of treating the rectal mucous membrane, no matter how much diseased, in a similar way.

Here we have to do with a healthy mucous membrane which is to assume the functions of the higher portions of the digestive tract. Inasmuch as my observations have given evidence that the peptonization of albumin or the use of the peptones on the market is not needed for absorption from the rectal mucosa, and that this itself cannot convert albumin into albumose or absorb it in other ways, the employment of peptone enemata becomes unnecessary. Simple egg enemata accomplish just as much, and in addition furnish about twelve per cent. of fat, which effects a saving to the organism through its fuel value.

Only in later times has the fact of albumin absorption in the colon met with controversy. Plantenga[4] has published a series of experiments yielding very unfavorable results regarding the absorptive power of this membrane for nitrogenous bodies. In one instance in which 70 gm. of nitrogen was administered per rectum during the course of the observation, an average of only 0.375 gm. per day was absorbed, and in another in four days only 1.43 gm. was taken up.

I have, therefore, had a new series of investigations made by Rost, which have confirmed the old dictum that very considerable amounts of the nitrogenous substances administered by the rectum, under favorable conditions ninety to ninety-five per cent., are absorbed.[5]

At this juncture the query might arise whether we are actually dealing in these cases with an absorption of albumin or nitrogenous substances of actual service in the economy of the organism, or whether the nitrogen reappearing in the urine does not represent further decomposition and putrefactive products of ammoniacal nature found in the urine. This seems to me not to merit consideration, since it is never possible to find considerable amounts of ammonia in the expelled portions of the enemata by means of the Schlössing method, and a well-marked odor of putrefaction is present only in the fewest cases. Besides, it is possible to anticipate any such fermentative change by the addition to the enema of small amounts (0.1–0.3 gm. to each injection) of some such substances as thymol, menthol, or lysol. Like the soluble egg-albumen the albumin of milk also undergoes absorption. Experiments on the value of milk for this purpose were conducted by Eichhorst as long as thirty years ago, but Brandenburg[1] has lately shown that more than one-third of the casein of milk is never absorbed, and von Leube justly says that even in relatively large quantities, one-half litre of milk to the enema, under the most favorable conditions hardly 100 calories are taken up, and even this only under the supposition that complete absorption of the carbohydrates takes place. But the probabilities are that the actually effective amount is appreciably smaller than this.

Of late, as is well known, a number of preparations have been put upon the market which contain the albumin in part converted into albumoses, in part in an undecomposed but readily soluble state. These preparations do not present any especial advantages for the preparation of nutritive enemata. They irritate the intestinal mucosa, and, according to the researches of Kuhn and Völker, Brandenburg, Strauss, and others undergo imperfect absorption, so that up to sixty per cent. of the material employed remains unused.

As regards the nitrogenous bodies we are therefore constantly driven to revert to the native egg-albumen and milk.

What now are the facts concerning the application of the carbohydrates in nutritive enemata?

Primarily, from physiological considerations solutions of grape sugar would be found to serve best, and the other varieties, especially cane sugar, should also be investigated, while enemata of starch decoction (flour paste) are less suitable for the purpose, since the advantage they possess, following von Leube, of causing a slow formation of sugar and a consequently diminished amount of irritation, is offset by the greater possibility of decomposition and fermentation induced by that very fact.

The experiments of Schönborn[2] have proved that very considerable quantities of grape sugar (up to ninety-five per cent.) may be absorbed from the intestine, but the solution must not be too concentrated nor be injected in too great quantity, otherwise irritation, diarrhœa, and the secretion of mucus are caused. This coincides with my own experience, and I recommended years ago that not more than 10–20 gm. of grape sugar, that is, about 100 c.c. of a corresponding solution, should be used. Whether cane sugar is absorbable to the same degree as glucose is a mooted point, but according to Plantenga it is less irritating. Lactose has been shown by Strauss[3] to be well absorbed and to be converted into grape sugar, though from a practical standpoint it hardly needs consideration.

In an overwhelming majority of cases the rectal injection of sugar solutions is not followed by the excretion of sugar in the urine. As Strauss has shown, the same relations obtain here as in the administration of the same amounts of grape sugar, etc., by the mouth. Since the hemorrhoidal veins empty their contents directly into the vena cava, thus excluding the liver and portal system, such a glycosuria is not to be discounted *a priori*. However, the results of my observations, read before the Naturforscherversammlung at Frankfort in 1896, taught the contrary, since as low as 6 to 7 cm. from the anal orifice there are anastomoses between the superior and middle hemorrhoidal veins through which blood reaches the portal vein.

Recently von Leube has shown that such a glycosuria may be produced if access to the upper part of the

[1] Kohlenberger: "Zur Frage der Resorption der Albumose im Mastdarm." Münch. med. Wochenschr., 1896, No. 97.

[2] H. Eichhorst. "Ueber die Resorption der Albuminate im Dickdarm." Pflüger's Archiv, Bd. iv., 1871.

[3] *Loc. cit.*

[4] Plantenga: Inaug. Dissert., Freiburg, 1898.

[5] C. A. Ewald. "Ueber die Ernährungs-Clysmata." Du Bois-Reymond's Archiv f. Anat. u. Physiol., 1899, p. 160.

[1] Brandenburg: "Ueber die Ernährung mit Casein-Preparaten." Deutsch. Archiv für klinische Med., Bd. 58.

[2] Schönborn: "Zur Frage der Resorption von Kohlehydraten im menschlichen Rectum," Würzburg, 1897.

[3] H. Strauss: "Untersuchungen über die Resorption und Ausscheidung von Zucker bei rectaler Zuckerzufuhr." Charité-Annalen, 22 Jahrg., 1897.

rectum be cut off by the introduction of a colpeurynter before injection of the solution, and its absorption be therefore restricted to the inferior hemorrhoidal veins. The same observer has stated that breaking down into lactic acid, acetic acid, etc., through the growth of fungi does not occur to a noteworthy degree, for the absorption of the sugar takes place so rapidly (in the first hour from sixty to ninety per cent. of the injected amount) that no time is given for any appreciable decomposition.

Starch decoctions of twenty- to thirty-per-cent. strength yield approximately the same results as are obtained with sugar solutions. A portion of the starch, varying in different cases, is hydrolized and absorbed, while the remainder, amounting to from four to twenty-five per cent. of the total quantity, is expelled in an undigested state after a longer or shorter period of time. Evidences of irritation are less than with sugar injections, but are not wholly wanting.

It is in the administration of fats per rectum that the greatest difficulties are presented. Complementing the voluminous discussions of former times on the value of fats in the preparation of nutritive enemata the work of Dencher,[1] Stüve,[2] and Strauss[3] on injections of olive-oil emulsion has shown that under the most favorable conditions not more than 10 gm. a day can be absorbed. If, however, after the method of von Leube the fat is mixed with pancreatic-gland substance before its introduction, ninety per cent. or even more may be taken up. But here also there is no constant relationship, and especially the simultaneous administration of starch, fat, and pancreatic substance seems to be badly borne, premature expulsion of the enema resulting.

From what has been said it follows that in practice it is wisest to make use of all the food-stuffs in question, and to vary the composition of the enemata according to the exigencies of each individual case, that is, the degree of tolerance exhibited for their various components.

Guided by my extensive experience, I still believe that the following combination is the one to be most recommended: Two tablespoonfuls (40 gm.) of wheat flour are stirred into 150 c.c. of lukewarm water or milk, and to this mass one or two eggs with a pinch of salt (3 gm.) are added, and the whole is beaten up with 50 to 100 c.c. of a fifteen- to twenty-per-cent. glucose solution. The addition of a small amount of alcohol, *e.g.*, in the form of a glass of claret, acts as an analeptic. Such an enema corresponds to about 450 calories, of which, to be sure, only a portion fulfil their physiological destiny. It goes without saying that the nutritive value of such a combination may be increased by varying its constituents and adding some peptone preparation, for example, one of the newer food products, such as eulactol or plasmon. But it must not be forgotten that the more complicated the composition of an enema the greater the difficulty of its application in private practice, and the more probable the production of irritation of the intestinal mucosa and its early expulsion. Finally there remain to be mentioned the nutritive enemata in concentrated form consisting of suppositories of peptonized meat or peptonized milk.

The well-known method of administration of such enemata I shall not discuss. As in everything of this nature, a certain amount of practice is necessary, simple as the matter seems, and the more experienced the physician and nurse the longer will the enema be retained and the less discomfort will it cause.

II. Feeding by Means of Subcutaneous Infusion.—It is not to be denied that nutritive enemata do not fulfil all the demands we have to make on an extrabuccal method of feeding. Disregarding the variations in the actual nutritive effect produced, the irritative disturbances attendant on their long-continued use, and their impracticability in certain diseases of the gut itself and in persons mentally deranged, greatly limit their sphere of usefulness. There exists, therefore, a need for some other manœuvre which shall be free from these objections, and as such the intravenous and subcutaneous injection of food-stuffs is to be considered. It is particularly to von Leube that credit must be given in this regard, for it was he who, after various tentative efforts in this direction had been made, furnished the clinical and experimental evidence of the feasibility of the method.

As early as 1850 Hodder made intravenous injections of milk into cholera patients in collapse, and such injections and similar ones of peptone solution were in consequence often repeated, and with apparently favorable results. In addition subcutaneous injections of milk, peptonized milk, and defibrinated blood have been recommended and carried out.

At the very outset, however, it is clear that in such attempts the injection of every sort of albumin solution, either in the natural state or to a greater or less degree peptonized, must be avoided. The necessary sterilization is impossible, and on account of the well-known toxic effect of the albumoses and peptones they are useless for the purpose in view.

The subcutaneous injection of glucose solutions has also not given any encouraging results; persistent pain, even inflammation and necrosis, are said to be easily caused. Still Voit[1] did not observe any evil effects from the subcutaneous infusion of a ten-per-cent. glucose solution, of which up to 1 litre was thrown into the thigh within twenty to twenty-five minutes, and when given in small quantities it was found never to be excreted in the urine. Only after 100 gm. of sugar had been given was 2.6 gm. excreted by the kidneys. Since 100 gm. of sugar corresponds to 410 calories, that is, nearly a third of the amount required by a resting person in a depreciated state of health, such a result should be counted as a distinct gain. It is evident that if it were possible to infuse a like amount of oil a very much greater calorie value would accrue to the organism, for 50 gm. of oil corresponds to 465 calories, so that one might either use a less quantity of oil or by giving more contribute a considerably larger amount of fuel values.

Von Leube[2] has shown in repeated communications that this infusion of oil presents no technical difficulties, and has also proved by ingenious experimentation that the fat really is consumed. He injected butter in a state of solution into dogs and determined the following:

A dog, brought to a state of leanness by feeding on fat-free horse-meat, received in fifty days 3.50 kgm. of butter subcutaneously and in this time gained 2.4 kgm. The chemical examination of his abdominal fat showed this to consist of pure butter: the dorsal fat was one-third and the pericardial fat one-sixth butter. A second experiment was begun by doing a laparotomy on a fat-free dog, showing that the mesentery was almost and the skin entirely devoid of fat. In the course of the next three weeks he was given subcutaneously about 1,400 gm. of butter. A second laparotomy showed that the skin of the abdomen now contained abundant fat masses composed of two-thirds of butter and one-third of dog-fat, while the fat of the now richly adipose mesentery was almost pure dog-fat. The animal was now returned to his fat-free diet till

[1] Dencher: "Ueber die Resorption des Fettes aus Clystieren." Deutsch. Archiv f. klin. Med., 1897, Bd. 88, p. 210.
[2] Stüve: Berliner klin. Wochenschr., 1896, No. 20.
[3] Strauss: *Loc. cit.*

[1] Voit: "Ueber subcutane Einverleibung von Nahrungsstoffen." Münch. med. Wochenschr., 1896, p. 31.
[2] Von Leube: "Ueber subcutane Ernährung." XXXIII. Congr. f. inn. Med., 1895, and *loc. cit.*

he gradually became reduced to his former weight. He was then killed and found to be absolutely fat-free.

The experiment, therefore, shows that a fat-free dog can be made to accumulate dog-fat through subcutaneous injections of butter, and that this may undergo complete metabolistic consumption. Further researches by Knoll [1] on rabbits demonstrated that the absorption of fat takes place slowly from the site of the injection, and that the albumin consumption is diminished in the usual way, the coefficient in an oil-treated animal being only about fifty per cent. of the corresponding value in a control animal.

The accuracy of these results has been confirmed in various quarters, and also by observations on man most comprehensively and carefully by Du Mesnil de Rochemond,[2] who lays great stress on slowness in the rate of injection of the oil, and has devised a somewhat complicated pressure apparatus for this purpose.

I myself make use of the following very simple method. I employ a large wash-bottle holding about 1 litre, such as is used in the sulphuretted-hydrogen apparatus, and consisting, as is well known, of a glass jar through whose upper constricted portion a glass tube passes air-tight to the bottom, while at the side a second horizontal tube is fused into place. If a rubber tube bearing a hollow needle with a lumen of about 1 mm. is affixed to the longer tube, and the horizontal one is connected to a double-acting bellows of good size, and 200–300 c.c. of oil placed in the jar, by the aid of the bellows the air contained in the flask may easily be compressed to such a degree that the oil is forced up the perpendicular tube and out through the rubber tubing and cannula. The rate of flow may be accurately controlled by means of a pinch-cock on the tube, and a scale affixed to the jar determines the amount of oil used. The apparatus may be readily taken apart for disinfection, and the air which is forced in does not come in contact with the lower layers of oil, though it might easily be purified by the interpolation of a small filter of cotton. I have never had occasion to do this, however. After having introduced the needle into the subcutaneous connective tissue under the usual antiseptic precautions the apparatus may be left at the patient's bedside without supervision; the pressure once established lasts for a half-hour or so, and may be regulated so that in this length of time 80–100 c.c. of oil enters the tissues.

Unfortunately the procedure is not entirely free from pain. A certain degree of tension and redness of the skin is caused, which lasts for hours even if the oil is diffused as much as possible by massage. Other inconveniences, such as abscess formation, necrosis, or fat embolism have not come under my observation; oil is not excreted in the urine.

Nevertheless the manœuvre involves troublesome preparations, and in sensitive individuals cannot be carried on for any length of time. Another disadvantage which places the oil injection below the nutrient enema in the scale of utility lies in the fact that by this means the introduction of water into the body is not possible. But this is a point of highest importance precisely in those cases in which extrabuccal feeding is indicated. For in this the administration of water per os is not possible, either because access to the stomach is cut off, or the dilated stomach is incapable of absorbing water, or finally it is speedily vomited. But the prevention of this diminution in water-supply is of great significance in these conditions, and as my pupil Dr. Rost [3] has shown, the supplying of water is sometimes even more necessary or at any rate just as important as the giving of food. Of course the possibility remains of giving nutrient enemata in connection with the oil injections, as von Leube has mentioned, but according to my experience it would be difficult to find patients willing to consent to this method more than once or twice.

In every-day practice, therefore, the nutrient enemata will have the advantage over the oil injections, especially as they do not offer the risk of infection which is always present with the latter.

III. Feeding Through the Gastric Fistula.—Since gastric fistulæ are made only under circumstances in which access to the stomach per vias naturales is permanently blocked, and every sort of fluid food may be introduced through the opening, it is in these cases not so much a question of the character of the nutritive mixture to be used as of whether its digestion and absorption by the stomach are possible. It is essential to consider the conditions which have made the establishment of the fistula necessary. In cases of benign cicatricial strictures of the œsophagus, the digestive function of the stomach is not materially impaired, and I have seen patients who continued in an excellent state of nutrition after the operation. If the matter injected through the fistula was again withdrawn after a suitable lapse of time, the normal alterations in character were recognizable.

Quite the reverse is the case when malignant new growths are in question. Here the functional activity of the stomach, as I must maintain contrary to other opinions, is wholly abrogated, and digestion takes place not in the stomach but only in the intestine. The use therefore of the native albumins and carbohydrates is not indicated, but it is preferable to employ the more or less predigested albumose and peptone preparations and glucose solutions, and to locate the fistula as near to the pylorus as possible, as I have already indicated in former years, so that it may be possible to introduce the food directly into the intestine by means of a tube passed through the gastrostomy wound. Unfortunately in most cases the conditions are so unfavorable that a protracted and satisfactory feeding cannot be accomplished.

Conclusions.—1. Extrabuccal feeding does not completely replace feeding by mouth, and is not permanently capable of answering the demands of metabolism. In most cases in which this method exclusively is resorted to a state of malnutrition sets in from the outset. An exception to this rule occurs in those cases of gastric fistula in which the operation was necessitated by a benign stricture of the œsophagus.

2. For a short time, in weakened individuals whose metabolism is below normal, it may be possible through extrabuccal feeding to increase the nitrogen conversion and even to cause an accumulation of nitrogenous substance and fat.

3. The best results are obtained when it is a question of a temporary replacement of the natural feeding per os, or when extrabuccal feeding is resorted to as an accessory measure to the former.

4. Nutritive enemata are to be preferred to the subcutaneous injection of oil. The applicability of the latter lies rather in isolated cases than as a measure adapted to widespread use in practice.

[1] E. Knoll: "Die subcutane Fetternährung." Habilit. Schr., Würzburg, 1897.

[2] Du Mesnil de Rochemond: "Die subcutane Ernährung mit Oliven-Oel." Deutsch. Arch. f. klin. Med., Bd. 60, p. 474.

[3] Rost: "Ueber Verwendung ausschliesslicher Rectalernährung." Berl. klin. Wochenschr., 1899, Nos. 30, 31.

Luxation of the Acromion.—Bore directly through the acromion with the longest and strongest drill at hand, and also bore lengthwise into the clavicle a distance of 5 cm. The drill is left in for eighteen days, the apparatus holding the bones in normal position during the drilling having been removed.—K. BÜDINGER.

MIGRATED OVARIAN AND PAROVARIAN TUMORS.[1]

By GEORGE M. EDEBOHLS, A.M., M.D.,
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By migrated ovarian and parovarian tumors we understand such growths as have become entirely detached from their former connection with the broad ligament, and which either lie free in the peritoneal cavity or are united by new attachments to organs and tissues other than those from which they were originally derived.

Various names have been proposed for this class of tumors. Migratory and migrant, the latter suggested by Stone, denote emigration not as yet completed, and consequently do not correspond with the condition usually encountered. Almost equally with the terms wandering, errant, and vagrant, they might be made to apply to a tumor with a very long pedicle permitting of extensive excursions. The term parasitic has long been pre-empted for tumors due to parasites, and this pre-emption should be respected. To call them ectopic tumors would tend to confusion with tumors due to extra-uterine fœtation. They are often designated as detached tumors, but this term applies, strictly speaking, only in those exceptional instances in which the tumor lies entirely free in the peritoneal cavity. Of the more admissible designations, such as alien, expatriated, exiled, transplanted, self-amputated, and migrated tumors, I prefer the last named.

Torsion of the pedicle of the tumor up to complete strangulation and division, with implantation of the tumor upon neighboring organs, selectively and most frequently upon the omentum, either before, during, or after detachment from its original site, represents in the majority of instances the processes by which an ovarian or parovarian tumor qualifies as migrated. Tension or traction upon the pedicle no doubt frequently assists torsion in effecting complete separation, a combination of which forces I have seen active in one of my own cases.

As an outcome or final result of these processes, the ovary or ovarian or parovarian tumor occupies a new habitat, while the adnexa of the corresponding side are generally represented by a more or less short stump of Fallopian tube and ovarian ligament which remains attached to the uterine cornu. The Fallopian tube and ovarian ligament may, on the other hand, be twisted or pulled in their entirety out of the uterus, so that the differentiation between congenital aplasia of the uterine adnexa on the one hand and their disappearance as a result of pathological processes on the other may become very difficult, or even impossible. In doubtful cases the determination of the presence or absence of the interstitial part of the tube may be needed to decide the question. Braun,[2] as quoted by Kossmann,[3] describes and pictures a case of complete detachment of the ovary in which, after the lapse of a few years, all trace of a scar or other indication of the former site of attachment had disappeared from the broad ligament. In my own Case II. detailed below, the same result has by this time undoubtedly obtained.

That the new pedicle of attachment of a migrated ovarian tumor is liable to the same accidents of torsion and rupture as the original pedicle is shown by the case of Chalot.

Stone[4] and Coe[5] have recently well covered the subjects denoted by the titles of their respective articles. The present paper is offered more as a clinical contribution, since I find myself in a position to add four further cases to the hitherto reported twenty-five or thirty cases operated upon for migrated ovarian or parovarian tumors. My own cases, perhaps, in addition to furnishing the largest individual contribution to the subject, possess the merit of having been more closely observed and of being more accurately described than the majority of those reported. I have no doubt, however, that there are on the note-books of a considerable number of operators records of similar experiences, the publication of which may be stimulated, as has obtained in my own instance, by the recent papers of Stone and Coe.

Case I.—Gangrenous monocyst, presenting all the characteristics of a migrated parovarian cyst, removed from the omentum by operation; cure. Mrs. M. E. F——, aged thirty-seven years, married, a patient of Dr. G. J. Moser, was admitted to St. Francis Hospital, April 20, 1893, suffering from a painful, fluctuating, globular tumor, 20 cm. in diameter, located in the central part of the abdomen, immediately behind the umbilicus. The uterus and right adnexa, normal in size, could be palpated below the tumor; the left adnexa could not be recognized. Cœliotomy, April 21, 1893, revealed a monocyst, presenting all the characteristics of a parovarian cyst, attached by a pedicle 10 cm. wide and 2 cm. thick to the lower free edge of the omentum. There were no other attachments whatsoever. The contents of the cyst, a bloody, grumous fluid, measuring two litres, were evacuated; the omentum pedicle was tied off and the cyst removed. The cyst wall opposite the attachment to the omentum was gangrenous over a circular area 15 cm. in diameter, and the inner layers of the cyst were studded with innumerable points of ecchymosis. The uterus, both tubes, and ovaries were found perfectly normal. The abdomen was cleaned and closed without drainage. There were uneventful convalescence and primary union. She left the hospital May 10, 1893, and has remained well to date.

I have classed this tumor as a migrated parovarian cyst because it presented all the characteristics of the latter and none of those common to tumors originating in the omentum. The fact that the uterus and tubes presented nothing abnormal does not militate against my view of the case, since Braun has shown, and my own experience bears him out, that an ovary may be twisted off and leave no trace to indicate the site of its former attachment to the broad ligament.

The detachment of a parovarian cyst, leaving intact the tube and ovary of the same side, can be readily understood. That a parovarian cyst, however, in twisting itself free, may carry with it the tube and ovary of the same side, is proven by the following case:

Case II.—Large, strangulated left parovarian cystoma free in the abdominal cavity, its pedicle having just been completely severed by torsion; left ovarian ligament and left Fallopian tube completely pulled out of uterine cornu; coexistence of umbilical hernia; parovariotomy and radical herniotomy; cure. T. H——, aged thirty-three years, single, came under observation March 26, 1892. For a year previously she had known of an abdominal enlargement, which had caused her no special annoyance or apprehension until within the past two days, during which she has suffered from persistent abdominal pains, vomiting, rapid pulse, and slight elevation of temperature.

Examination showed a globular, sensitive, elastic tumor filling the lower half of the abdomen from pubis to umbilicus. The tumor displaced the uterus downward and backward, and although situated mainly on the right side appeared to be connected by a thick, tense band with the left adnexa. The diagnosis was made of strangulated left ovarian cystoma. Tempera-

[1] Read before the American Gynæcological Society, Washington, May 1, 1900.

[2] "Ueber die Abschnürung der Ovarien." Inaug. Diss., Giessen, 1896.

[3] A. Martin: "Krankheiten der weiblichen Adnexorgane," vol. ii., p. 131.

[4] "Migrant Tumors of the Uterus and Ovary." Trans. Am. Gyn. Soc., 1898, xxiii., 411–421.

[5] "Detached or Parasitic Tumors of the Uterus and Ovary." Am. Gyn. and Obst. Journ., 1900, xvi., 210–216.

ture, 101° F.; pulse, 100. A large umbilical hernia was also present.

The operation was done at St. Francis Hospital, March 28, 1892, four days after the commencement of symptoms of strangulation of the cyst. On incision of the abdomen a black cyst presented, with its rather thick walls still unruptured, though uniformly purplish-black from incipient gangrene and diffuse extravasations of blood. The peritoneal cavity in the neighborhood of the pedicle of the tumor contained about 100 gm. of fluid blood and clots which were mopped out. The cyst was punctured and one litre of port-wine-colored, bloody fluid was drawn off by aspiration. Further exploration showed the cyst to be entirely free, having no attachments whatsoever. The stump of its former pedicle, which still remained attached to the left inferior aspect of the cyst wall, was in a strangulated condition, deep black, friable, and contained in its substance blood clots in beginning disintegration. The free blood in the peritoneal cavity came from the ruptured pedicle which was still in condition and position to demonstrate at least two complete twists, from left to right, upon its own axis. The left tube and the left ovarian ligament were completely torn out of the cornu of the uterus, leaving no vestige there of their former presence. The entire left tube and the left ovary were found in beginning disintegration in the stump of the pedicle of the self-amputated cyst. The right ovary and tube were perfectly normal. Tension or stretching of the pedicle no doubt greatly aided torsion in effecting complete separation; the tumor, although originating from the left parovarium, being locked in the right half of the abdomen by spastic contraction of the recti abdominis muscles. The peritoneal investment of the intestines as well as of the parietes adjacent to the tumor showed signs of incipient inflammation with plastic deposits. After thorough mopping with damp sublimate gauze, the abdominal incision was extended upward to embrace the umbilical hernia. Radical herniotomy was done, with complete closure of the abdomen without drainage. There was an uneventful convalescence; primary union took place. She was discharged from the hospital three weeks after operation.

Remarks: Had the patient survived without operation, the incipient peritonitis would probably have provided for the attachment and continued sustenance of the tumor separated from its original source of nutrition. Possibly the cyst contents would have escaped, after rupture of the cyst wall, and have been absorbed by the peritoneum. The cyst wall itself might have disappeared by absorption or organic incorporation with the adjacent parts, or by both these processes combined. An abdominal section or an autopsy after these changes were completed would have demonstrated entire absence of the left ovary and tube. All of which goes to show that complete absence of one ovary and tube may be the result of self-amputation as well as of congenital aplasia, and that the diagnosis of the latter condition is not, as has heretofore been assumed, unequivocally established by finding no vestige of the tube and ovary of one side.

Case III.—Self-amputation of left ovarian cyst and tube; intraligamentous right ovarian cystoma; chronic metritis and appendicitis; cœlio-oöphoro-salpingo-hysterectomy, inversion of appendix; cure. E. S——, aged thirty-six years, married, mother of five children, was admitted to St. Francis Hospital, May 24, 1898, with a history of atypical metrorrhagia, leucorrhœa, bearing-down sensations, and dyspareunia. Examination showed chronic metritis, a tumor about 8 cm. in diameter of the right ovary, chronic appendicitis, movable right and left kidneys.

Operation was done May 27, 1898. When the abdomen was opened there were found a large and heavy uterus, an intraligamentous right ovarian cystoma, hen's egg in size, and far advanced appendicitis obliterans. The left ovary was entirely absent; the left tube also being missing, with the exception of a twisted stump, 2 or 3 cm. long, which remained attached to the uterine cornu. The free end of the twisted tubal stump was sealed and smoothly rounded. The left round ligament was intact. Attached to the entire posterior aspect of the uterus and to a portion of the left broad ligament was a firm membrane of irregular thickness, which on subsequent examination proved to be part of the sac of a former left ovarian cyst. The operation consisted of excision of the uterus, right ovarian cyst, right tube, and stump of the left tube, with inversion of the vermiform appendix. Complete closure was done without drainage. There was uneventful convalescence; primary union took place. She was discharged well, June 22, 1898.

Remarks: The conditions found and described above leave no doubt that a former left ovarian cyst had at some time twisted itself free, carrying with it the greater part of the left tube. The cyst contents had escaped and been absorbed together with a part of the cyst wall. The remainder of the cyst wall had become adherent to the back of the uterus and left broad ligament, and had thus maintained its vitality. There was nothing in the patient's history to indicate at what period of life the self-amputation of the left ovarian cyst had occurred. The period of occurrence of a like event, however, was well marked in the history of the next case.

Case IV.—Migrated dermoid of right ovary; left ovarian cystoma; bilateral ovariotomy; amputation of omentum; inversion of appendix; cure. E. A——, aged thirty-six years, married, never pregnant, was sent to me by Dr. Dayton L. Kathan, of Schenectady, N. Y. The only events of importance in her previous history were two attacks of acute peritonitis, the first twelve and the second ten years ago, each attack having confined her to bed for five weeks. With these exceptions she was well until about a year ago, since when she had noticed progressive enlargement of the abdomen.

Examination showed a normal-sized uterus doubled forward upon itself underneath a fluctuating tumor diagnosticated as an ovarian cystoma, the cyst enlarging the abdomen to a size and shape corresponding to a normal pregnancy near term.

Operation was performed May 29, 1897, at the Post-Graduate Hospital. When the abdomen was opened a large monocyst of the left ovary presented, and was tapped and removed. Further examination showed complete absence of the right ovary and of all but 2 cm. of the right tube, which with an equal length of the right ovarian ligament formed a stump attached to the right uterine cornu. The right round ligament was intact. The lower free end of the omentum was enormously thickened and wrapped completely around a tumor, 15 cm. in diameter, which proved to be a dermoid of the right ovary containing teeth, hair, and sebum. The dermoid had absolutely no other attachments except to the posterior surface of the omentum, which completely enveloped it and from which it received its sustenance by means of numerous small vessels, none of them large enough to require ligation. The tumor was simply peeled out of the omentum without any bleeding. The greater part of the hypertrophied omentum was removed by amputation, the appendix vermiformis inverted, and the abdomen closed. There was a smooth convalescence. She was discharged three weeks after operation.

Remarks: Torsion of the pedicle of the right ovarian dermoid without detachment probably occurred in the first attack of peritonitis twelve years previously, while complete detachment of the tumor coincided with the peritonitic attack of two years later. The tumor then became engrafted upon and drew its

further sustenance from the omentum, in which it was found completely wrapped.

I have collected from the literature and tabulated the following forty-three pertinent cases, fourteen of them referring to post-mortem findings, and twenty-nine observed on the operating-table:

MIGRATED OVARIES AND OVARIAN TUMORS FOUND POST MORTEM.

Author.	Number of Cases.	Reference.	Nature of Tumor
Atlee, W. L....	1	"Diagnosis of Ovarian Tumors," Philadelphia, 1873, p. 188.	Dermoid of left ovary.
Baumgarten....	2	Arch. f. path. Anat. u. Phys., 1884, xcvii., p. 18.	One free right and one free left ovary
Fraenkel, E....	1	Arch. f. path. Anat. u. Phys., 1883, xci., p. 519.	Dermoid of right ovary.
Heschl.....	1	Oesterr. Ztschr. f. prakt. Heilkunde, 1862, viii., p. 377.	Free cyst of right ovary in child of three weeks.
Malins, E.....	1	Lancet, London, 1883, i., 587. Case II.	Cyst of right ovary.
Rokitansky....	7	Allg. Wiener med. Ztg., 1860, v., pp. 9, 17, 25.	Five dermoids, two ovarian cysts, six left-sided, one right-sided.
Turner, W.....	1	Edinburgh Med. Jour., 1861, vi., pt. ii., p. 698.	Cyst of left ovary.

MIGRATED OVARIAN AND PAROVARIAN TUMORS—OPERATIVE CASES.

Author.	Number of Cases.	Reference.	Nature of Tumor.
Barrat.....	1	Trans. Path. Soc., London, 1866, xvii., p. 197.	Doubtful case. Multilocular omental cyst, pronounced by pathologists an ovarian cyst. Ovaries and uterus present and normal.
Chalot.....	1	Annales de Gynéc., 1887. xxvii., 161; xxviii., 31.	Cyst of left ovary. Partial rupture of new pedicle attaching migrated cyst to epiploon.
Doran, A	1	Trans. Med.-chir. Soc., London, 1885, 2 S., L. 235.	Dermoid of left ovary.
Edebohls, G. M.	4	....	1. Parovarian cyst, side not determinable. 2. Left parovarian cyst. 3. Left ovarian cyst. 4. Dermoid of right ovary.
Hofmeier, M ...	2	Zeitschr. f. Geb. u. Gyn., 1880, v., pp. 96–111.	Two left ovarian cysts.
Heurtaux	1	Bull. et mém. de Soc. de Chir., Paris, 1886, xii. p. 751.	Left ovarian cyst.
Keith, S	1	Edinburgh Med. Jour., 1886, xxxi., pt. ii., p. 838.	Left ovarian cyst.
Kelly, H. A	1	"Operative Gynæcology," 1898, vol. ii., p. 250.	Left ovarian cyst, not removed in the presence of general peritoneal carcinosis.
Loebker, C.....	1	Arch. f. Gyn., 1879, xiv., p. 447.	Cysto-sarcoma of left ovary.
Malins, E.....	1	Lancet, London, 1883, i., p. 587.	Cyst of right ovary. M. reports three other cases in which separation was not as yet completed at time of operation.
Olshausen, R ..	1	"Krankheiten der Ovarien," Stuttgart, 1887, p. 269.	Ovarian cyst; side not stated.
Peaslee, E.....	1	Amer. Journ. of Obst., 1878, xi., p. 766.	Ovarian cyst; side not stated.
Pfannenstiel, J..	1	Veit's "Handbuch der Gynäkologie," Wiesbaden, 1898, pt. iii., p. 423.	Cyst of left ovary.
Ruge, P.....	1	Berliner Klinik, Heft 30, p. 3; Ztschr. f. Geb. u. Gyn., xxi., p 210.	Dermoid of left ovary.
Saenger, M.....	2	A. Martin: "Krankheiten d. weiblichen Adnexorgane," ii., pp. 685–687.	Dermoid of right ovary in both cases.
Smith, H.....	1	Trans. Obst. Soc., London, 1881, xxiii., p. 104.	Ovarian cyst; side not stated.
Stone, I. S.	1	Trans. Am. Gyn. Soc., 1898, xxiii., pp. 411–421.	Dermoid of left ovary.
Sutton, J. B...	1	"Surgical Diseases of the Ovaries and Fallopian Tubes," Philadelphia, 1892, p. 108.	Parovarian cyst; side not stated, nor whether operative case. The ovarian cyst, figured on page 141, was not completely detached.
Tauffer, W. ...	1	Wien. med. Wochenschr., 1885, xxxv., p. 67.	Cyst of left ovary.
Terrillon	1	Rev. de chir., 1886, vi., p. 950.	Cyst. Neither side, nor nature of cyst, nor any details stated.
Thornton, K ...	1	Trans. Obst. Soc., London, 1881, xxiii., p. 104	Dermoid of left ovary.
Veit, J.....	1	Archiv f. Gynäk., 1878, xiii., p 459.	Free left ovary. A case of Schroeder.
Wells, S.....	2	"Diseases of the Ovaries," New York, 1873, p. 84.	1. Dermoid; side not stated. 2. Multilocular cyst; side not stated.

I find in the literature one case each attributed to Amann, Jr., Boxall, Braun, Koeberlé, Pozzi, and Pulteney. Some of the references given I have found incorrect, and in the case of the remainder I do not happen to have access to the original publications. I have, therefore, preferred to omit altogether these cases, rather than to quote them at second-hand.

I append a summary of the above-noted cases of migrated ovaries and ovarian and parovarian tumors: 3 free ovaries, 1 right, 2 left; 3 parovarian cysts, 1 left, 2 side not stated; 21 ovarian cysts, 3 right, 12 left, 6 not stated; 15 ovarian dermoids, 5 right, 9 left, 1 not stated; 1 cystosarcoma of left ovary.

59 WEST FORTY-NINTH STREET.

POSTERIOR COLPOCŒLIOTOMY FOR LESIONS OF THE ADNEXA AND UTERUS; ITS INDICATION AND TECHNIQUE.[1]

BY CHARLES GREENE CUMSTON, M.D.,

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IN February of this year I had the honor of reading a paper on posterior colpotomy for acute suppurative lesions in the female pelvis, before the Gynæcological Section of the Suffolk District Medical Society, and on this occasion I would like to consider this excellent operation for the removal of diseased appendages and certain neoplastic productions of the uterus. I have always upheld that when an abdominal incision could be avoided, and still a thorough operation be done through the vagina, the latter should be the preferred route, and the experience of several years in vaginal work has led me to feel more strongly on this point than ever. I trust that these remarks, coming as they do from a general surgeon, and not a specialist, may be received kindly, and although in this paper the writer does not wish it to be understood that he believes the vaginal route is the only one to select in gynæcological cases, still he feels certain that many women may be relieved of their infirmities without going through the rest of their lives with a weak abdominal wall and a scar.

The vaginal route is at the present time no longer limited to simple puncture and drainage, or to total vaginal hysterectomy, and its field of usefulness has become extended for the treatment of a large number of pelvic lesions, thanks more especially to the modern and improved technique. In a recent and very excellent article on vaginal cœliotomy by Dr. J. Riddle Goffe, which appeared in the *Medical News* of October 7, 1899, this authority goes so far as to say that ninety per cent. of pelvic affections may be treated through the vagina, but this I believe to be somewhat of an exaggerated statement.

In the *Wiener klinische Wochenschrift* of February 1, 1900, is to be found a very exhaustive and profound article from the pen of Professor Schauta, entitled "Ueber die Einschränkung der Laparotomie zu Gunsten der vaginalen Cöliotomie," in which the author reports his experience, amounting to 1,112 vaginal cœliotomies and hysterectomies and 1,279 abdominal sections performed for various lesions of the uterus and adnexa, including the removal of one or both tubes for salpingitis, ectopic gestation, enucleation of fibroid growths, ovarian tumors, hysteropexy, etc. Death directly due to the operation shows for the vaginal method 2.8 per cent., and 5.9 per cent. for the abdominal. As to vaginal cœliotomy for lesions of the adnexa and uterus, when the condition of the latter organ did not necessitate its removal, we find 51 cases of single ovariotomy, 1 case of double ovari-

[1] Read before the New Hampshire State Medical Society, May 31, 1900.

otomy, 26 cases of removal of one tube for inflammatory lesions, 1 case of removal of both tubes for inflammatory lesions, 6 cases of removal of an ectopic gestation sac, 7 cases of enucleation of fibroid growths, and 178 cases of hysteropexy, making a total of 270 cases. Of these, three patients died, and all three were operated upon for inflammatory lesions of the adnexa. This makes a mortality of a trifle over one per cent.

In another recent and important paper on posterior colpocœliotomy for lesions of the adnexa and tumors of the small pelvis which was read before the Seventh Congress of Russian Physicians by Dr. P. Y. Teplor, the author mentions 184 cases, 51 of which are his own. Among these cases there were 48 operations for neoplasms and 136 for lesions of the adnexa. The neoplasms may be divided as follows: 34 cysts of the ovary (24 serous cysts, 7 dermoid cysts, 3 parovarian cysts), 10 proliferating cystomata, 2 cases of sarcoma of the ovary, 1 case of fibroid tumor of the broad ligament, and 1 case of cyst of the mesentery. In 13 cases the neoplasm was alone removed, while in 35 others removal of the adnexa was performed on account of inflammatory lesions present. None of the neoplasms was larger in size than a fœtal head. For the cases of inflammatory lesions of the adnexa, the following operations were performed: 23 cases of removal of the ovaries and tubes on both sides; 65 cases of removal of the adnexa on the one side; 3 cases of removal of both ovaries; 4 cases of removal of one ovary; 1 case of bilateral removal of the tubes; 18 cases of unilateral salpingectomy; 9 cases of bilateral extirpation of the tubes and removal of one ovary; 4 cases of bilateral removal of the tubes with partial excision of the ovaries; 9 cases of conservative incision of the posterior cul-de-sac.

In fourteen per cent. of these cases, suppurative lesions were present, and in 7 cases there was also present a retro-uterine hæmatocele. In 2 cases an ectopic gestation was found with the fœtus in a macerated condition. In 29 cases there was a retrodeviation of the uterus accompanying the lesion of the adnexa. Adhesions were met with in only two cases. The mortality was 3.8 per cent., and in 55 per cent. of the cases the post-operative convalescence was apyretic. In twenty-six per cent. of the cases there was no complication after the operation. In 4 cases an entero-vaginal fistula occurred, but which rapidly healed. In 42 cases certain complications were noted after the operation, such as a prolonged rise of temperature, bronchitis, pneumonia, parotiditis, urticaria, etc. The age of the patients varied between eighteen and sixty years; 15 were below the age of twenty years, 110 between the ages of twenty and thirty years, 51 between the ages of thirty and forty years, while 8 were between forty and sixty years. Among these patients there were 38 nulliparous females, or in other words about twenty per cent.

There have been a certain number of objections raised against colpocœliotomy by numerous surgeons. In the first place, it has been said that it was a slow operation. Now I admit that in a certain number of cases, and these form a small proportion, it takes some little time to draw the adnexa down and form a proper pedicle, but, generally speaking, the operation may be performed in from twenty to thirty minutes.

It has also been asserted that the clamps placed on the pedicle act as a very serious encumbrance, but in reply to this I would say that when the adhesions are not extensive the clamps should not be applied until a pedicle has been formed and the ovary and tubes are ready to be removed. In the vast majority of cases one pair of clamps is quite sufficient, and it will rarely be necessary to employ as many as three. If we are to remove the adnexa on both sides the clamps that have been placed on one side first may perhaps cause a little difficulty when being placed on the opposite side, but I have never yet operated on a case in which this could be counted as any hindrance to the performance of the operation.

The opponents of the vaginal route insist that it is a blind method. On this point I can say that in all cases which are suited to posterior colpotomy, the field of operation is as readily accessible to the sight as through an abdominal incision. You can always draw the adnexa down and examine them carefully before proceeding to their removal. The only part of the operation which is beyond the reach of the eye is when, before the pedicle has been formed, the finger breaks down adhesions and frees the adnexa. But with a finger well trained to abdominal surgery, we can feel the loops of the intestine and work with perfect ease and without danger. When the pedicle has been formed, the clamps are always applied under the entire and sole guidance of the eye. The use of an exaggerated Trendelenburg position is of great value in vaginal work, and even if we are dealing with a large cyst which bursts and empties its contents into the general peritoneal cavity, we run less risk by the vaginal route than by the abdomen, because we can get far more efficient drainage through the posterior cul-de-sac than from above.

The intestinal coils and the folds of the mesentery are so complex that even a most careful toilet of the peritoneal cavity may sometimes leave behind a drop or two of infectious fluid which will later result in sepsis, but the perfect drainage which is obtained through the vagina will in most instances prevent this from occurring. I purposely say, "in most instances," because I had the misfortune to lose a case last month from a most virulent streptococcic peritonitis, so virulent in fact that the patient died in thirty-six hours from the time of the operation. In this case the posterior cul-de-sac was opened and a large number of adhesions were broken down; the pelvic cavity was packed with iodoform gauze, but as there was considerable oozing from the vaginal incision the vagina was also tightly packed. On account of the vaginal packing drainage was imperfect, as is proven by the disastrous result which followed, but out of the fifty-nine cases of colpocœliotomies which I have now done for most varied affections of the uterus and adnexa, this is the only case that I have lost.

It has also been said that it is difficult to perform conservative surgery through the posterior vaginal incision, but here again I cannot agree. A partial resection of the ovary can be performed in many cases, and a hydrosalpinx may be opened and drained. Lawson Tait has said that an operation done through the vagina is always incomplete, but I would here point out that those instances in which a complete operation cannot be done through the vaginal incision are just the ones that should be operated on through the abdomen.

As to the argument that there is not sufficient space in which to work with ease, I would say that in my experience I have never yet met with a case in which the size of the vagina was any hindrance to the perfect result of the operation; but should this be found to exist, two lateral incisions in the perineum should be made, as is done in obstetrical practice to avoid laceration when the head is passing through. If we wish to ligate the pedicle instead of using clamps, it can be done with as much ease as through the abdominal incision, and as far as secondary hemorrhage is concerned it is no more likely to occur when the operation has been done through the vagina than when an abdominal incision has been resorted to.

Another objection which has been raised to the vaginal route is that antisepsis and asepsis cannot be

carried out to their fullest extent. Now as to this point I would say that the vagina can be rendered quite as sterile as the abdominal wall, and when the peritoneal cavity has been opened asepsis and antisepsis can be carried out just as well as through an abdominal incision. If we are dealing with an ovarian cyst which has undergone septic infection, and the purulent liquid escapes into the peritoneal cavity, it will remain in the pelvis and can be removed by sponges mounted on clamps just as well as through an abdominal incision, and here again the drainage being more perfect, on account of the natural inclined plane formed by the anatomical structures, the patient is placed in less danger than when this accident occurs during an operation through the suprapubic incision.

It has also been said that when we have once begun to operate through a vaginal incision it is difficult to stop if the condition of affairs is not found suited to this method. Now in the first place I believe that posterior colpotomy, and for that matter anterior colpotomy, is and always should be considered at the beginning as an exploratory operation. An organ should never be removed if it appears normal and if it has never given rise to any symptomatic phenomena. A purulent collection in the cul-de-sac of Douglas may be mistaken for a prolapsed cystic salpingitis, but when once the cul-de-sac has been opened the exploring finger readily discovers the error, and there is nothing simpler than to empty the pocket and drain.

As to the occurrence of a post-operative vaginal enterocele, I can simply say that I have never seen it occur in any of my patients, and all the cases I have operated on, both for pus in the pelvis or for the removal of the adnexa through the vagina, have always presented a few months after the operation an almost imperceptible firm cicatrix behind the cervix through which it would be impossible for any of the intestinal contents to form a hernia.

Post-operative intestinal occlusion, either acute or chronic, has never been reported after extirpation of the adnexa by the vaginal route, as far as I know. I believe that in comparison to the abdominal incision removal of the adnexa through the vagina is far less serious, that it results in a complete cure and avoids a suprapubic cicatrix, thus freeing the patient from any danger of ventral hernia.

There is still another advantage in colpocœliotomy. When one of these very persistent fistulæ arises which will occasionally occur after laparotomy, they are very difficult to heal and very annoying for the patient. Now in the case of the vaginal operation, if by chance a fistula does result, it is much more agreeable for the patient to have it in the vagina than in the abdominal wall.

When ligatures are not used on the pedicle, I of course resort to clamps, which are left in place from two to three days, and during this time the patient will complain of considerable pain, due probably to torsion of the broad ligament, but these pains can be easily controlled by the judicious use of morphine until the clamps are removed, when they will disappear as if by magic. The pain should never be considered a sufficient reason to condemn the use of the clamps, because in many cases the patients do not suffer any more than after an ordinary laparotomy in which ligatures have been used.

In those cases in which there is an inflammatory lesion of both adnexa the uterus is always considerably diseased, because it is the primary focus of the infectious process, the inflammation of the endometrium extending by direct continuity to the mucous membrane of the tubes. Now if we remove the adnexa in these cases, the uterus may be treated and its lesions cured, but if the parenchyma of the organ is thoroughly diseased, it should be removed along with the adnexa—in other words, a total vaginal hysterectomy should be done. On the other hand, the uterus may be perfectly normal, although there may be a lesion of the tubes, such as a hydrosalpinx, or an encysted hæmatosalpinx which has been produced by an unruptured tubal gestation which is undergoing absorption, and consequently in these cases the uterus should not be meddled with.

Anterior colpotomy is also useful in certain cases, such as the removal of fibroid tumors[1] situated in the anterior wall of the uterus, or for the performance of a cuneiform exsection on the anterior wall of the uterus for cases of retroflexion of the organ.[2] The incision is made transversely in the anterior cul-de-sac just as is done in vaginal hysterectomy, and then may be increased in size by carrying a longitudinal incision down perpendicularly to the first, and this latter incision should extend the whole length of the anterior vaginal wall just as is done in Mackenrodt's operation for retroflexion of the uterus, which will be described further on. The bladder is separated from the uterus as well as the vaginal mucous membrane for the extent of from 2½ to 3 cm. on each side of a longitudinal incision. The opening thus gained is quite sufficient for any radical or conservative operation we may wish to perform on the uterus or adnexa. I have never witnessed any disturbances of the bladder in the few operations I have done through the anterior cul-de-sac, and this is also the experience of Goffe, whose paper I have already referred to. In cases of simple retroversion of the uterus without adhesions, the uterus is easily reduced and may be brought into the vaginal incision, and then the adnexa may be examined. Next the round ligaments are shortened by folding them on themselves, and are held in this position by a few catgut sutures. In a simple case of this description the vaginal incision may be closed with catgut, and in a few weeks after the operation it is almost impossible by inspection to see that an operation has been performed.

In a certain number of cases the posterior incision may be combined with anterior colpotomy, which will very greatly facilitate matters. Very recently Stratz[3] has described an operation which he terms lateral colpotomy which I have so far performed on two occasions. It is very true that the lateral incision is the shortest through which to reach the parametrium, and in certain cases I believe that it is simpler, quite as easy, and less dangerous than anterior or posterior colpotomy. The great advantage that it has over the two latter operations is that the peritoneum is avoided, and as to wounding the uterine artery, or the ureter, the mishap is easy to avoid. To perform this operation properly, two long lateral retractors are placed, one in the anterior and one in the posterior cul-de-sac; the uterine artery is then recognized by its pulsation, and just behind it, and parallel to its course a transverse incision is made measuring from 5 to 8 cm. in length, commencing at the posterior and lateral aspect of the cervix. Through this incision the finger can easily attain the parametrium, decorticate it in its entire

[1] For further details see Dr. J. Riddle Goffe. "The Enucleation of Fibroids by Incision of the Anterior Vaginal Wall." MEDICAL RECORD, February 17, 1900, p. 304.

[2] Cuneiform resection of the uterus for retroflexion or anteflexion, devised by Jonnesco, of Bucharest, can be successfully performed through the vagina. If the flexion is anterior, posterior colpotomy should be done, while if we are dealing with a retroflexion anterior colpotomy must be selected. If the uterus is retroverted as well as retroflexed, cuneiform resection should be completed by a Mackenrodt's operation or by intra-abdominal shortening of the round ligaments.

See also an interesting paper by Dr. G. Ruggi, "Della isterectomia cuneiforme vaginale eseguita in alcuni speciali casi di flessione della matrice," in Archivio Italiano di Ginecologia, Anno ii., No. 1.

[3] H. Stratz: "Kolpotomia lateralis." Centralblatt für Gynäk., No. 38, 1899.

height, and then the uterine artery, the ureter, and the lesions existing in the adnexa are easily recognized. By the use of long, narrow retractors to keep the operative wound well open, it is quite possible to work under the control of the eye, and the lesions may be separated from their adhesions and the whole brought down through the incision into the vagina. In most cases the peritoneum is out of danger because it escapes in front of the finger, and consequently it is not opened. Hemorrhage is here practically nothing, and the vaginal wound is so dilatable that Stratz affirms a fibroid measuring from 12 to 15 cm. in diameter can be removed through the opening.

It will be perhaps not out of place here to mention Mackenrodt's operation for retroversion of the uterus, because it has appeared to me that the technique has not been well understood by a number of surgeons. It is as follows: The cervix having been drawn down by two stout bullet forceps, a third one is then placed at about the middle of the anterior vaginal wall, which is then pulled upon so as to raise up and render tense the anterior cul-de-sac. It is then incised in its entire length from the point marked by the forceps in the anterior vaginal wall down to the cervix; at this point, a second incision is made transversely and thus two triangular flaps are formed that are dissected off and pushed back on each side. The bladder is then peeled back and held out of the way by a retractor, and a transverse incision is made in the peritoneal cul-de-sac.

Through this incision a pair of bullet forceps is introduced, guided by the index finger of the other hand, and the anterior wall of the uterus is seized at about 1½ or 2 cm. above the level of the internal orifice; a second pair of forceps seizes and pulls up the vesical flap of the peritoneal cul-de-sac. We now remove the bullet forceps which raises the cervix, and by the aid of the finger the latter is pushed backward, while with the bullet forceps placed on the corpus uteri the fundus is gently drawn forward and downward.

It should be understood that the finger which explores the pelvic excavation has already recognized and broken down, as much as possible, any adhesions which may bind down the adnexa. When the uterus has been brought forward, the forceps which holds the peritoneal flap which is adherent to the bladder pulls this flap against the anterior wall of the corpus uteri, exactly above the point where the forceps which brought the uterus forward has been placed. The flap is next sutured to the wall of the uterus by a single catgut suture. The peritoneal cul-de-sac is thus closed and at the same time is brought about 2 cm. higher than normal, and it thus results that below it is left bare about 1½ cm. of the anterior wall of the uterus, and it is on this very part that the bullet forceps which aided in bringing the uterus forward was placed. A large catgut suture is next passed into the parenchyma of the anterior wall of the uterus just underneath the last-mentioned pair of forceps, and the two ends are tied, and only at this point should the bullet forceps be removed and then be placed on the anterior lip of the cervix, which is again drawn down.

Next, the transverse incision of the vaginal cul-de-sac is closed by sutures beginning at the middle and going to the ends. There now only remains the longitudinal incision, whose upper angle allows the long catgut suture, which has been passed into the anterior wall of the uterus, to pass out through it. Each one of the ends of this suture is now threaded on a needle which is made to pass through a corresponding border of the longitudinal vaginal incision near its upper angle, sometimes also a little lower according to the length of the cervix. Before the two ends are tied, the vaginal incision should be carefully brought together by interrupted sutures, and it is only after this has been done that the uterus is held in position by tightly tying the catgut suture which goes through both anterior walls of the two organs. The operation is now finished, and all that is necessary is to pack some iodoform gauze in the vaginal cul-de-sac, which by pushing the cervix backward will hold the corpus uteri in its new position until cicatrization has become complete.

Vaginal fixation performed according to this technique usually gives satisfactory results. The pelvic organs retain their normal situation, and are in no way adherent to the pelvis or to the abdominal walls. The uterus is in good anteversion and perfectly normal; the corpus and fundus are absolutely free in the abdominal cavity, having their normal relations with the other viscera, and the bladder is only slightly pushed upward. The author of this method claims that the organ is so solidly held in place that neither labor nor pregnancy can in any way modify its position. Why I have described vaginal fixation of the uterus is, because in many instances along with the deviation of the organ will be found lesions of the adnexa which can be easily removed by the incision necessary for the correction of the position of the uterus. Generally speaking, however, the diseased tube or ovary has a tendency to prolapse into the posterior cul-de-sac, and consequently posterior colpocœliotomy will be the proper operation to select, because the adnexa are most readily reached in this way.

When a patient presents symptoms indicating the presence of some lesion of the adnexa which requires a radical operation, we should consider which is the better route for the given case, and in order to determine this point as correct a diagnosis as possible must be made. The difficulty is always to distinguish the predominating symptomatic elements, and to discover their pathogenesis so as to attack the cause directly. When once this has been determined, we may then resort to etiological therapeutics, which are the only ones that can have any pretension of being radical. In order to obtain this end, the personal and hereditary antecedents of the patient should be gone over, and all the viscera should be carefully examined. The genital organs should be the object of our special attention, and all the means of diagnosis which are used should be employed, such as digital examination of both rectum and vagina, bimanual palpation, percussion, and auscultation.

When it is necessary to distinguish a uterine or a peri-uterine tumor, a differential diagnosis with all those diseases which may possibly arise in the female pelvis should be considered, and a correct diagnosis will thus be arrived at, and this is absolutely necessary in order to avoid any error in diagnosis. If these precautions are not taken, an incarceration of a pregnant uterus may be mistaken for a fibroid, or a retroflexion may be diagnosed as some tumefaction located in the posterior cul-de-sac. In many instances, especially when the patient is very fleshy, it is absolutely necessary to employ general anæsthesia, and this should always be resorted to when any doubt exists as to the exact condition of affairs in the pelvis.

When the nature of the disease in the pelvis has been well established, as well as the necessity of doing something for its relief, we should consider whether or not the case is one for operation. If the patient is very weak, and unless the condition requires an urgent operation, the intervention should be delayed. During an attack of pelvic peritonitis, we should not try to remove an adherent organ; a prolapsed ovary, no matter how painful, should never be removed during pregnancy, but on the contrary, if we are dealing with a pregnancy complicated by a fibroid tumor of the uterus, the neoplasm should always be removed by either the abdominal or vaginal route, and

the choice of the operation will be settled by its position, size, etc. Generally speaking, every tumor which is larger than a good-sized apple, or which cannot be reduced to this dimension, should be removed by abdominal incision, but when it is below this size the vaginal route is the one which, in my opinion, is the best to select.

For the removal of the adnexa through the vaginal incision, they must be movable, or, if adherent, to only such an extent that they will not be prevented from being drawn down into the incision. If, on the contrary, they are immobilized by adhesions, and are situated high up beyond the reach of the finger introduced into the vagina, they would better be removed by abdominal section. When the adnexa are adherent to the uterus alone, the uterus itself must be movable so that it can be drawn well down in order to make them removable by posterior colpotomy. But when these conditions are not present, either anterior or lateral colpotomy is to be selected. In order to determine the exact condition of affairs in cases of adherent adnexa, examination under ether is usually necessary.

I would here like briefly to consider those cases in which removal of adnexa through the vagina is indicated. A painful, prolapsed, and sclerocystic ovary is one of the most frequent conditions, and is recognized by the very sharp pain produced by vaginal palpation; these ovaries may be so movable that they can be pushed around in the posterior cul-de-sac, and will slip away from the fingers like marbles. Another condition in which the posterior vaginal incision is indicated is in certain cases of suppurating or parenchymatous ovaritis. This also applies to small fibromas of the ovary which are characterized by their slow development, their usually small size, and non-malignant character. We can also open and drain cysts of the broad ligament, and partially extirpate them.

Diseases of the tubes may also be treated through the posterior vaginal incision, although their differential diagnosis is far from being easy in a large number of cases, and, in the absence of exact diagnosis, the gravity of the symptoms and the general condition of the patient should be our guide. There are many cases of catarrhal salpingitis in which pain is very severe, and which resist every kind of treatment employed, but in which an abdominal section is considered a pretty severe operation, in view of the slight importance of the lesion; posterior colpotomy may here be employed to advantage. Hydrosalpinx, hæmatosalpinx, and chronic hypertrophic parenchymatous salpingitis are easier to enucleate than a pyosalpinx. This latter lesion is so often accompanied by very tough and thick adhesions connecting the tube with the surrounding organs that in most instances the suprapubic route should be preferred. If, however, the tube forms a purulent pocket, it may be opened through a posterior vaginal incision and drained, a treatment which in many cases results in a complete recovery, usually a permanent one, especially when the lesion is unilateral.

To sum up the lesions which may be removed through the posterior vaginal incision, I would say that we have: (1) inflammatory affections of the adnexa with prolapsus in the cul-de-sac of Douglas; (2) cysts of the adnexa of small dimensions; (3) neoplasms situated high up in the pelvis, but which are movable and can be drawn down; (4) large cystic tumors, provided that they are not adherent and that by digital examination through the vagina the finger can easily reach the lower pole of the neoplasm; (5) solid neoplasms of the recto-uterine cul-de-sac which do not exceed the breadth of the posterior vaginal cul-de-sac; (6) extra-uterine pregnancy.

Vaginal salpingectomy is indicated in that condition known as encysted salpingitis. In this variety the adnexa, whether cystic or not, are contained in a secondary cyst which is formed of the remains of a former pelvic peritonitis. They are either bound down or are floating in a pocket which contains a serous, seropurulent, or purulent liquid, as the case may be. The upper wall of the secondary cyst has, as a characteristic, its being always made up of loops of intestine solidly agglutinated. The other walls are variable in structure. If the adnexa are in Douglas' pouch, the walls of this depression and the utero-sacral ligaments compose them. If they are in the retro-ovarian fossa, the anterior wall of the pocket is made up of the broad ligament, while the external and posterior walls become intermingled with the structures of the side of the pelvis, the internal wall having for substratum the utero-lumbar and the utero-sacral ligaments. The cyst formation may also take place in front of the broad ligament in the paravesical fossa; but no matter what variety of cystic formation of this type we may be dealing with, its vault is always the same, that is, composed of an agglomeration of agglutinated coils of intestine.

Encysted salpingitis is usually better dealt with by posterior colpotomy than by any other method, and most of it can be removed through the incision, and what is left will be eliminated by drainage.

I believe that retro-uterine hæmatocele can be best treated by the vaginal route, provided that all symptoms of hemorrhage have ceased, and that the collection of blood has become encysted, but I will not insist further on this point, as it has been discussed in my paper already alluded to. The treatment of tuberculous peritonitis by posterior colpotomy as recommended by Löhlein does not appear to me to present the advantages possessed by abdominal section.

Generally speaking, posterior colpotomy is contraindicated in those cases which do not present any of the conditions already mentioned, and the knowledge of the indication will be sufficient to determine whether the vaginal route is the proper one to select or not. The contraindication may be due to the general condition or the local condition. An extreme debility, an acute disease, or pregnancy would naturally lead us to defer the operation excepting when the case is one of emergency.

The contraindications given by the local condition are far more numerous and important. To operate for the removal of an ovary during an acute attack of pelvic peritonitis would naturally be a very serious mistake, excepting in those cases in which the inflammation of the tube is due to direct infection from an adherent appendix which is acutely inflamed, but in these cases the usual incision for appendicitis on the right side of the abdomen is the proper one to select. If a cystic purulent salpingitis which is adherent to the wall of the vagina, and filling out the cul-de-sac, is present, it is not the removal of this condition that should be undertaken, but a simple incision followed by drainage is all that is necessary, and to attempt anything else would be both difficult and dangerous. In other cases in which the lesions of the adnexa are extensive and situated on both sides, the adhesions set up by a chronic pelvic peritonitis are very numerous. There are in this case a perimetro-salpingitis and a cellulitis, and consequently we should remove everything which binds up these collections; in other words, a total vaginal hysterectomy should be done. Excepting in the case of encysted salpingitis, abdominal incision should be preferred on account of the intestinal adhesions, because when we try to break them down the intestine may be torn, and this mishap is very difficult, if not to say impossible, to repair through the vaginal incision.

It is very true that a diagnosis of the presence of intestinal adhesions is difficult to make, but there are certain signs which will at least lead us to sus-

pect their presence. Disturbances in defecation and digestion, intestinal dyspepsia, colics, chronic intestinal occlusion, or the presence of gas felt when a certain point of the tumor is palpated, are all symptomatic of intestinal adhesions, but in spite of all these symptoms they are oftentimes not suspected. Consequently if, after having opened the posterior cul-de-sac, this condition of affairs is found, the surgeon should proceed with caution, and if he is well trained in abdominal surgery his finger will readily ascertain how far the operation may be carried. If the tumor is tightly bound down, and abdominal incision cannot accomplish more than the vaginal route, the posterior cul-de-sac should be opened and the tumor incised and drained.

To sum up, it may be said that extensive adhesions are a contraindication to the removal of these pathological conditions even by the abdominal route, but unfortunately in many instances we are not aware of the condition until the parts are explored by the finger. A very high position of the adnexa in the pelvis, and more especially the impossibility of bringing them down low enough to be within reach, are absolute contraindications for posterior colpotomy, and the abdominal route should then be selected. A high position of the uterus, in which it cannot be drawn down without difficulty, enters into the same class. If the adnexa are adherent in the paravesical fossa, anterior colpotomy is the operation to select; and the last contraindication to which I would call attention is a malformation of or a very tight vagina.

The technique of the operation I have discussed very fully in the paper already alluded to, so I will not refer to it here. Suffice it to say that the patient is placed in the lithotomy position with the thighs well flexed on the abdominal wall. I always use an exaggerated Trendelenburg's position in these cases, and for this purpose there is no table equal to that devised by Pryor of New York. The use of ligatures or of clamps will depend entirely upon the preference of the operator, but personally I prefer the latter in many cases. I have never seen any advantage in closing the vaginal incision with sutures after the removal of non-suppurating lesions, and rather prefer to insert a wick of gauze which is removed in three or four days, and within a week or ten days from the time of the operation the incision will be found to have completely closed.

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HÆMATOMYELIA, WITH REPORT OF THREE CASES.[1]

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Spinal hemorrhage, even excluding that incidental to vertebral traumatism, is, perhaps, not so uncommon as is generally supposed, the opinion expressed only about twenty-five years ago being that it did not exist in its primary non-traumatic form. Mild cases improve and do not come to autopsy, others no doubt are masked under the diagnosis of spinal meningitis or myelitis. Compared, however, to cerebral hemorrhage, it is of course quite rare. This is owing, no doubt, to the longer and more tortuous course of the spinal blood-vessels, their smaller size, and the less frequent changes in the blood pressure therein. Thus we find no miliary aneurisms in the cord, which in the brain are the forerunners of hemorrhage.

The text-book distinction of hæmatomyelia or hæmatorrhachis, according as the bleeding is in the cord or membranes, seems to be more anatomical than clinical. Though it has some theoretical justification in the blood supply, it is certainly not entitled to the same weight as the same distinction in cranial hemorrhage. While the existence of pain points to the membranous form it is not a reliable discriminator, as will be seen in one of the cases here reported. Bleeding in the cord is more apt to take place in the gray matter, where the vessels are more numerous, have less support, and are probably subjected to more changes in lumen than in the white matter.

The causes of spinal hemorrhage of the primary kind, with which only we are here concerned, are obscure. Anæmia in its protean forms has been associated with many cases; so also severe exertion of the muscles of the back, as in a case that took place during excessive coitus, and in one here reported in which the patient was engaged in the prolonged use of the sewing-machine at the time. In both of these the lesion was in the portion of the cord innervating the muscles engaged (lumbar enlargement), which may have some bearing on the matter. Such possible bearing is not to be identified with the instances in which general convulsive seizures produce the commonly found punctate hemorrhages. These are more properly classified as traumatic, and are often in proportion to the violence of the spasm.

The symptoms of spinal hemorrhage are attributable to varying degrees of interference with the motor, sensory, trophic, and reflex functions of the particular spinal segments affected. Each segment of the cord, it will be recalled, is not only engaged in conducting motor and sensory impressions to and from parts below it, but by virtue of its gray matter and anterior and posterior nerve roots innervates a given muscular area, presides over its nutrition, and receives sensory impressions of a given cutaneous area, and looks after the trophic, reflex, and vasomotor functions of the same. Each of these segments contains groups of cells which preside over certain "movements" rather than muscles, thus differing from the distribution of peripheral nerves, which often supply adjacent muscles which may have opposite actions. These groups of cells, which often overlap, rarely occupy only a single segment, and usually extend through several, so that certain muscles, probably according to their various actions, and also to their size, receive their innervation from a varying number of segments. Thus the biceps, which is a supinator as well as a flexor, indeed first a supinator, as one may easily prove by faradizing it, has three segments. The supinator longus, which is a flexor as well as a supinator, and perhaps more of a flexor, has its group of innervating cells extending through two.

I shall not speak of spinal localization except to say that I have found it useful to picture the body in the quadruped position, when it will be found that there is a fairly regular correspondence between the segments and the muscles supplied by them from before backward. Thus the deltoid and biceps are supplied before the teres major and triceps, which are more posterior in this position; the radial side of the arm sooner than the ulnar side; the psoas-iliacus sooner, *i.e.*, from a higher segment, than the quadriceps extensor, and this in turn, lying more anterior than the hamstrings, is supplied by a higher segment. The perineal muscles being most caudal in this position are supplied by the lowest segments. The same general sequence will be found to prevail even more perfectly in regard to the sensory distribution. Thus a lesion in the lowest segment produces anæsthesia at the very caudal extremity; a little higher and the posterior part of the thighs and legs are affected, and so on. I have also found it convenient for localization to single out only the chief muscles, those whose con-

[1] Read before the Milwaukee Medical Society, December 12, 1899.

dition is easily determined as affected either by paralysis or atrophy, or in response to electrical stimulation, and to make a diagram on such a basis. Such a treatment, however, of a complicated subject, which is largely yet a *terra incognita*, may be regarded as only roughly convenient, and must not be used to the sacrifice of accuracy or to a more detailed study in particular cases.

In determining the exact point corresponding to the affected segment I may be excused for recalling two important things: First, that a given segment lies higher than its corresponding vertebra. This relatively higher position of the segment to its vertebra increases as we go down the cord, and so the nerves as they emerge from each segment to reach the intervertebral foramina of the corresponding vertebra have an increasingly longer intra-medullary course as we go down, and, the cord ending at the first lumbar, all nerves destined for intravertebral foramina below this (lumbar, sacral, and coccygeal) must leave the cord at this point. Secondly, we must remember that the spinous processes of the vertebra, which are our only guide to their localization, do not always lie opposite their bodies. This is distinctly true in the dorsal region, where from about the second to the eleventh the spinous processes project markedly downward so as to lie over the body of the vertebra next below and even lower. To illustrate these points, a horizontal line passing in from the seventh dorsal spine would pass through the lower part of the eighth dorsal body and go through the ninth dorsal segment. Or, putting it contrariwise, the ninth dorsal segment lies opposite the body of the eighth dorsal vertebra, which lies opposite the spinous process of the seventh.

In regard to localization in the cervical region it should be remembered that the first vertebra has no spinous process, that the spinous process of the second is very large and distinct, and that in the third, fourth, and fifth the spines are sometimes absent and are generally bifurcated, which makes it difficult to distinguish them; the sixth is also inconspicuous, and the vertebra prominens, instead of being the seventh cervical, is generally the first dorsal.

The least equivocal picture of spinal hemorrhage is the sudden onset of paralysis and anæsthesia without loss of consciousness, the paralysis reaching its maximum intensity in a short time, then receding early to a greater or less extent *pari passu* with relief of pressure by shrinkage of clot or subsidence of shock (the continuance of improvement depending, of course, upon the destructive or compressive nature of the lesion); the presence of pain or other sensation in the back; the disturbance of the bladder and rectum; the flaccid nature of the paralysis of the muscles innervated by the affected segments, with a loss of their deep reflex activity and a quantitative change to faradism and galvanism, and later qualitative changes to galvanism with R. D. and atrophy; and the spastic nature of the muscles below the affected segment, owing to injury of the conduction paths, with an increase of their deep reflexes and absence of electric changes; the girdle sensation with an area of hyperæsthesia at about the level of the affected segment; the absence of the superficial reflex of the segment involved, though its presence is a better sign of the integrity of the segment than its absence is an indication of the involvement thereof.

While such might be a clinical picture of a transverse lesion produced by a large hemorrhage, a smaller hemorrhage, by virtue of its predilection for the gray matter, is apt to produce a symptom complex which has come to have almost pathognomonic significance, namely, a dissociated anæsthesia, *i.e.*, a loss of temperature and pain sense with a retention of the tactile sense. Through the study of syringomyelia and other means, we have come to locate the conduction paths of pain and temperature in the gray columns, while the tactile-sense paths are in the posterior white columns. A smaller lesion, therefore, is thus apt to affect only the pain and temperature sense of the gray matter, leaving undisturbed the tactile sense, and this has been observed to be so clinically corroborated in a number of cases as to make it a very characteristic symptom of hæmatomyelia.

As in other nervous diseases, however, aberrant forms are perhaps more common than the typical. Much in diagnosis depends upon the reliability of the symptoms gathered, the returns of examinations often being ambiguous. It is usually more difficult to gather exact data, making due allowance for subnormal variations, than to interpret the same. Young and lean persons furnish the least equivocal data, the young because of the greater reliability of the sensory and reflex functions, the lean because of the easier reading of the musculature.

Antecedent cord disease in which hemorrhage may be incidental should always be suspected in a case supposed from its sudden onset to be spinal hemorrhage. Even post mortem it may be difficult to know whether a hemorrhage was primary to the softening of contiguous myelin or secondary to a myelitis. On the other hand various paræsthesiæ, which may be brief forerunners of hemorrhage, must not be construed as indicating antecedent cord disease. Gliomata, too, may bleed in the cord, as they commonly do in the brain. Their softness and imperfect differentiation from adjacent nerve tissue make it possible for them to exist without decided symptoms, though for mechanical reasons this is less true in the cord than the brain, where I have found extensive gliomatosis of the right hemisphere without any brain symptoms whatever. Pott's disease, also, may pre-exist (though not so likely to be unsuspected), and symptoms caused by the pressure of broken-down tissue may come on suddenly enough to simulate hemorrhage.

Spinal hemorrhage is not so easily confusable with cerebral hemorrhage, though they have in common the sudden onset of paralysis. Those cases, however, in which the apoplectic insult in the cord is accompanied by reeling or faintness due to shock, may easily be mistaken for that form of cerebral hemorrhage in which, because of the position or severity of the lesion, consciousness is but little disturbed, especially were the paralysis more hemi- or monoplegic than paraplegic.

More confusable, perhaps, are cases of multiple neuritis, in which atrophy and electrical changes may be the same, as well as motor and sensory disturbance and a fairly sudden onset. The absence of bladder and rectal disturbance, the very characteristic pain along affected nerves and muscles, the probably irregular distribution of the paralysis and anæsthesia, particularly the latter, the pseudo-tabetic symptoms arising from the disturbances of muscular sense, associated with pain, and the absence of girdle sensation and myostatic irritability of muscles below the lesion, and the absence of dissociated anæsthesia, favor neuritis as against hemorrhage.

Hysterical or functional paralysis of the spinal type will often come to mind in explanation of the symptoms produced by spinal hemorrhage. Each may come on in anæmia, and with considerable suddenness affect motion and sensation with flaccid or spastic type of paralysis. In discriminating between them the absence of hysterical stigmata, psychic or nervous, must not carry too much negative weight; at the same time it is an easy snare when symptoms are bizarre and coupled with a few stigmata to lay them to hysterical or functional causes and give a good prognosis. While globus, tremor, spasm, deep hemianalgesia,

sentimentality, suggestibility, and want of inhibition have due weight, we are more and more learning, as Seguin pointed out years ago, that organic disease and hysteria often coexist, the gross lesion provoking latent hysteroid symptoms in a potential hysteric. In discriminating, the irregular, bizarre nature of the symptoms which cannot easily be explained by a focal lesion; the fact that the paralysis often affects "combined" movements rather than individual muscles, producing a disability of walking rather than of moving the leg muscles, or of writing rather than paralysis of individual arm muscles; the fact that a mental strain, notably worry and fatigue, has preceded; that convulsive seizures of a general character and not confined to the muscles to be presently paralyzed, as in organic lesions, have occurred; that the special senses are affected; that there may be decided fluctuations in the symptom complex—all of these must favor hysteria. Many, however, may be absent, and the diagnosis not be so easy, for even atrophy of muscles, bedsores (small) and bladder disturbances are not necessarily absent in either hysterical or functional paralysis, and the generally described sudden disappearance of hysterical paralysis is the exception rather than the rule, according to men of large experience, Mitchell, Bastian, and Charcot.

Case I.—My first case is that of a married woman aged thirty years, anæmic and "run down," who, while sewing for a protracted time at her machine, started to walk across the room, when she felt faint and sank to the floor. Unable to rise, though still able to move her legs slightly, she was lifted to a couch, when the paralysis soon become complete. Hot water was then applied to her legs, which, being thermo-anæsthetic, were thereby severely scalded. When I saw the patient a fortnight later there was complete paraplegia; the muscles were flaccid, the knee jerks absent; bladder and rectum were affected, the voluntary sphincteric control being lost so that they emptied themselves without central authority. Tactile sense was but slightly diminished over the lower extremities including the lower abdominal region, but pain and temperature sense were abolished over the same parts. The epigastric, abdominal, and plantar reflexes were intact. The deplorable state of the patient was magnified by the fact that she was now in the fifth month of pregnancy.

After about two weeks from the onset it was noticed that some motion had returned to the right foot, the patient being able to flex the toes slightly. This was not accompanied with any improvement in sensation, or, if so, it was so slight as to be unreliable. The bladder and rectum continued incontinent, and notwithstanding catheterization the residual urine soon developed cystitis. In spite, also, of attention to the trophic condition of the skin a small bedsore soon appeared on the foot, and the injury sustained by the scalding of the legs did not heal. No particular atrophy of the muscles developed.

Symptoms pointing to the death of the fœtus led to the induction of labor, though the child was found viable. No anæsthetic was required for the forcible dilatation of the os, which was entirely painless, nor was there any pain in expulsion of the fœtus, the uterine contractions, however, being firm and potent, and no bad after-effects followed the operation.

The patient soon become worse; bedsores developed which could not be checked, and one of great size over the sacrum produced general infection which rendered cutting away of the slough necessary, and languishing in this way she died, after having lived about six weeks without once having her mind obscured to her condition.

The position of the spinal hemorrhage as it was inferred to be, no autopsy having been granted, was in the lumbar enlargement somewhere between the abdominal reflex arc above (eleventh and twelfth dorsal) and the plantar reflex arc below (first sacral), both of which were intact. The involvement of the knee-jerk centre (third lumbar) and the flaccid nature of all the paralyzed muscles place the lesion in the lumbar segments and probably greatest in the upper ones. The improvement in the foot and the escape of the direct bladder and rectal reflex arc (those organs suffering only from an interference with voluntary control from above and not from a breach in their reflex centre, in which case there would have been paralysis of the detrusor with retention, or of the sphincter with constant incontinence), show the escape of the sacral segments. Though the lesion was probably large it does not require so very extensive a lesion to affect all the lumbar segments, as these segments lie quite closely superimposed here. That the lesion was chiefly in the gray matter is apparent by the flaccid nature of the paralysis. If the white conduction paths were involved, and they are comparatively few here (the sensory ones having not yet been gathered in for their brainward course, and those destined for muscles having been largely distributed above this point), the spasticity accompanying such involvement of the lateral tracts may have been counteracted by the greater and more vertically extensive anterior cornual lesion. That there was no marked atrophy under these circumstances seems anomalous, (the greater adipose of a woman's legs, however, easily conceals lesser degrees of muscular atrophy). Though the separate existence of motor and trophic cells in the gray matter is probable, it is not likely that the latter would escape in such an extensive lesion as this, which practically destroyed the independent function of the cord in several segments as well as its conductive function, allowing nothing but a small degree of tactile sense to penetrate upward. That the lesion was destructive rather than compressive is shown by the little or no improvement. All of these inferences must, however, go unverified by post-mortem diagnosis.

The behavior of the uterus is of interest in this case. The strong contractions seem anomalous, especially in the absence of sensation necessary to awaken the reflex function. This anæsthesia, however, was probably only that of the pain sense, which, transmitted through the cord by way of the sacral segments, was interrupted by the lesion, while the tactile or other sensation in the uterus necessary to excite the reflex arc through the hypogastric plexus was uninterrupted and requisite to engage the uterine mechanism, the probable centre for which Onuf has recently shown to be in the so-called vegetative cell column of the third sacral segment, which was here inviolate.

As possible causative agents it may be mentioned that the woman had taken many doses of an unknown oxytocic to effect abortion; also the fact that there was more or less anæmia (though no blood count was made), and the fact of the prolonged innervation of the lumbar segments in the protracted use of the sewing-machine. There was no nephritic or alcoholic history, though a syphilitic one could not be entirely excluded.

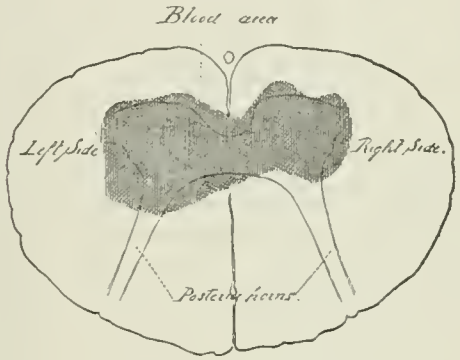
Case II.—Mr. P——, aged thirty-eight years, with alcoholic and syphilitic history; the patient is addicted to absinthe. Coming home one night, not intoxicated, he reeled and partly fell down a step or two leading to the basement of his house. He was helped to a chair and found himself unable to move the left arm or leg. Soon he dropped from the chair to the floor, and then his right side was found immovable as well. There was no disturbance of consciousness, no deviation of head or eyes. When I saw him a few hours later there was complete paraplegia from the shoulders down; no facial or ocular paralysis. The

tongue deviated to the right (which was probably, however, a normal deviation); his mind was clear; there was severe pain over the post-cervical region, where there was no sign of trauma, but where pressure elicited tenderness: the arm paralysis was flaccid; the legs were spastic, the knee jerks being exaggerated, though no ankle clonus was present. There was little or no disturbance of sensation or superficial reflexes. There was vomiting, probably due to medicine. There was apnœa which gradually increased. Later, loss of voluntary bladder control was manifest; the respiratory difficulty increased, and the patient died about thirty-eight hours after the onset, with mind clear almost beyond the threshold of death. An autopsy was reluctantly granted, and only the upper portion of the cord was removed. Exudate, probably post-mortem, was found around the cord, the precaution not having been taken to lay the body prone as is desirable when the cord is to be examined. On section of the removed cord there was found a red hemorrhagic area which might in its fluid state have been about two teaspoonfuls of blood. It occupied the middle of the fourth cervical segment and extended to about the middle of the sixth. The clot was found to be in the gray matter and chiefly of the ventral horns, and greatest on the left side, corresponding to the initial paralysis. The clot was largest at the fifth segment and on the left side, which was probably nearest to the bleeding vessel, which vessel could not be found. It encroached upon the lateral tracts chiefly by pressure. The membranes were unaffected, which fact leaves the pain unaccounted for (see figure).

Coming on suddenly in the form of hemiplegia the symptoms at the outset in this case might have been regarded as cerebral, especially with the deviation of the tongue to the right and the vomiting. The early supervention of the paralysis on the other side, however, and the absence of involvement of speech, face, or consciousness, would have cleared away any doubt, especially the apnœa, indicating paralysis of the phrenic nerve. Though the situation of the clot was mostly below the chief innervation of that nerve, the largest mass of it was in the fifth segment, which sends a communicating branch to the phrenic. Death from apnœa might have come sooner had it not been for this escape of a large part of the phrenic innervation. Though it has been established that paralysis of the diaphragm alone without involvement of the auxiliary muscles of respiration, such as the intercostals and scaleni, is not fatal, the lesion in this case was low enough to enable the scaleni and sterno-mastoid to be in active play as auxiliaries. From some recent experiments on the faradization of the phrenic nerve in the neck to maintain artificial respiration, it is not too much to claim that in lesions like this in which the clot just edged upon the phrenic-nerve origin, such faradism of the diaphragm might be a useful therapeutic measure, pending whatever restitution of diaphragmatic function there may have been through shrinking of the clot or subsidence of the shock. The respiratory difficulty in this case was very characteristic. It could not be mistaken for dyspnœa, either inspiratory or expiratory, for there was no air with which to breathe; the patient would open his mouth, and jerk his head forward as if to bite off pieces of the atmosphere which refused to enter where the paralyzed diaphragm made no vacuum.

The lesion involving the innervation of the brachial plexus directly through the gray matter, and the muscles below indirectly by pressure on the lateral columns, explains the flaccid nature of the paralysis of the arms with diminished myotatic irritability (and also changed electrical reactions with atrophy had there been time to develop these), and the spastic paralysis of the legs with increased knee jerk. That sensation should remain unaffected in this case makes the lesion and symptom group a curious parallel to that chronic spinal disease, amyotrophic lateral sclerosis, in which there is a paralysis of the upper extremity of the peripheral neuron type, with atrophy, R. D., fibrillation, and of the lower extremity due to affection of the central neuron, with increased myotatic irritability.

Case III.—This is a case of a young married woman who has had one child and had always enjoyed fair health, having no syphilitic, alcoholic, or neuropathic history. About one year ago without warning she had pain in her back, and dragged herself to a couch, where in less than an hour her legs, as she said, "went to sleep," and became completely immovable. Soon after that she had no restraining influence over the bladder. The paralysis seemed to reach its height at once and straightway began to improve, some motion of the legs being possible on the following day. I saw the patient for the first time nearly four months after, when she was just beginning to trust herself to step. At that time her movement was stiff; the mus-



cles of both legs were weak, and the knee jerks were much increased, which increase was more marked on the right side, where there was also slight ankle clonus (about eight contractions); there was also some atrophy of the right leg, which measured three-quarters of an inch less than the left. About the same relative difference existed in the thighs. As there was little adipose tissue, and the legs were normally small, even such a slight degree of atrophy was important, particularly on the right side. Electrical reaction showed quantitative changes in faradism and galvanism on the right side, but no R. D. Slight tactile anæsthesia existed, greater on the right side and increasing toward the extremities. Pain sense was also affected in the same manner, but there was no thermo-anæsthesia. Both extremities were subjectively and objectively cold, the right more than the left. The superficial reflexes were not abnormal. These symptoms were probably due to hemorrhage of the cord, small in extent, and greatest upon the right side, and having little or no destructive character, as subsequent improvement showed. It is a little difficult to understand how a lesion could press upon both lateral columns without doing more damage to the intervening gray matter. Two ways are open to explain this: one is the morphological anomaly by which there is little pyramidal decussation, the tracts of both sides lying contiguous in the anterior columns (Türck's), where a lesion might easily affect them both as well as damage the right anterior horn; or, what is more probable, that originally the gray matter had been damaged transversely to the extent of affecting the lateral tracts, which damage, however, had been largely remedied four months after, when my examination was made. For want of early observation the precise position of the lesion is not determinable, though probably in the upper lumbar segments. No other theory of diagnosis is as tenable as hemorrhage. An adult form of acute anterior cornual myelitis, though

having the fairly sudden onset and the characteristic coldness of the limb, is negatived by the presence of the knee jerk, the bladder disturbance (which is very rare in poliomyelitis), and the presence of sensory disturbance, however slight. Hysterical or functional paralysis might be read into some features of the case, but the patient is a sensible, cheerful, happily married and favorably situated woman, and worry and fatigue are wanting. Neither could it be the common paraplegia of alcoholic, syphilitic, or metallic poisoning, which, excepting the syphilitic, are peripheral in their nature, although we are more and more losing the sharp distinction that has always been made between peripheral and anterior-horn lesions. That there is no progressive system disease of the cord is shown by the fact that no symptoms antedated the onset and that there has been progressive improvement since. This has continued, at first rapidly, later more slowly, under faradism, massage, strychnine, etc. She soon became able to walk about the street without support, later to go up and down stairs, although the feeling of stiffness remained; the legs and thighs improved in nutrition and warmth, until examination a few days ago showed no atrophy, the legs and thighs measuring the same. The right knee jerk was no longer greater than the left, though they were both still exaggerated. Tactile and pain sensations, which had been in arrears in former examinations, were, if diminished at all, very slightly so. The bladder irritability had disappeared within a few weeks, but the rectal trouble, in the nature of diminished expulsive power, from which she had suffered since the beginning, continued. Believing that this had no relation to the lesion, but was due to the sedentary life which she was obliged to live, and the constant resort to cathartics necessary, the patient was recently advised to discontinue their use and allow the rectum to regain its reflex activity even at the cost of much constipation. Under this the patient would at first go for more than a week without bowel movement, during which she suffered headache and other discomfort, but on persevering the normal evacuations came oftener, until now they take place about every two days. The subjective sense of slight stiffness continues, and also a slight spasticity in her gait, which is not noticeable unless looked for, and with the exception that she cannot indulge a fondness for dancing, or hurry after a street car, she is almost as well as before her trouble a year ago.

If the lingering stiffness is the result of some degeneration in the so-called inhibitory fibres of the motor tract from some destruction therein, we have, on the one hand, the unfavorable precedent in which the section of monkeys' cords was followed by little or no restoration of function, and, on the other hand, the favorable precedent in the great improvement of the spasticity in Pott's disease when regular mechanical treatment is applied, as conflicting features as to the ultimate integrity of the patient's cord. That there has already been considerable improvement in this is a fair ground for expecting more.

Facial Paralysis in the Course of Acute Catarrh of the Middle Ear.—L. Bar reports three cases: In the first, that of a girl aged nine years, an otitis following influenza was accompanied by a paretic state of the facial muscles; puncture of the drum quickly relieved all untoward symptoms. The second case was in a boy aged eight years, with adenoids, and presented similar symptoms, with the same happy result following puncture: the power of the facial muscles in both was restored inside of twenty-four hours. The third case, occurring in a woman, was of longer duration, and involved the muscles of the tongue as well as those of the face. Later history showed the involvement of the mastoid. Opening of the latter was followed in the course of a week by gradual improvement, which was complete so far as muscular power was concerned five days later. —*Revue Hebdomadaire de Laryngologie, etc.*, June 16, 1900.

Affections of the Eye Associated with Lesions in the Kidney.—W. O. Moore describes albuminuric retinitis, amaurosis uræmica, and alludes to paralysis of the ocular muscles, stating that the abducens is the muscle most frequently affected. The retinitis is at times unilateral. The pathological change in the retina is not, according to Moore, an inflammatory one, but is a tissue metamorphosis which produces permanent changes in the retina and is brought about by the changes in the vascular system generally, which in turn are caused by the circulation in the blood of effete material due to imperfect elimination by the kidneys. This material may be urea alone or in combination with other substances. The prognostic significance of this retinal change is bad, death following as a rule inside of two years.—*The Post-Graduate*, July, 1900.

The Use of Opium in the Summer Diarrhœas of Children.—F. M. Crandall says that opium, under the conditions specified, is contraindicated (1) in the first stages of acute diarrhœa, before the intestinal canal has been freed from decomposing matter; (2) when the passages are infrequent or of bad odor; (3) when there is a high temperature or cerebral symptoms are present; (4) when its use is followed by elevation of temperature or the passages become more offensive. It is indicated (1) when the passages are very frequent, with pain; (2) when the passages are excessively frequent, large, and watery; (3) in dysenteric diarrhœa preceded by castor oil or a saline; (4) in late stages, with small, frequent, nagging passages; (5) when the passages consist largely of undigested food, and the bowels act as soon as food is taken into the stomach.—*International Medical Magazine*, July, 1900.

The Etiology of Congenital Dislocation of the Hip.—Bode, in studying the causative agencies at work in producing this deformity, groups them under three heads: (1) Those involving the fœtus alone; (2) those emanating from conditions in the environment of the fœtus; (3) those resulting from a combination of these two. In conducting a series of investigations on this subject by means of the Roentgen rays he found that only the first set of these factors was susceptible of study in this way; skiagraphs of the fœtus in utero are still too imperfect to be of any assistance. Accordingly, the hip joints of one hundred and fifty children (including fifty-six fœtuses) were radiographed, two hundred and six of these being diseased and ninety-four normal. Owing to the comparatively late date at which the acetabulum and the head and neck of the femur ossify, the plates prepared from the fœtuses do not show anything of value, but careful pelvic measurements were made. In twenty-five per cent. of the children suffering from unilateral congenital dislocation the supposedly normal side was found to exhibit the typical lesions to a slight degree. In general, the change found consisted in an increased breadth of the acetabular cavity, in flattening of its upper margin, in lateral thickening of its wall, or in asymmetrical atrophy and altered growth tendencies of the femoral head. The conclusion is that congenital dislocation is the direct result of morbid processes of unknown etiology and dating from the earliest periods; if these pathological changes are slight, no deformity results; if they are well-marked, a dislocation takes place.—*Centralblatt für Chirurgie*, July 14, 1900.

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THE SIGNIFICANCE OF DEGENERATION OF RED BLOOD CORPUSCLES.

IMPORTANT additions have been made in the past decade to our knowledge especially of the morphology of the blood, but we are without an explanation fo many of the phenomena observed. It is, besides, difficult to state whether some of the peculiarities are the result of regenerative or of degenerative processes, and a ready means by which a correct decision could be reached would be a useful addition to our clinical resources. Valuable therapeutic suggestions might, further, be obtained from a knowledge whether the essential disturbances occur in the plasma, in the red cells, or in the white cells—apart from the prophylactic significance a more thorough etiological knowledge would possess. In a recent communication Grawitz (*Berliner klinische Wochenschrift*, 1900, No. 9) discusses at length the pathological significance of certain basophilous granulations that he has found under certain circumstances in red blood corpuscles, even in the absence of other signs of anæmia in the blood, and that he considers with certainty as indicative of a degenerative process. When present, these can be demonstrated in dry preparations by staining with methylene blue after fixation with alcohol. Granular red blood corpuscles have been noted in cases of pernicious anæmia by several observers, who have considered them as the remains of dissolved nuclei. Grawitz, however, has found such corpuscles in the total absence of nucleated red corpuscles, and also red corpuscles with intact nuclei but containing likewise many granulations. Unlike the nuclei themselves the granular matter, further, cannot be stained with methylene green. Granular red corpuscles are not found in the bone-marrow in any greater number than in the general circulation, as they would be if they were indicative of karyolysis. In aggravated cases of pernicious anæmia erythrobiasts with fibrillated nuclei and constricted portions of the nuclei may rarely be found, but the appearances of these are unlike those of the granular degeneration under consideration.

The granular red cells are particularly numerous in cases of pernicious anæmia. They are found frequently also in cases of carcinoma, and especially when the new growth is so situated as to favor absorption of toxic products, as in the digestive tract. They have likewise been observed in cases of advanced leukæmia and in association with septic processes. The granules are remarkably numerous in the blood in cases of lead-poisoning. This is all the more noteworthy because, in spite of the pallor present, morphological alterations in the blood are usually absent in cases of this kind. The absence of these peculiar granules is considered not less significant than their presence, tending to exclude the action of a blood poison. The granules have not been found in cases of chlorosis, and this evidence seems to confirm the view that the disease is not of toxic origin, but due perhaps to vasomotor disturbances. The granules are not found in cases of pulmonary tuberculosis free from excavation and hectic fever, nor in cases of syphilis, chronic parenchymatous and interstitial nephritis, and cirrhosis of the liver. These granules are looked upon as evidence of a degenerative process due to the action of blood poisons. It is possible to cause their appearance in mice by exposure to a temperature of between 98.6° and 104° F., and the presence of iron granules in greater amount in the liver is accepted as an indication of increased destruction of hæmoglobin. In this connection it is suggested that some forms of tropical anæmia may have a like mechanism. The granules under consideration cannot be regarded as distinctive of any given disease, but simply as a degenerative manifestation of varied origin. Their importance resides in the fact that they may be present in considerable number before other symptoms of anæmia.

PLACENTAL TRANSMISSION.

THE placenta stands between the fœtal and the maternal organism, selecting from the blood of the latter the materials that are necessary for the growth and development of the embryo, and from the blood of the former those that are no longer useful and require to be eliminated. It may, therefore, be looked upon essentially as the respiratory and the nutritive, as well as the circulatory, organ of the fœtus. It is, however, probably, also the medium through which infection is occasionally conveyed to the fœtus from the mother, and through which the physiological effects of drugs administered to the mother are operative. From a review of the literature of the subject, Dorland (*American Gynæcological and Obstetrical Journal*, June, 1900) in a recent communication formulates the conclusion that while many drugs may be administered to the mother without any noticeable effect upon the fœtus, there are certain substances that show a special tendency to traverse the placenta, and, entering the fœtoplacental circulation, exert a positive influence for good or evil, according to the conditions that may be present in the given instance. Maternal medication, therefore, is indicated under certain circumstances, either in order to prevent the development of a similar condition in the fœtus, or to counteract the effect of germs and their toxins already introduced into the fœtal economy. The drugs that have been found to affect the fœtus in utero are notably opium, mercury, copper, lead, arsenic, and the iodides. In appropriate doses they may be administered to the mother in the

presense of suitable pathological conditions, with beneficial results to both mother and child. Any morbific influence acting upon the mother, either acutely, as in the case of the exanthemata, or more slowly, as in the case of tuberculous and syphilitic infection, will react deleteriously upon the product of conception, and either destroy it through its overwhelming toxic action, or render it feeble and less resistant to subsequent and post-natal invasion, or the disease will run an atypical course in utero with or without apparent vestiges at birth. The entrance into the fœtal structures is accomplished through the agency of the fœtoplacental circulation. It is probable that access is gained through bacterial action, the germs rendering the placental villi less resistant to invasion, whereby both the microbes and their toxins pass the natural barrier at the chorio-decidual junction. As a rule, the infectious diseases do not manifest their characteristic lesions in the fœtus, probably because of the passivity of its organs during antenatal existence. The germs, however, may be detected in large numbers by bacteriological and microscopic examination.

PRIVATE HOSPITALS FOR TRANSMISSIBLE DISEASE.

Many large cities are provided with public institutions to which it practically compels to be sent those suffering from contagious disease and unable to insure adequate isolation and disinfection at their homes. In other cities no provision at all is made for cases of this kind, or they must be sent to general hospitals, or even be kept at home. There is in every community a not inconsiderable number of persons whom, when seized with one of the diseases named, it would be desirable, if it be not absolutely necessary, to send to some institution in which the appropriate treatment shall be carried out, and who are both willing and able to pay for the service rendered. The public has begun to recognize that many ailments and many patients can often be better managed and better treated in well-regulated, well-organized, and well-disciplined hospitals than in private dwellings, however capacious and however sumptuous, and many are constantly availing themselves of the boon thus afforded by the private rooms of such institutions. Most general hospitals will not receive cases of contagious disease under any conditions, and there is, therefore, urgent need for such institutions as will admit those unfortunate enough to be thus attacked in hotels and boarding-houses, or while visiting in the homes of friends, and who do not wish and have no need to go to a public hospital. Hospitals of this special class are already in operation in Boston and New York, and a movement is on foot looking to the establishment of a pay-hospital for contagious diseases in Philadelphia. The objects to be fulfilled by this enterprise are so laudable and in such thorough harmony with current hygienic and preventive notions that there should be no difficulty in securing its speedy effectuation. The movement is, therefore, one to be most heartily encouraged, as it is also deserving of general emulation.

News of the Week.

Deaths from Heat.—During the excessive heat of the greater part of last week there were one hundred and twenty-five deaths of adults attributed directly to insolation, and the infant mortality was markedly increased.

First International Congress of the Medical Press.—This congress was held in Paris on July 26th, 27th, and 28th. The opening ceremonies took place in the Press Pavilion in the Exposition grounds, Professor Cornil presiding. In his opening address he referred especially to Virchow, who was present, as the dean of medical editors, who had been in harness for sixty years and had published in his *Archiv* much of the cream of German medical literature. He said that there were over three hundred medical journals published in France. M. Millerand, the Minister of Commerce, made a brief address welcoming the foreign representatives of medical journalism. M. Landouzy then spoke upon the history and the province of the medical press, and was succeeded by Virchow, who congratulated the Association of the French Medical press on having taken the initiative in organizing an international congress. He hoped that the creation of an international association might result from the congress, and said it was more in accordance with the dignity of medical journalism that it should have international congresses distinct from the medical congresses, and should not be relegated to an insignificant place as one of a multitude of sections of the triennial congress. The serious work of the congress was taken up the second day. The official delegates were presented and made short addresses: Drs. Posner for Germany, Ehlers for Denmark, Hansen for Norway, Gallet for Belgium, Brossi for Italy, Diakanoff for Russia, and Mendizabal for Mexico. Dr. Marcel Baudouin described his method of indexing original articles published in the medical press throughout the world, as exemplified in his new publication designed to take the place of the Index Medicus. The following papers were read and discussed: "The Legitimacy of Medical Advertising," by Archambaud; "Free Medical Journals," by Laborde and Romme; "Uniform Terminology for Scientific Classification," by de Maurans; "Reproduction of Photographs in Medical Journals," by Doyen and Aragon; "The Decimal System of Indexing," by Richet; "Relations between the Medical and the Political Press," by Rossi; "The French Law of Literary Property in its Relation to the Medical Press," by Pouillet, Rocher, and de Maurans; "Property in the Idea and in the Expression of the Idea in Medical Journalism," by Baudouin. On Saturday, July 28th, the following papers were read: "History of the Greek Medical Press," by Foustanos; "The Medical Press of Cuba," by Juan S. Fernandez; "History of the Belgian Medical Press," by Emile Gilson; "American Medical Journalism," by C. W. Fassett; "The Ethics of Medical Journalism in London," by Sprigge; "The German Medical Press," by Spatz; "The Right of Re-

production of Illustrations," by F. Alcan; "Medical Copyright," by Podoysotski; "The Right of Reply in the Medical Press," by Jayle and Pistre; "Professional Solidarity in the Medical Press," by J. Noir; "The Abuse of the Pseudonym Preceded by the Title Dr. in Medical Advertisements," by G. Lévy; "The Expediency of Founding an International Association of the Medical Press," by J. V. Laborde; "International Association of the Medical Press," by Posner. After some discussion it was decided to establish an International Association of the Medical Press, and to hold the next congress in 1901 in Brussels, on a date to be determined by the standing committee of the association.

The Danger of Disease in China.—Dysentery is the most dreaded of the diseases to which our troops in China, as well as in the Philippines, are exposed. The water is everywhere polluted, yet it is almost impossible to prevent troops on the march from drinking it unboiled and unfiltered.

"Sport."—A slugging-match between two brutes took place last week in this city, and the beaten man lay insensible for nearly five hours. It was briefly noted in the newspaper report "that the blow which the man received when his head struck the stage at the time of the knockout, together with the plexus blow and other severe body punishment, had brought him to a state of collapse, but that no serious results would be likely to occur." In the mean time the victor was receiving the homage of his devoted admirers. Evidently the "boxers" are not all in China.

The American Therapeutic Society was organized May 1, 1900, in Washington during the session of the Congress of American Physicians and Surgeons. "Reputable physicians, who are engaged in the regular active practice of medicine, and who are interested in the study of materia medica and therapeutics, in any or all their branches, and such reputable physicians not engaged in active practice but who are engaged in legitimate experimental therapeutic research, shall be eligible for active membership." The officers for 1900 are: *President*, Dr. Horatio C. Wood, of Philadelphia; *First Vice-President*, Dr. Howard H. Barker, of Washington; *Second Vice-President*, Dr. Reynold W. Wilcox, of New York; *Third Vice-President*, Dr. Eli H. Long, of Buffalo; *Secretary*, Dr. Noble P. Barnes, of Washington; *Recorder*, Dr. William M. Sprigg, of Washington; *Treasurer*, Dr. John S. McLain, of Washington. Applications for membership should be made to the secretary.

The Mississippi Valley Medical Association.—The twenty-sixth annual meeting of this association will be held at Asheville, N. C., October 9, 10, and 11, 1900, under the presidency of Dr. Harold N. Moyer, of Chicago. Dr. I. N. Love, of St. Louis, will deliver the address in medicine, and Dr. C. A. Wheaton, of St. Paul, Minn., the address in surgery. Negotiations are in progress by which the members of the association may obtain a one-fare rate for the round trip for this meeting. The association will not be divided into sections at this meeting. The headquarters will be at the Battery Park Hotel, at which place the sessions will be held. Those who intend to read papers are requested to send the title together with a brief synopsis of the paper to the secretary, Dr. Henry E. Tuley, 111 West Kentucky Street, Louisville, Ky.

The Congress of Spanish Surgeons, which was to have been held in September of the present year, has been postponed until 1901.

More Honors for the Prince of Wales.—At the meeting of the British Medical Association at Ipswich, the Prince of Wales, having already the double honorary qualifications of F.R.C.P. and F.R.C.S., was elected an honorary member of the association.

A Pediatric Society in Great Britain.—The Society for the Study of Disease in Children was inaugurated at a meeting held on July 24th at the rooms of the Royal Medical and Chirurgical Society in Hanover Square, London. The chair was taken by Dr. A. E. Sansom. There was a fair attendance of those interested in the movement. The secretaries of the new society are Mr. Sydney Stephenson and Dr. Charles H. Willey, and the treasurer is Mr. Clement Lucas. The society numbers about eighty members.

Rabies in Paris.—The annual report on hydrophobia, which has just been presented to the council of public hygiene by Prof. Adrien Proust, inspector-general of the board of health, shows by statistics that the number of mad dogs in Paris and the Department of the Seine is steadily increasing. The Pasteur Institute treated two hundred and ninety-four persons who had been bitten by rabid animals between January 1 and June 8, 1900.

Names of Scientists and Medical Men for the Hall of Fame.—The Senate of the New York University has submitted to the judges of the Hall of Fame a list of two hundred and thirty-four nominations, from which the final selection of one hundred names is to be made. The scientists whose names have been presented are John James Audubon, Spencer F. Baird, Alexander D. Bache, Nathaniel Bowditch, William Chauvenet, Henry Draper, James P. Espy, Asa Gray, Robert Hare, Joseph Henry, Edward Hitchcock, Isaac Lea, Matthew Fontaine Maury, Maria Mitchell, Benjamin Peirce, David Rittenhouse, Benjamin Silliman, Benjamin Thompson, and John Torrey. The physicians and surgeons are Valentine Mott, Benjamin Rush, James Marion Sims, Ephraim McDowell, and John Collins Warren.

Another Suit for Injuries Received in Hospital.—An amateur athlete living in Brooklyn has brought suit for $10,000 against the New York Hospital. He complains that while he was undergoing an operation under ether at the Hudson Street House of Relief his left heel was burned by the application of an overheated hot-water bag. He entered the hospital November 1, and because of the injury to his heel, he alleges, was kept there until late in November. He says that he was dismissed from the hospital before his heel was really well, and that it became much

worse and is still in such a state that he is not able to run races. The attorney for the hospital has filed an answer in which he says that in submitting to treatment in a charitable institution the patient waived all claims for damages resulting from purely accidental injury.

A Doctor Sued for an Automobile Accident.—A well-known physician in New Jersey has been sued for $25,000 damages for having caused the death of a woman by running into the wagon in which she was driving, with his motor carriage.

Mr. Treves' Diagnosis of Genius.—In an address recently made to the students of the London Hospital, Mr. Frederick Treves said that genius was nothing else than some form of neurosis, an untabulated nervous disease. Genius, he averred, never accomplished anything, but hard work would do all things, and if there was one profession in which geniuses were not wanted it was that of medicine.

Affairs at Home.—It is reported that there is a temporary improvement in the health of Cape Nome, the smallpox epidemic having been arrested, though there is still much sickness, chiefly pneumonia. It is feared, however, that this betterment is for only a short time, for there are four thousand stranded gold-seekers there who will be unable to get home without government assistance, and if they remain during the coming winter few will probably live to return in the late spring or summer.

"Revista de Medicina Tropical" is the name of a new monthly journal of Havana, published under the editorial management of Dr. John Guitéras, formerly of the University of Pennsylvania, and Dr. Emilio Martinez, assisted by Drs. Charles Finlay, Raimundo Menocal, Vicente de la Guardia, and Enrique Saladrigas. The first number, dated July, 1900, contains an introduction by Dr. Guitéras and some abstracts from foreign journals, but no original articles.

Phototherapy in Russia.—The dowager empress of Russia, who is by birth a Dane, has founded an institute in St. Petersburg for the treatment of lupus and other affections of the skin by means of light. It is modelled after Finsen's institute in Copenhagen, and is under the charge of a Russian physician who was sent by the empress to study the technique of phototherapy under Finsen himself. The matron is a Danish woman who has been a nurse in Finsen's institute and is thoroughly familiar with his methods.

Debt and Prosperity for Hospitals.—Sir William MacCormac said recently that no hospital can be satisfactorily carried on unless it is in debt, as there would then be no scope for charitable feelings and manifestations.

Scarlet Fever and Hotel Bills.—A man who had rented an apartment for himself and family in one of the large family hotels in this city recently vacated it, alleging that he was constructively evicted by the occurrence of scarlatina in the house. The hotel company sued him for the unpaid rent and has recovered in the supreme court. It was not shown, the court said, that the management had been negligent in the case, but it had been demonstrated that all possible precautions had been taken to prevent the spread of the disease. It could not, therefore, be held that there was an eviction in fact or in law.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 11, 1900. August 3d.—Assistant Surgeon C. A. Crawford detached from the *Eagle* and ordered to the *Chesapeake*. August 6th.—Assistant Surgeon C. H. Delancy detached from the *Constellation* August 13th, and ordered to the *Bancroft* August 14th. August 9th.—Passed Assistant Surgeon W. C. Braisted detached from the *Massachusetts* and ordered to the *Topeka* August 15th. Assistant Surgeon W. M. Garton detached from the *New York* and ordered to temporary duty on the *Massachusetts*. Passed Assistant Surgeon James Stoughton, U.S.N., was drowned at Shanghai, China, August 5, 1900.

Obituary Notes.—Dr. John Francis Burns, visiting surgeon of St. John's Hospital in Long Island City, died in that institution August 9th, of spinal meningitis, aged thirty-seven years. Dr. Burns was born in New York City and graduated from the University of New York in 1889. Three years later he opened an office in Long Island City.

Dr. Cortland Van Rensselaer Creed, a well-known negro physician of New Haven, died suddenly on August 8th, of Bright's disease. He was graduated from the Yale Medical School in the class of 1857. He was about sixty-seven years old.

Dr. Elias B. Harris died recently at Virginia City, Nev., at the age of seventy-five years. He was born at Richmond Plains, N. Y., and was graduated from the medical department of the New York University in the class of 1847.

Dr. Samuel H. Gish died at his home in Janesville, Wis., on August 2d, at the age of seventy-nine years. He was born in Lancaster County, Pa., and was graduated from the Philadelphia Medical College in 1851. He practised for several years in Elizabethtown, Pa., and then took up the study of dentistry and practised the same in Janesville to within a few weeks of his death.

Dr. Carl M. Kelley, coroner of Pike County, Pa., fell dead at his home in Matamoras on August 11th, of heart trouble. He was born at Scranton thirty-eight years ago. He was graduated from the College of Physicians and Surgeons in Baltimore in 1883, and entered Bellevue Hospital, New York. He practised in Scranton, then in New York, and settled in Matamoras two years ago. His father was Dr. Thomas Kelley, of Scranton, and both of his grandfathers were physicians. He had five brothers in the medical profession, two of whom are living.

Dr. Henry J. Costello, of Philadelphia, killed himself on August 13th at Eaglesmere, by hanging. He had suffered for a long time from insomnia. He was twenty-eight years old and was a graduate of the Jefferson Medical College in the class of 1895.

Reviews and Notices.

Neuroma and Neurofibromatosis. By Alexis Thomson, M.D., F.R.C.S.E. 168 pages quarto; twenty plates. Edinburgh: Turnbull & Spears. 1900.

The author of this book is certainly to be congratulated for this interesting contribution to medical literature. The subject-matter is clearly and concisely treated, and increased value is given to the work by the citation of numerous clinical records of this disease. The illustrations are numerous and particularly apt and good.

"Festschrift" in Honor of Abraham Jacobi, M.D., LL.D., to Commemorate the Seventieth Anniversary of His Birth. New York: The Knickerbocker Press. 1900.

An American jubilee volume of international contributions to medical literature is among the rarest of rare things that come to the editor's table. The one before us does the highest credit to all those who, in its conception and execution, had a part in presenting to the profession a work which, while it honors Professor Jacobi, reflects honor upon themselves. Scientific contributions from all parts of the world are published in English, German, and French. There are a number of good illustrations. The frontispiece, a portrait of Dr. Jacobi, especially made for this work by the celebrated etcher James D. Smillie, is truly a work of art and a most excellent likeness.

The Refraction of the Eye: A Manual for Students. By Gustavus Hartridge, F.R.C.S., Senior Surgeon to the Royal Westminster Ophthalmic Hospital; Ophthalmic Surgeon and Lecturer on Ophthalmic Surgery to the Westminster Hospital; Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham; Consulting Ophthalmic Surgeon to St. George's Dispensary, Hanover Square, etc. With one hundred and five illustrations. Tenth edition. Philadelphia: P. Blakiston's Son & Co. 1900.

The revised tenth edition of this excellent work forms a volume of two hundred and sixty-seven pages; it is carefully written and treats the subject in quite a comprehensive manner. The language is simple and direct and of a nature readily understood by the student. Illustrations are found wherever they can serve to elucidate the text. Cases presenting the various problems in refraction are given as required. The dioptric system of lens nomenclature is used throughout the work, the relative value of the inch systems being given in an appendix. A creditable series of test types is added. This work has few equals as a guide for the student in the study of refraction; its teachings are thoroughly trustworthy.

The Ophthalmic Patient. Manual of Therapeutics and Nursing in Eye Disease. By Percy Friedenberg, M.D., Ophthalmic Surgeon to the Randall's Island and Infants' Hospitals; Assistant Surgeon, New York Eye and Ear Infirmary. New York: The Macmillan Company. 1900.

This little volume of three hundred and eleven pages is a comprehensive treatise on ophthalmic nursing, and is designed "to serve as a practical guide to physicians, students, and nurses who lack special training in the care of ophthalmic cases." The contents include instructions regarding the construction of eye wards; method of taking histories; diet and dress of patients; remedies used in ophthalmic practice; asepsis and antisepsis; preparation of patients for operation, and post-operative care; anæsthetics; the care of instruments, dressings, and bandaging, etc. The language is sufficiently devoid of technical terms to be readily comprehended by one who has not had a medical education. The work is admirably adapted to the use of nurses and contains much that is of value to every practitioner of medicine.

Injuries to the Eye in their Medico-Legal Aspect. By S. Baudry, M.D., Professor in the Faculty of Medicine, University of Lille, France, etc. Translated from the Original by Alfred James Ostheimer, Jr., M.D., of Philadelphia, Pa. Revised and Edited by Charles A. Oliver, A.M., M.D., Attending Surgeon to the Wills Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital; Member of the American and French Ophthalmological Societies, etc. With an Adaptation of the Medico-Legal Chapter to the Courts of the United States of America, by Charles Sinkler, Esq., member of the Philadelphia Bar. The F. A. Davis Company. 1900.

This small volume of one hundred and sixty-one pages is divided into four parts. Parts I. and II. are devoted to an enumeration and brief description of the injuries that may occur to the eyeballs and adnexa, and their treatment. Part III. treats of the simulated and exaggerated affections of the eye and fully describes the methods for their detection. Part IV. contains a description of medico-legal expert testimony, with a brief discussion of the subject and some illustrative cases. A fairly comprehensive bibliography is appended.

A Practical Treatise on the Sexual Disorders of the Male and Female. New (second) edition. By Robert W. Taylor, M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York. In one handsome octavo volume of 435 pages, with 91 illustrations and 13 plates in colors and monochrome. Philadelphia and New York: Lea Brothers & Co. 1900.

The author is to be congratulated upon the popularity which exhausted his first edition so promptly. This issue has been carefully revised and some new matter added, especially in chapters dealing with female diseases, including vaginismus, kraurosis vulvæ, etc. To the original illustrations some additions have been made, so that in its present form it will be more than ever valuable to those in search of knowledge in these departments.

Atlas and Epitome of Special Pathological Histology. By Docent Dr. Hermann Dürck, Assistant in the Pathological Institute, Prosector to the Municipal Hospital L. I. in Munich. Authorized Translation from the German. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. Circulatory Organs; Respiratory Organs; Gastro-Intestinal Tract. With sixty-two colored plates. Philadelphia: W. B. Saunders. 1900.

The author of this volume gives in a concise manner the main points to be noted in the different diseases of the circulatory, respiratory, and digestive organs. The plates are good, made from the original specimens of the author, and are particularly selected as best illustrating the topics under discussion.

Fractures. By Carl Beck, M.D., Visiting Surgeon to St. Mark's Hospital and to the New York German Poliklinik; formerly Professor of Surgery, New York School of Clinical Medicine; Consulting Surgeon, Sheltering Guardian Society Orphan Asylum, etc. With an Appendix on the Practical Use of the Roentgen Rays. Philadelphia: W. B. Saunders & Co. 1900.

This work is important chiefly as being the first attempt to bring before the profession in a systematic way the study of fractures by means of the Roentgen rays. The author has shown by skiagrams, chiefly original, all the common and many of the rare forms of fractures. The use of the Roentgen rays with its full technique is fully explained, and the practical points (especially the errors liable to cause misinterpretations) are brought out with a thoroughness which merits high praise. To any one who intends to deal with fractures and has the privilege of an *x*-ray apparatus, the work can be recommended as useful and trustworthy. There are one hundred and seventy-eight illustrations.

A Treatise on Appendicitis. By John B. Deaver, M.D., etc. Second edition, revised and enlarged. Illustrated with twenty-two full-page plates. Philadelphia: P. Blakiston's Son & Co. 1900.

This volume is an enlarged and revised edition of the author's work of four years ago. He is more than ever convinced that the treatment of appendicitis is a purely surgical question, and he maintains the correctness of his very radical views with considerable success. The chapters on the pathology of the disease in question are instructive, and that on differential diagnosis is complete and useful. The subject of medical treatment is given some space, and we are warned in this connection that surgical treatment is at any time likely to be imperatively demanded by the occurrence of threatening symptoms. This is, of course, entirely true, and only shows what a makeshift the medical treatment of appendicitis is. The plates in this volume are very well executed and its general appearance is excellent.

A Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods, for Students, Hospital Physicians, and Practitioners. By Charles E. Simon, M.D., Late Assistant Resident Physician, Johns Hopkins Hospital, Baltimore; Fellow of the American Academy of Medicine. Third edition, thoroughly revised. Illustrated with one hundred and thirty-six engravings and eighteen plates in colors. Philadelphia and New York: Lea Brothers & Co. 1900.

The third edition of this valuable work is brought thoroughly up to date. The most approved modern methods are described comprehensively, yet clearly and simply.

The section on the study of the blood has been elaborated, and the whole work has been carefully revised, much new material being added. The subject-matter comprises the examination of the blood, the secretions of the mouth, the gastric juice and contents, the fæces, the nasal secretion, the sputum, the urine, transudates and exudates, cystic contents, cerebro-spinal fluid, the semen, the vaginal discharge, and milk. The text is embellished throughout with excellent illustrations.

Les Sanatoria. Traitement et Prophylaxie de la Phtisie Pulmonaire. Par S. A. Knopf, de la Faculté de Paris et de Bellevue Hospital Medical College (New York), Médecin du Département Pulmonaire du New York Throat and Nose Hospital; Ancien Assistant du Professeur Dettweiler au Sanatorium de Falkenstein; Membre de l'Académie de Médecine de New York; Lauréat de l'Académie de Médecine de Paris. Deuxième edition. Paris: Georges Carré et C. Nand. 1900.

The second revised and greatly enlarged edition of this work, which was originally the author's graduation thesis at the University of Paris, is an attractive treatise of four hundred and eighty-five pages, profusely illustrated and handsomely bound—indeed, a veritable édition de luxe. The author emphasizes the importance of hygienic and dietetic measures in the treatment of tuberculosis, and he lays great stress on prophylaxis in this disease. In the chapter on aerotherapy there is a detailed description of the pneumatic cabinet. The most important sanatoria in the different countries are described with illustrations. The last two chapters deal with maternity sanatoria, hospitals and schools for tuberculous children, and sanatoria for the poor. Dr. Knopf is the author of an American publication on the same subject, to which was awarded in 1898 the Alvarenga prize of the College of Physicians of Philadelphia, and he has just received a prize established by the Berlin Congress of Tuberculosis for a treatise on the best method of combating tuberculosis among the poor; this will be published by the committee of award in Berlin, so the author will enjoy the unique distinction of having written and published three books in three different countries, of which two have been officially proclaimed by competent judges the best of their class.

Die angeborene Luxation des Huftgelenkes. Von Geh. Med.-Rath Prof. Dr. Max Schede (Bonn). 26 pages quarto, with 8 plates. Hamburg: Lucas Gräfe & Sillem. 1900.

This short monograph is certainly a most valuable addition to the subject of congenital hip-joint dislocation. A number of points brought out by the author differ radically from what have been the hitherto accepted notions concerning this subject. First, the author insists that by far the most frequent type of congenital hip-joint dislocation is the supra-cotyloid, and not the iliac; thereby differing from traumatic hip-joint dislocations. This difference is due to the fact that the femur head in congenital dislocations leaves the cotyloid cavity at the upper aspect of the capsule instead of at the posterior inferior aspect, as it usually does in traumatic dislocations. In an excellent chapter, "On the Changes in the Head and Upper Extremity of the Femur," the author has drawn especial attention to an anteversion of the head, which is present in most of these cases. In virtue of this anteversion the head no longer lies medially to the trochanter, but in front or even, in extreme cases, external to it. This change in the upper end of the femur interferes with the success of reposition and final healing, if these are carried out in a manner applicable to traumatic cases of hip-joint dislocation. The author has therefore modified the method of reposition and after-treatment. His method may be summarized as follows: (1) By palpation and Roentgen photography in various positions of the hip joint, the extent of anteversion of the upper femur end is determined. (2) Reposition is accomplishd by traction (sixty to one hundred pounds), and while pressure over the trochanter is being made, the limb is abducted and rotated inward. When the anteversion of the upper femur end is very slight, outward instead of inward rotation is made. Inward rotation is maintained, the extent of the rotation depending on the amount of the anteversion. (3) The limb is immobilized in the position of abduction and inward rotation for from two to three months, and then to prevent a reluxation, which usually follows when outward rotation is assumed, an osteotomy of the femur through its lower third is performed. The lower fragment can thus be brought into its normal anterior position, while the upper fragment is kept inwardly rotated—healing occurs in this position. (4) After the osteotomy has healed the patient is required to wear a plaster-of-Paris splint for from three to six months. The monograph is excellently illustrated by numerous Roentgen photographs.

Progress of Medical Science.

New York Medical Journal, August 11, 1900.

The Relation of Seminal Vesiculitis to Impotence.—Ramon Guitéras says that seminal vesiculitis results from prostatic trouble due to acute prostatitis, in which the ejaculatory ducts are pressed upon by an exudate in the gland; prostatic abscess, during the healing of which the ducts may be caught and pinched in the scar tissue, and any growth or enlargement of the gland in so far as it presses upon them. Pressure from any of these causes interferes with the function of the vesicles, and causes inflammation of them, in much the same way that an obstruction of the urethra gives rise to cystitis. Cases generally present a stage of sexual excitation followed by depression. The vesicles are sensitive to touch. They may be dilated and in a condition which might be termed spermatic retention due to an atonic condition of the walls associated with pressure; at other times they are dilated, but feel soft and pasty; again there may be an acute inflammation of these structures, or the condition may be one of atrophy. The method of treatment may be outlined as follows: Internal remedies to neutralize the urine in cases of over-acidity; rectal irrigation every night, with decinormal salt solution or strained flaxseed tea at a temperature of 105 to 120 F., by means of the double-current rectogenital tube, and massage of the internal genitals every five days, followed immediately by a urethral irrigation whenever there is chronic prostatitis or posterior urethritis associated with this condition. The patient will at first scarcely be able to tolerate the gentlest manipulation of the vesicle by the finger, but after several séances not only will he be able to endure the massage, but he will feel much benefited and relieved by it. After the symptoms of inflammation and irritation have been relieved, tonics, such as strychnine and iron, can be used, or even damiana and phosphorus. Electricity may also be employed by means of the rectal electrode, using the galvanic or the faradic current or, better still, the galvanic followed by the faradic.

The Diagnostic and Therapeutic Value of Insufflation of the Œsophagus, Stomach, and Colon.—C. D. Spivak describes the different methods of producing insufflation, and gives the differential diagnosis of the various conditions it is used to detect. The procedure has been recommended in obstruction of the bowel, especially in invagination and volvulus, in chronic atony of the bowel, etc. Spivak is experimentiug with the introduction of hot air into the stomach for various gastric disorders, but is not yet ready to report results.

The Spectacle and Eyeglass Habit.—A. W. Herzog criticises severely an article which recently appeared in the *Journal* from the pen of N. B. Jenkins. The tone of the article in the present issue is not pleasant, although the author evidently means well. Jenkins' contention was in the main that glasses were often worn when there was no necessity for them. Herzog maintains that glasses are worn not alone for imperfect vision, but relieve many reflex neuroses, such as headache, nervousness, chorea, etc.

An Investigation into the Causes of So-Called Uric-Acid Lesions and a Rational Therapeusis of the Uratic Diathesis.—By A. C. Crofton.

The Etiology of Diphtheria and the Value of Antitoxin; A Further Criticism of Dr. Herman's Views.—By A. Robin.

Obstetrical "Don't Fails."—By C. I. Page.

Medical News, August 11, 1900.

Anastomosis of Ureters with Intestine.—Reuben Peterson, basing his paper on experimental work, reviews *in extenso* the literature of the subject. The most striking fact revealed by such study is the exceptional high mortality accompanying the operation. Primary mortality is large by all methods; twenty-eight uretero-intestinal implantations show a primary mortality of thirty-two per cent. The general conclusions are as follows. (1) The primary mortality of uretero intestinal anastomosis both in experimental work on animals and in man is exceedingly high. (2) The best technique is that requiring the least amount of suturing of the ureters themselves. (3) All efforts to prevent ascending renal infection in animals or in man when the ureter has been implanted without its vesical orifice have proved futile. (4) It is impossible to determine in advance the extent of the infection which will result from uretero-intestinal anastomosis. The patient may die in a few days of a pyæmia or in a short time of pyelonephritis, or, in rare cases, may recover from the infection with resulting contracted kidneys. (5) Hence the operation is unjustifiable, either for the purpose of making the patient more comfortable, as in exstrophy of the bladder, vesico-vaginal or uretero-vaginal fistula, or for malignant disease of the bladder. (6) The results of uretero-

intestinal anastomosis through the formation of vesico-rectal fistulæ have not been favorable up to the present time. (7) The success of Frank's experimental work in vesico-rectal anastomosis justifies the expectation that the future results of this operation will be more satisfactory. (8) The primary mortality of uretero-trigono-intestinal anastomosis is low for an operation of this magnitude. (9) While it cannot be denied that ascending renal infection may occur after this operation, the infection as a rule is of such a type that the chances of the individual's overcoming it are good. (10) Hence, the operation of implanting the vesical flap with its ureteral orifices into the intestine is a justifiable surgical procedure. (11) There is no valve guarding the vesico-ureteral orifice; nor does the circular muscle-layer of the ureter nor the bladder-muscles themselves act as a sphincter. (12) It has been abundantly demonstrated by experimental and clinical work that the rectum tolerates the presence of urine and acts as a good substitute for the bladder, and that good control over the anal sphincter will be maintained.

Chronic Enteritis and Tuberculous Enteritis Treated with Hypodermic Injections of Arsenic.—Louis Kolipinski says pathological anatomy recognizes: (1) a hyperplastic inflammation of the mucous membrane; (2) an atrophic form; (3) ulceration of the mucosa may coexist. Injections are given once a week in chronic enteritis; a 0.5-per-cent. salt solution being used as a menstruum. If good results are not to be noted within fourteen days, the injections may be abandoned. The conclusions quoted are: (1) The arsenical injection is safe, painless, and effective. (2) The dose is very small. From gr. $\frac{1}{12}$ to gr. $\frac{1}{8}$ of sodium arsenite is sufficient. (3) One, two, or three injections per week will cure in the milder cases. (4) Other internal medication is avoided, and the patient has no daily routine of dosing. (5) Greater latitude in diet can be allowed without detriment.

Vaccination Eruptions.—Jacob Sobel makes a sharp distinction between eruptions incidental to the period following vaccination and those due to the inoculation pure and simple. The paper deals mainly with generalized vaccination eruptions. The material studied was that of Dr. C. W. Allen's skin clinic during three years, in which there were out of 4,160 vaccinations 583 sequelæ or complications, of which 80 were generalized eruptions of one kind or another, or about two in every hundred. Illustrations of the urticarial bullous and vesico-bullous types accompany the article. The most common generalized eruption after vaccination is the urticarial, occurring from the fifth to the fifteenth day.

The Automobile in Country Practice.—By A. D. Hard.

School Break-Down.—By J. Henry Bartlett.

Boston Medical and Surgical Journal, August 9, 1900.

Acute Dilatation of the Heart in Influenza of Children.—F. Forchheimer describes two forms of this affection, as seen in epidemics of influenza, a severe and a mild form. The dominant symptoms are on the part of the heart, with a peculiar respiration which the author has seen in only two other conditions—in pericardial effusion, and the fugitive œdematous condition of lung that frequently precedes pneumonic consolidation in influenza without cardiac change. He believes that we are justified in assuming that one form of heart dilatation is produced by the action of the toxin upon the nervous system of the heart and possibly upon the myocardium; this form, according to the observations made by West, may end fatally. The second form occurs when the outflow of the blood is materially interfered with by mechanical conditions. This lasts much longer than the first, but in children has a tendency to recovery.

Norfolk District Records and Reminiscences, 1850–1900.—By C. Ellery Stedman.

The Progress of Medicine.—By Harold C. Ernst.

The Philadelphia Medical Journal, August 11, 1900.

Puerperal Eclampsia.—J. B. Todd says that headache during labor and the two following days is a danger signal of coming eclampsia. In the treatment he places little reliance on diuretics, but gives hydragogue cathartics, preferably elaterium, to effect the elimination of the poison. Morphine in doses of gr. ss.–iss. is given hypodermically to control the convulsions, the injection being repeated whenever the patient complains of severe pain in the head. The cathartic is followed by a mixture of one grain of corrosive sublimate and one ounce of tincture of the chloride of iron, twelve drops being given in a capsule every four hours. The writer reports briefly ten cases which occurred in his practice.

Clinical Report of Two Cases of Paralytic Dementia Occurring in the Negro.—By W. K. Walker

Transmission of Tuberculosis through the Meat and Milk Supply.—By John J. Repp.

Mütter Lectures of the College of Physicians of Philadelphia.—By John B. Roberts.

Report of a Case of Rupture of the Perineum in Coitus.—By R. Abrahams.

Military Surgery.—By W. C. Borden.

Journal of the American Medical Ass'n, August 11, 1900.

The Treatment of Acute Alcoholism by Large Doses of Digitalis.—W. S. Loomis finds it interesting to note that a drug the use of which even in moderation is supposed to be attended with some danger can be given in dose of one-half ounce of the tincture in alcoholism without producing any of the ordinary symptoms of poisoning. From a study of cases treated by this method the following conclusions are drawn: (1) The indiscriminate use of large doses (half-ounce) of digitalis in acute alcoholism is fraught with danger. (2) The cases in which it should be given are the strong, robust, those in early life, with no complications, and those with violent delirium. In these cases the result will be exceptionally favorable. The patients become quiet and go to sleep with a certainty and promptness obtained by no other methods with which the author is familiar. (3) If after three doses no narcotic effect is noted, he would not advise a continuance of the remedy. He believes in the above class of cases it can be used with perfect safety for a limited number of doses. (4) The failures among the writer's cases were in the chronic alcoholic subjects, in those in middle and advanced life, in the anæmic, and in those with bad nutrition. (5) One fact noted which showed marked results from the treatment was that when the patients recovered and awoke from their sleep they were in such good condition that they were able to leave the hospital at once. This is an unusual experience, as ordinarily convalescence is delayed for two or three days.

New Sources of Danger in the Use of Opium.—T. D. Crothers refers to his former paper bearing on the question of differing effects of opium in different individuals and the tendency created in some persons. He finds the stimulating effect fascinating to the alcoholic, necessitating watchful care in the use of any form of opium in these or other subjects. The facts to make prominent are: (1) The use of opium continuously for any possible purpose is dangerous, in that it may impress the organism in some unknown way and leave a diathesis and susceptibility to resort to it again in after-life. (2) The condition called opium addiction, in which the drug is used for its narcotic and pleasing effects, is one of organic disease whose origin is preventable by a study of the conditions and peculiarities of the person in early life. (3) When opium is used with but little, if any, irritant effects, there exists a predisposition to its continuous use and the development of an addiction. (4) When its poisonous effects are marked in the irritations and exaltations which follow its use, there is great danger of organic changes and diseases with fatal results. (5) The psychic element in these cases furnishes very suggestive hints of the derangements which follow the mental perversions and disturbances of reason and judgment, and gives some idea of the profound organic changes which take place.

Scrofulous Keratitis.—H. Gradle makes observations on the etiology and treatment of this condition, especially by salicylate of sodium. They define the conditions generally included under the term by writers, and give the present clinical conception of scrofula. The exciting cause of phlyctenular eruptions is unknown, but their peculiarities are dwelt upon. Salicylate of sodium, best given in five-grain tablets, shows its good effects, if at all, within two days. Its value was most marked in cases accompanied by much suffering.

Fracture and Dislocation of the Spine.—S. P. Kramer gives a report of a case of gunshot wound of the spine, pointing out the difficulties and describing measures for the restoration of function in the cord. Non-operative treatment is not favorably considered, extension is too risky, while the need of early operation to remove pressure is urgent.

Secondary Glaucoma.—W. C. Posey and E. A. Shumway give a clinical and pathological report of three cases representing different types of the disease. They define secondary glaucoma and give report on the microscopic findings, calling attention to points of special interest.

The Medical Profession. The Necessity of and Benefits from its more Complete Organization.—By J. C. Bierwirth.

Materia Medica, Pharmacy, and Therapeutics.—Address of chairman, Leon L. Solomon.

The Therapeutic Properties of the Suprarenal Capsule.—By W. H. Bates.

Section on Ophthalmology.—Address of chairman, H. V. Wurdeman.

The Lancet, August 4, 1900.

Some Remarks upon the Technique of Operations Designed to Cure Radically Oblique Inguinal Hernia.—F. D. Bird lays stress on the following points: the skin incision to be made well above Poupart's ligament and well away from the pubes, the separation of the fibres of the external oblique aponeurosis at a suitable spot, the separation being carried well toward the muscular portion; the sparing of the external ring; the dislocation but partial of the cord from its bed, and the elimination of the sac from above and therefore the preservation of the nerves, the whole to be accomplished with little or no bleeding—an advantage to be attained with great gentleness and the use of dissecting forceps. Apart from the unworkmanlike appearance of a sloppy operation area, bleeding much inconveniences the surgeon and damages the tissues. It obscures the view, necessitates constant sponging, and irritates the delicate areolar planes, which become more or less loaded with blood not capable of being removed. The serous exudation is much greater and the tissues are much weaker and sodden. In addition to these immediate disadvantages there is the grave though unlikely occurrence of thrombosis in the veins of the cord with its possibilities of pneumonia and other distant disasters. The absence of the deep sutures is a gain in two directions: the unimpeded muscle acts as nature meant it to, and there is no foreign body at all in the depths of the wound, no silk with tension on it, and no over-chemicalized catgut.

A Note of the Safest Method of Removal of the Appendix.—A. A. Warden advocates Doyen's method, which he describes as follows: The little mesentery of the appendix is first ligatured with a small silk ligature to free the appendix laterally. Then (1) the base of the appendix is gently crushed with Doyen's small clamp. Almost any forceps suffices for this purpose if strong enough and broad enough completely to occlude the appendix for a breadth of, say, a quarter of an inch; (2) a fine silk ligature is thrown round the base of the appendix in the furrow left by the clamp; (3) the appendix is then removed by the thermo-cautery cutting close to the ligature; (4) a purse suture is then made in the serous covering of the cæcum close round the base of the appendix (as this purse-stitch is drawn tight the little stump is invaginated so that all is completely closed); (5) for safety a second fine silk purse-stitch is made and the little pucker of the first stitch is similarly invaginated and the ligature is gently tightened. The result technically is perfect, and certainly this is the most aseptic method of removing the appendix.

A Case of Meningo-Myelitis with Bacteriological Examination of the Spinal Cord.—G. R. Murray and W. Hardcastle report this case. The patient was a single man aged twenty-nine years, who died seven and a half weeks after admission to the hospital. The attack seemed to have been precipitated by wetting, exposure, and fatigue. The characters of the micro-organisms obtained from the spinal cord are summarized as follows: A short oval motile bacillus which stains readily by aniline dyes, the stain in many cases showing a much stronger affinity for the ends than for the centre of the bacillus. It can with care be stained by Gram's method, and was found in large numbers in the pia mater and also in lesser numbers in the substance of the cord. Pure cultures of the bacillus were obtained both from the meninges and also from the substance of the cord itself. Subcutaneous inoculation caused rapid general infection in the guinea-pig and a local infection in the rabbit. The bacillus grows readily on the ordinary nutrient media in both the hot and cool incubators. It liquefies gelatin.

A Blood Reaction in Diabetes Mellitus; its Cause and Diagnostic Value.—R. T. Williamson says that a drop of blood taken from the finger of a diabetic decolorizes a warm alkaline solution of methylene blue when mixed in certain proportions (details given), while blood from healthy persons or from individuals sick with other diseases causes under the same test conditions no such decolorization. The action is due to the glucose in the blood. The test is available in coma when the bladder may be empty, and may be of medico-legal value in ascertaining the cause of death in a doubtful case. It has been made with positive results sixteen hours after death.

A Case of Sudden Death Shortly After Operation.—W. B. Thompson operated for adenoids and enlarged tonsils on a child aged twelve years, chloroform being used. The child did well for a few minutes, when it began to be cyanotic with weak pulse, dilated pupils, and feeble respiration. The usual restoratives, lingual traction, and finally tracheotomy were all made use of, but without avail. There was no attempt at rallying, and heart sounds and breathing ceased for some time after artificial respiration was abandoned, after about one and one-half hours. Death was ascribed to gradual cardiac paralysis.

The Etiology of Scurvy.—W. E. Home suggests that scurvy is essentially an infection of the mouth with micro-organisms out of decayed food, antagonized by lime-juice and fresh vegetables which act as antiseptics, this infection of the mouth being most apt to occur in times of hardship when cleanliness is least within our reach.

On the Limitation of Physical Methods in the Investigation of the Physiological and Psychical Phenomena of Sight.—By F. W. Eldridge-Green.

Medicine as a Science and Medicine as an Art.—Annual address before the British Medical Association, by Philip Henry Pye-Smith.

The Surgeon in the Nineteenth Century.—Address before the British Medical Association, by Frederick Treves.

Notes on Two Cases of Pernicious Anæmia Treated with Hommel's Hæmatogen.—By H. Meggitt.

Imperial British Pharmacopœia. Notes on Some Indian Drugs.—By William Mair.

Berliner klinische Wochenschrift, July 23 and 30, 1900.

The Etiology and Therapy of Tabes Dorsalis.—Concerning the relation of syphilis to tabes, P. K. Fels takes the view that the former makes a predisposition for the latter, or that the latter may be regarded as a para-syphilitic affection comparable to the paralysis following diphtheria. The exact relation of the two affections is, however, still undetermined. Tabes more often follows syphilis when the manifestations of the latter have been mild, and it does not occur until from five to fifteen years after the specific infection. It is not a continuance of the original syphilis. Concerning treatment Fels says that the best treatment is the prophylactic—not to become syphilitic. Any plan of therapy should aim at putting the general nervous system into the best possible condition. Mercury is to be given not as a routine but only in selected cases. It is indicated (1) in cases showing specific evidence; (2) when tabes comes on only a few years after infection and when previous treatment has been without result; (3) in cases showing an unusual clinical course which gives evidence that the cord and brain are involved. For bladder and sexual weakness, Fels recommends strychnine given subcutaneously in the general region of the bladder. He regards the effect of the chloride of gold and sodium as problematical. Protargol is of service. He also enumerates the various other remedies and plans of treatment which have been at various times tried.

The Recognition and Treatment of the Anæmias.—H. Senator calls attention to the much wider signification given to the term "anæmia" in recent years, and alludes in brief to the different conditions now included under this clinical term. In arriving at the etiology of a given case we should never omit to examine both macroscopically and microscopically the stools with reference to the presence of parasites and of blood. In all severe cases, the blood should be examined with reference to departures of cell contents from the normal. Finally, we may find the cause of some cases to reside in impairment of the chemical and motor functions of the stomach. In many cases of chlorotic anæmia, the use of the alkaline salts will give far better results than to begin at once with iron preparations. When the time for the latter may arrive, combinations with the organic acids as lactic, citric, acetic, etc., will answer better than the metallic compounds, for they are less liable to upset the stomach and to constipate. He places much confidence also in the "sweat-cure" by means of internal remedies and water, sand, and air baths. He also alludes to essential pernicious anæmia, and to that form which comes from residence in mountainous regions.

Systemic Infection in Diseases of the Urinary Organs.—Posner and J. Cohn exposed the ureter in rabbits, and injected into the central portion cultures of various organisms. The wound was then carefully closed under strict antisepsis. In seventeen cases peritonitis resulted three times. Out of the remaining fourteen, three inoculations with the bacillus anthracis all proved fatal; negative results were obtained with the bacillus prodigiosus in some cases, while in two cases resulting fatally from peritonitis there was a general infection. The staphylococcus aureus and albus and the streptococcus gave in every instance positive evidences of infection, except in one instance of inoculation with the latter, in which the authors ascribe the failure to a faulty technique.

Phenylhydrazin in Anæmia.—S. Kaminer and R. Rohnstein discuss the question as to whether or not pernicious anæmia is a true hæmoglobinæmia, and claim that in the muriate of phenylhydrazin we have a substance which in experimentation on animals produces blood disturbances identical with those of Biermer's anæmia. The article is devoted to a recital of the work done by the authors along the line indicated, and a detailed account is given of the blood changes as found by them.

Surgical Opening of New Collateral Channels for the Blood of the Portal Vein.—By S. Talma.

The Systematic Struggle Against Tuberculosis in Germany.—By Dr. Panwitz.

Migraine with Recurring Paralysis of the Ocular Muscles.—By W. Seifler.

The Pathology of Morbid Growths.—By O. Israel.

Hæmolysin.—By P. Ehrlich and J. Morgenroth.

Deutsche medicinische Wochenschrift, July 26, 1900.

Contributions to Tetanus Intoxication.—Miyamoto describes a form of death caused by tetanus infection which does not run the usual course. Rabbits, when inoculated under some conditions, do not exhibit the characteristic cerebral and spinal manifestations of the destructive action of the poison on the nervous elements, but gradually succumb to a progressive marasmic emaciation. This modification of the pathological picture, to which the name of "tetanus sine tetano" has been given, might seem explicable on the ground of the theory advanced by Ehrlich that the toxin produced by the specific micro-organism is made up of two components. To one of these, "tetanospasmin," the convulsive symptoms are due, while the other has the property of destroying red blood cells and has been named "tetano-lysin." That the "tetanus sine tetano" is not due to the action of this latter body is, however, shown by the author's experiments with an old specimen of the tetanus toxin which produced the marasmic form of the disease, but did not have the property of modifying red blood cells. The conclusion is, therefore, drawn that the modified tetanus produced was the result of a double decomposition of both toxic elements, accompanied by the formation of a third poisonous "toxon" body.

Are Spontaneous Fractures of the Metatarsus to be Regarded as Accidents?—Muskat's article has reference to a point in dispute between claimants for damages and accident insurance companies. Even when none of the predisposing causes to spontaneous fracture are present, such as bony atrophy either senile or occurring in youthful individuals as a result of wasting disease or maladies of the central nervous system, particularly tabes and paralysis, acute osteomyelitis, terminating either in abscess or necrosis, caries (tuberculous), rachitis, osteomalacia, sarcoma, carcinoma, enchondromata and cysts, echinococcus, syphilis (rare), scurvy (rare), or hereditary tendency without known cause, sudden exertion or strain in jumping, alighting from street-cars, etc., may produce a slight incomplete fracture of one of these bones, well protected as they seem. This slight injury usually passes unnoticed till at some other time the break suddenly becomes complete, and what is apparently a spontaneous fracture is produced. It is, however, evident that this is not truly so, and that the case is properly to be considered as one of accident, for which insurance may be collected.

Two Cases of Cerebellar Tumor.—Schede discusses the complicated symptomatology attending growths in this situation, and concludes that definite location of the neoplasm with a view to operation is as yet impossible. The fact that the tumor is situated in the cerebellum may usually be determined without especial difficulty, but we are still unable to predicate with accuracy on which side the skull should be laid open. The only sign which appears to be even relatively useful is that in many cases the tendency seems to be for the staggering gait to be most pronounced toward the side opposite to that occupied by the new growth. The literature contains records of eleven cases operated on; of these patients five succumbed to hemorrhage and shock, two survived the operation but manifested no signs of improvement, and only two permanent cures are chronicled. The author describes two cases operated on by himself with apparently complete relief of the symptoms in one, while the other patient, owing to the fact that complete removal was impossible, died of the primary growth in a short time.

Clinical Contributions to the Occurrence of Tetany and Other Tonic Spasms in Gastric Dilatation.—By Ury.

Contributions to the Early Diagnosis of Intestinal Carcinoma (Heredity and Skin Changes).—By Holländer.

Investigations on the Parasitical Nature of Eczema.—By Scholtz.

Münchener medicinische Wochenschrift, July 24, 1900.

The Newer Experimentally Determined Methods for the Diagnosis and Treatment of Diseases Caused by Auto-intoxication.—Blum publishes the following conclusions. (1) Certain definite poisons are continually being generated within the organism and are normally destroyed by the thyroid gland. (2) These poisons originate in the intestinal canal, and in their character and quantity depend, on the one hand, on the nature of the decomposing albumins present, and, on the other, on the bacteria of decomposition. (3) If the activity of the thyroid gland is impaired and these entero-toxins are able to act unhindered on the organism, severe disturbances accompanied by anatomical changes are produced. (4) Such animals as either with or without treatment remain well, or recover from illness after removal of the thyroid gland, possess in their blood bodies protective against these entero-toxins. (5) The entero-toxins which are taken up in their passage through the thyroid gland are deposited there as thyreotoxalbumin and gradually rendered harmless. (6) There is both a natural (pre-existing) and an acquired immunity for these thyreotoxalbumins which normally never enter the circulation. (7) The immunities to entero-toxins and to thyreoalbumins are entirely distinct and exhibit no interrelationship. (8) The results of animal experimentation make it probable that a greater number of diseases than is supposed depend on intestinal phenomena and insufficiency of the thyroid gland. (9) Therapeutic measures may also be deduced from these observations.

Contributions to the Physiology of Nutrition in Infants.—Bendix, in studying the effect of menstruation and pregnancy on the character of the milk-supply of nursing women, and its influence on the nutrition of the infant, concludes as follows: The mere fact of the inauguration of menstruation is not an indication for weaning the child, even when a direct effect upon the milk appears to be produced, such as an increase or diminution in quantity, apparent thinning, color changes, or slight intestinal disorders of the child during the days of the flow. Such deviations from the normal speedily readjust themselves and do the infant no permanent harm. If the child ceases to gain in weight, and there is evidence of involution in the breast, which sometimes takes place in the days following the first period, weaning or a wetnurse is to be advised. In cases in which a second pregnancy begins during lactation the author advises careful consideration of the strength of the mother and nursling and the amount of milk formed, and believes that it is justifiable to wait for some evidence of inadequate feeding or overstrain on the mother before weaning the infant.

Comparative Observations on the Value of the Mechanical and Alcohol Disinfection of the Hands as Opposed to that with Mercury Salts, Especially with Mercury Ethylendiamin (Conclusion).—Krönig and Blumberg draw these conclusions: (1) The purely mechanical methods of disinfection with water, soft soap, and brush, or with Schleich's soap give only very unsatisfactory results. (2) Ahlfeld's method of treating the hands for five minutes with water and soap, and five minutes with ninety-six-per-cent. alcohol, is also inadequate. (3) These methods are surpassed in point of efficacy by a combination of mechanical disinfection with water, soft soap, and brush, and subsequent treatment with a solution of some mercury salt. (4) In place of the usually employed 1:1,000 sublimate solution it is preferable to use an aqueous 3:1,000 solution of mercury ethylendiamin citrate. This does not irritate the cutaneous surface, does not precipitate albumin or blood, and has great penetrating power.

Butyric Acid Bacilli and their Relations to Gaseous Inflammation (to be Concluded).—By Schattenfroh and Grassberger.

The Normal Respiratory "Liver Flexion" and the Origin of the So-called Expiration Furrows of the Liver.—By Walz.

Experimental Observations on Disinfection of the Hands (V.).—By Paul and Sarwey.

The Question of Sanatoria for Consumptives.—By Rumpf.

An Outfit for Stomach Examinations.—By Schilling.

The Laryngoscope, July and August, 1900.

The Spoke-Shave in the Removal of Septal Spurs.—J. G. Wishart says that he has largely given up the use of the nasal saw in the removal of those projections springing from the nasal septum which present (*a*) the appearance of horns, such as occur usually far back in the nasal cavity, are bony in character, and impinge against a small area of the mucous covering of the inferior or middle turbinated surfaces; or (*b*) the appearance of shelves, usually more anterior in situation, partly cartilaginous and partly bony in character, and in length anywhere from one-quarter to one inch, and lying parallel, or almost parallel, to the floor of the inferior meatus. He applies to the site of operation pledgets of aseptic cotton moistened with a solution containing cocaine four per cent., extract of suprarenal capsule ten per cent., and trinkresol twelve per cent. When all is ready for operation, the surgeon places the left hand upon the patient's forehead and with the right draws the loop of the instrument rapidly and firmly forward, thus removing the obstruction. He claims for this procedure the following advantages: (1) the absence of bleeding till the operation is accomplished, with the advantage of non-obstruction to the vision; (2) great saving of time in operating; (3) the almost entire absence of pain or fear to the patient; (4) the satisfactory course pursued in healing.

Fibroma Involving the Tympanic Cavity.—A case of fibroma at this unusual site is reported by E. W. Fleming as occurring in a man aged forty years. One month before coming under observation the man noticed an increasing sensation of fulness in the left ear, later a discharge of pus and a solid fleshy mass nearly filling the ear. In order to effect its removal the auricle was detached and a wire loop slipped over the growth. Granulation tissue necessitated (in the course of three weeks) a thorough curettage. The patient then had an attack of rheumatism. Six months after the aural operation the following note was made of the ear condition: With the exception of a small sinus, through which issues stringy muco-pus, the external auditory canal is closed. The obstructing tissue appears to be fairly organized granulation tissue having none of the characteristics of the original growth. There are small pouting granulations at the orifice of the sinus. The patient is now gaining strength rapidly, and says he has at no time experienced any ear pain or other head symptoms. The special points of interest in the case are, first, the nature of the tumor; second, its extreme vascularity and rapid growth after partial removal, pointing alike to possible malignancy; and, third, its unusual location.

Strong Carbolic Acid Used by Mistake as a Throat Spray.—D. H. Galloway treated a man with severe tonsillitis and pharyngitis, and desired to use peroxide of hydrogen. The patient's wife brought the bottle, which was labelled as above, and about one ounce of the contents was poured into an atomizer and sprayed into the throat. The patient coughed and choked, and the doctor, getting a view of the mucous membrane of the mouth, saw that it was white and smelled the odor of carbolic acid. Examination of the bottle showed that the original label of the acid had been partly covered over by that of the peroxide. The atomizer was immediately rinsed out with hot water and filled with equal quantities of alcohol and water, which was sprayed into the patient's throat and mouth and repeated ten or a dozen times in the next fifteen or twenty minutes. During most of this time the patient was choking and strangling, almost suffocated and quite cyanotic. When he was able to breathe with some freedom a mucilage of slippery-elm bark was freely sipped. The patient recovered in about a week. The accident was caused primarily by the druggist pasting the carbolic-acid label over the original label, a thing which druggists seldom do and which should never be done.

The Physiology of Voice Production.—In an article on this subject, W. Scheppegrell says that the speaking voice should be placed as low as the voice will permit, so that it can be used without undue strain of the muscles of the vocal cords and accessory muscles, at the same time not being so low as to prevent changes in the inflections of the voice in giving expression to speech. Very frequently it is placed several tones above this, so that the constant strain from speaking places the subject in the same position as one who has ametropic vision and who feels the constant strain unless assistance is given by glasses. Fortunately, in this case, the correction is a more natural one, and the error being recognized and the subject placed under the care of one who understands the correct principles of elocution and the proper placing of the voice, the fault may be entirely corrected. Many cases of the so-called "clergyman's sore throat," chronic laryngitis, and other irritations of the throat are due to this, and unless the cause is removed recurrences will naturally be frequent until eventually the voice may be permanently injured.

Auricular Cataphoresis.—Determined to give this mode of therapy a trial, G. Ferreri made the following experiments. He used a silver-chloride battery of ten elements developing a current of five milliamperes, and in circuit with a commutator. Evidence of absorption was estimated by the effect on the pupil. As myotics eserine and pilocarpine were used, and for mydriatics hyoscyamine, scopolamine, atropine, duboisine, homatropine, ephedrine, and cocaine were used. The results of his experiments were extremely disappointing, for notwithstanding various arrangements of his apparatus, he was unable to demonstrate any absorption of the substances used. He believes that auricular therapy cannot count galvanic cataphoresis among its efficacious resources.

The Journal of Tropical Medicine, July, 1900.

Camp Fevers as seen at Massowah by Italian Observers.—Filippo Rho says that in Massowah, a region absolutely free from malaria, there is an extraordinary number of cases of fevers breaking out in extensive epidemics, especially in the less dry and less torrid season. They declared themselves suddenly, mostly without shiverings, the symptoms being pains in forehead, loins, and eyes, a foul but never dry nor cracked tongue, loss of appetite, and constipation; dry or perspiring skin, according to the temperature, which hovered between 38 and 40 C. A measly rash sometimes appeared about the neck, chest, back, and extensor surface of the limbs. Rarely diarrhœa occurred. There was a slow convalescence, with exhaustion disproportionate to the brevity of the malady. The author gives his reasons for considering these fevers as belonging to the diseases of a typhoid order. In hot climates, typhoid fever usually runs a less dangerous course than with us. He believes that many fevers of tropical and temperate climes, which are being attributed to various causes and called climatic, must be ascribed to typhoid infection.

Circumscribed Cutaneous Œdema in Brazil.—W. G. Tottenham Posnett describes six cases noted by him while he was serving as ship's surgeon to Brazil. It was characterized by swellings which appeared on the dorsum of feet and hands, shins, back and front of thighs, buttocks, back of the shoulder, and dorsal aspect of the forearms—never on the face. The swellings were never round, but oval; in the limbs the long axis of the swelling was always in the long axis of the part; those on the buttocks and shoulders had a direction downward and outward, seldom inward. The onset was sudden, accompanied by slight malaise; the swellings appearing in the morning, persisting from a few hours to several days, and causing a tingling or burning sensation. This appears to be a comparatively common affection among the English in Brazil, but rarely attacks Portuguese or Brazilians. The etiology is not known. Treatment consisted in a mixture of potassium bicarbonate, magnesium carbonate, and magnesium sulphate, which was useful in one case. Sodium sulphate seemed to be more useful in another case.

Anchylostomiasis in the Leeward Islands.—William M. McDonald says that in his report to the government he drew attention to this disease for the following reasons: (1) That up to that time anchylostomiasis was not recognized and not treated in Antigua; (2) its great prevalence throughout Antigua; (3) the severity of its symptoms in all the cases reported by him; (4) its response to treatment if attended to early. He thinks the cases that harbor the parasites, and that do not show symptoms, just as important as those suffering from anchylostomiasis, for a large proportion of those that show marked symptoms are "past praying for," and go down hill, whatever the treatment. On the other hand, those that harbor the parasite without any definite symptoms, with vigorous treatment are prevented from becoming chronic invalids, a nuisance to themselves and their relations, a burden to the State, a serious loss to their employer, and a source of great danger to their neighbors.

Leucoderma in Indian Natives.—Frederick Pearse describes a case, illustrated by a photograph, of a disease common among Indian natives. It is characterized by irregular loss of pigment forming piebald areas of skin on all parts of the body. The disease is popularly called white leprosy, but has no relation to the true kind. It occurs in children and in old people as well. Some of the natives lose nearly all their color, others lose it in patches only. The author does not know whether the lost pigment is ever recovered.

Upon the Part Played by Mosquitos in the Propagation of Malaria; a Historical and Clinical Study (Continued).—By George H. F. Nuttall.

A Sanitary Corps for the British Army.—By Samuel Osborn.

A Case of Cirrhosis of Hanot.—By Fernandes Figueira.

The Recent Discoveries in Paludism.—By J. Gniart.

A Note on Albinos.—By Frederick Pearse.

Notes from South Africa.—By M. J. Tarr.

University Medical Magazine, July, 1900.

Experience an Essential of Satisfactory Radiography.—A. W. Goodspeed says that to make a radiogram of a normal hand, for example, in such a way as to show a shadow of the bones on a photographic plate, is such an easy matter that any intelligent person can accomplish the result with a very little experience, provided the apparatus is set up, adjusted, and in good working order. The event is far different, however, if, for instance, an obscure case of hip disease is brought to be radiographed, and when a correct diagnosis and proper treatment are dependent not only upon a good, clear, and undistorted picture, but upon a logical and intelligent interpretation of the same. As an almost indispensable aid to correct diagnosis Goodspeed believes that a very complete set of standard normal pictures of the various parts of the anatomy, taken under conventional and well-defined conditions, should be a part of every equipment. Careful comparison of pathological pictures with first-class standards, if the former were well executed, should not lead an experienced operator into serious error.

The Relation of Artificial Feeding to the Gastro-Intestinal Diseases of Infants.—D. H. Bergey discusses the various phases of this question, summarizing his views as follows:

The continued high death rate from gastro intestinal diseases among infants under one year of age should cause us to put forth our best efforts to combat this scourge. All known preventive measures should be employed, such as sanitary inspection and control of the production and sale of milk intended for infant feeding; the pasteurization of all milk used for infant feeding by heating to 75 C. for ten minutes, and then rapidly cooling it and preserving it in the ice chest until used; the rigid exclusion of all adulterants of whatever nature; gratuitous supply of pasteurized milk, and ice, to the poor of our large cities; the careful instruction of the laity in the process of rational infant feeding, especially of the great danger of feeding infants under eighteen months to two years of age on anything but properly prepared milk without the consent and direction of the family physician; the inculcation of the idea that the gastro-intestinal diseases of infants are frequently communicable to other infants brought in contact with such cases.

Osteoarthritis of the Spine and Hip Joints: Rhizomelic Spondylosis.—Two cases of this diseases are described by C. H. Frazier. The name was suggested by Marie, and refers to a condition in which the osteoarthritis involves the spine and joints adjacent to the trunk to the exclusion of other articulations, particularly those of the hands and feet. Several illustrations are given of the characteristic attitudes assumed by the patients, and the matter of differential diagnosis is thoroughly discussed. No cause has yet been discovered for this peculiar localization of the lesion. No specific internal treatment has yet been found.

A Study of the Physiological Action of Phenacetin.—H. C. Wood, Jr., presents the following conclusions: (1) The moderate dose of phenacetin is without any distinct action on any vital organ. (2) Large doses lessen reflexes by a direct action on the spinal cord. (3) Doses of 0.5 gm. per kilo of body weight (equivalent to a little less than one ounce for a man weighing one hundred and fifty pounds) kill by arrest of respiration. (4) Doses even up to 0.5 gm. per kilo had no distinct effect on the circulation.

Some of the Developments and Demands of Modern Public Hygiene.—By A. C. Abbott.

Coxa Vara; Ankylosis of the Hip.—By De Forest Willard.

Medicine, August, 1900.

Ankle Sprains.—Edward H. Ochsner recommends a method of treatment which consists in careful and systematic strapping with rubber adhesive straps. These are cut from half to three-quarters of an inch in width, and the proper length, the width depending upon the size of the limb. The foot is held at slightly less than a right angle and a trifle everted. One end of a long strap is applied to the inner surface of the foot near its posterior end, brought under the heel, and up on the outer posterior surface of the leg to within a few inches of the knee. At the lower end this falls into the depression just posterior to the external malleolus. A shorter strap is now applied by placing one end to the inner surface of the heel near the sole of the foot, then bringing it around over the tendo Achillis to the outer surface of the foot, making it cover the first strap at a right angle, and passing along parallel to the under border of the sole of the foot, then over the dorsum of the little toe. Another long one is now applied, anterior to the first, overlapping it about one-third of its width; then a short one, and so on alternately until the outer anterior aspect of the ankle is reached. A hard-rolled bandage is placed over all, and the patient directed to lie still with the foot elevated until the warmth of the body has caused the plaster to adhere firmly. As a rule, the patient can walk with reasonable comfort after a few hours.

The Examination of Sputum for Tubercle Bacilli.—Carl Weidner emphasizes the necessity for a positive, infallible method of making a differential diagnosis between the tubercle bacilli and other bacilli that may be similar to them in appearance or in staining-reaction. He describes in detail the method of staining taught and practised by Guenther. Several preparations, instead of one only, ought always to be made. The absence of tubercle or tubercle bacilli may not be positive proof of the absence of tuberculosis. The repeated absence, however, of bacilli in purulent sputum nearly all authorities consider to be positive proof of the absence of tuberculosis. The number of bacilli is of no value in giving a clew to the progress or prognosis of a case. The author lays stress upon the point that we should always use a controlling stain whenever we are in doubt. We ought to have several preparations and use two methods in order to make the procedure safe.

The Treatment of Abortion.—Henry B. Stehman outlines the principles underlying this treatment as follows: (1) The rendering of the vulva, vagina, and uterus aseptic and, so far as possible, maintaining them so; (2) arresting of hemorrhage, either by use of the tampon in the cervix or vagina, or by directly emptying the uterus; (3) in inevitable abortion, the ovum, or any part of the product of conception, should be removed as early as possible; (4) intelligent curettage is invariably indicated whenever a vestige of placental decidua remains, or any suspicion of infection is in evidence, and a bacteriological differentiation is necessary both from the standpoint of prognosis and treatment; (5) when circumscribed local infection is a complication, evacuate the pus as early as possible and by the shortest route.

Conjunctivitis and its Treatment; with Especial Reference to the Use of Nuclein Solution, five per-cent., in Conjunctivitis Lymphatica.—By J. Ivimey Dowling.

Chloretone as a Hypnotic and Local Anæsthetic.—By Freeman F. Ward.

Annals of Surgery, August, 1900.

Note on the Relation of the Os Magnum to Tuberculosis of the Wrist Joint.—In three cases of the disease D. E. Mundell noted from skiagraphs that the disease had started in the os magnum or at least had made greatest progress in this bone. Tubercle bacilli manifest themselves in bone by a process of rarefaction; hence that bone most rarefied would in all probability be the one in which the process is most active. Ollier has emphasized the importance of juxta-epiphyseal strain in the production of tuberculosis of long bones; and, on the same principle, repeated strains on any bone may favor tuberculosis on account of minute foci of inflammation resulting from the "jarring" of the trabeculæ. Such conditions obtain, Mundell believes, in the case of the os magnum, and he describes at length the mechanical conditions which come into play with reference to this bone both in health and in injuries. It is the main bone in the wrist and is the first to ossify; it is so situated as to receive the effects of injuries from three metacarpal bones; it performs more movement in flexion and extension than the other bones; in these movements greater strain is thrown on it than on the other carpal bones, from the numerous ligaments connected with it and resisting such movements; the cancellated structure of the os magnum is uneven; that portion, the inner, which has the wider spaces, and is therefore less strong, has a richer blood supply. For the above reasons, vibrations the result of traumatisms would affect the os magnum more often than the other carpal bones, and especially that portion of it referred to above which consists of less numerous trabeculæ. The pain has been described by patients as of a burning, aching character, and is the result, in the early stage of the disease at least, of pressure on the synovial membrane between the os magnum and trapezium, because these two are more closely bound together than any of the other bones; hence the enlargement of the os magnum from the tuberculous process—though this enlargement would be very slight, for tuberculosis of bone is accompanied by very little increase in size—will be sufficient to "nip" the synovial membrane between it and the trapezium.

Malignant Disease of the Stomach and Pylorus.—W. J. Mayo takes the position that cancer at this site is a surgical disease. Surgery offers the only hope of cure, and a suspicion of gastric cancer should cause the physician to send the patient to the surgeon for exploratory incision to complete the examination. The main difficulty is in the direction of early diagnosis. The curability of cancer of the stomach depends upon: (1) the histological structure of the neoplasm; (2) its location; (3) its extension to neighboring structures; (4) lymphatic infection; (5) the general condition of the patient. It is essential that the relative value of the manifestation of the malignant process be studied, for upon a correct appreciation of the conditions present depends the whole question of treatment. The author then elaborates the foregoing propositions and describes the various operations which have been devised for the removal of the malignant growth at this site, going into considerable detail as to the technique of the operations, proper preparation of the patient, etc. He concludes by saying that the exploratory incision for suspected cancer of the stomach, instead of being a last resource, should be one of the first, and be promptly undertaken if the condition cannot be proved to be non-malignant. Complete removal of the stomach has won a foothold, but to what extent the future only can determine. The more radical believe that even if the disease has affected only a limited and apparently excisable portion of the stomach, the whole organ should be removed; that pylorectomy and partial gastrectomy are not based on correct principles, and the large percentage of local recurrences after partial operations certainly give color to this view.

Tetanus; a Study of the Nature, Excitant Lesions, Symptomatology, and Treatment of the Disease, with a Critical Summary of the Results of Serum Therapy.—By A. V. Moschowitz (a continued article; abstract later).

The Pathology of Fractures of the Lower End of the Radius.—By F. J. Cotton (a continued article to be abstracted later).

Report of a Case of Irreducible Backward Dislocation of the Bones of the Leg at the Knee Joint.—By L. C. Hull.

The Best Method of Collecting the Urine from the Ureters for Diagnostic Purposes.—By M. L. Harris.

Report of a Case of Strangulated Obturator Hernia.—By J. M. Elder.

A Method of Excision of the Shoulder Joint.—By J. F. Binnie.

A Critical Survey of Ureteral Implantations.—By J. W. Bovée.

Archives Générales de Médecine, May and July, 1900.

Hemorrhages of the Suprarenal Capsules.—François Arnaud gives the symptomatology of this condition, as observed in eighty cases: (1) In forty-six out of seventy-nine cases there were no appreciable signs. (2) In five cases there was a voluminous hematoma or abdominal tumor that could be perceived by palpation. The diagnosis was made in one case only during life. (3) There were peritoneal symptoms in six cases, all accompanied by tearing of the capsule with hemorrhage. (4) There were symptoms of capsular insufficiency in eight cases. (5) In fifteen cases there was sudden death, or death after three days at the most, sometimes accompanied by delirium, convulsions, contractures, coma, hypothermia, and syncope. In more than half of the cases, therefore, the hemorrhages remain latent and apparently without effect upon the organism.

Diffuse Muscular Atrophy following Slight Traumatism of the Extremities.—Gilbert Ballet and Henri Bernard thus sum up their conclusions: (1) Following a superficial cutaneous lesion, or exceptionally an articular lesion, there may be a complex of symptoms characterized by a special form of muscular atrophy. (2) This amyotrophia affects all the muscles of the limb to the same extent; it is an atrophy *en masse*, or diffuse atrophy. It is slight, the circumference of any part of the limb rarely being diminished more than 2 or 3 cm. It is not accompanied by any reaction of degeneration. (3) These symptoms cannot be due to a true ascending neuritis, nor to a degeneration of the axis. They must be related to a slight diffuse lesion, or to some slight nutritional disorder of the medullary cells of the anterior cornua.

Malarial Household in Meaux; Rôle Played by House Plants.—M. Vicente describes three cases of malaria (proved to be such by an examination of the blood, and by the reaction to quinine) in the mother and two children of a family living in a house so situated as to be apparently free from malarial infection, and in winter. There were three oleander bushes in the house, a plant which in Algeria is supposed to give malaria. This bush harbors an insect which plays the part so frequently played by mosquitos in transporting the malarial germ from the swamps to man. There were innumerable colonies of this "flea" on the plants above-mentioned, and on the furniture and floor, and the clothes and hair even of persons in the house.

The Pancreas in Cirrhosis.—E. Lefas having examined the pancreas at the autopsy of a number of persons who died of cirrhosis, gives the following results of his observations: In atrophic cirrhosis, the pancreas is enlarged, with some sclerosis of the splenic extremity, and cells in fatty degeneration. In hypertrophic biliary cirrhosis, there is no increase in volume, but increase in interlobular connective tissue. In cardiac cirrhosis, there are no special changes in the pancreas, but occasional changes in the blood-vessels. In hypertrophic pigmentary cirrhosis, the author has not found special alterations in the pancreas, dut Hanot and Chauffard found considerable peri-lobular sclerosis.

Acute Fecal Intoxication.—M. Deschamps says that it has been demonstrated that the sudden admixture of fecal matters with water used for drinking may, in addition to special accidents, produce troubles that can be divided into two distinct clinical types. The first are characterized by toxic gastro-enteritis, the phenomena being those of intoxication rather than of infection, and resembling those which follow the ingestion of putrefied food. The second are choleriform in nature, or in some severe cases choleraic.

Hysterical Laryngeal Hypokinesis.—C. Chauveau describes a case in which hysteria was caused by grippe and affected the air passages, the larynx, and finally the nerve centres presiding over the motor functions of the larynx, giving hypokinesis, with hemiplegic motor and sensory troubles of the same side of the body and of the velum palati.

Thirteen Cases of Softening or Hemorrhage of the Cerebellum, the Pons, and the Crura.—By R. Touche.

Jackson's Epilepsy. Cerebral Tumor of Difficult Diagnosis, Probably Parasitic.—By E. Apert and Ch. Gandy.

Gastro-Intestinal Surgery.—By Henri Hartmann.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HEAT WAVE—CENTENARY OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND—WAR HOSPITALS COMMISSION—PROFESSOR OSLER AT THE POST-GRADUATE COLLEGE—THE INGLEBY LECTURES.

London, July 27, 1900.

The London season—as interpreted by the votaries of fashion—closes to-day, and next week we shall hear that Mayfair is empty, although many of its most useful inhabitants will remain. The season goes out with a marked change of weather. The heat-wave which has been so oppressive for the last three weeks appears likely to pass by. A fall of 10 or 12 in the thermometer yesterday portended a change, and this afternoon we had a thunderstorm with copious rain. Next week we shall have an exodus of many doctors as well as of society people.

The ceremony of conferring honorary fellowships in celebration of the centenary of the Royal College of Surgeons of England was the occasion of a gathering far more brilliant to the eye than such functions usually are with us.

The costumes of the numerous ladies present and the British and foreign doctors' gowns lit up the theatre of the London University gayly. Few people recognized Mr. Treves in the dashing-looking officer in a hussar uniform who occupied one of the seats on the platform. Not the least imposing figure was that of the Prime Minister in the gold-barred robes of Chancellor of the University of Oxford. Lord Rosebery, too, was conspicuous in his Cambridge doctor's robes. Both these statesmen received honorary fellowships, as did some thirty distinguished European, American, and colonial surgeons, including von Bergmann, Lannelongue, Albert, Ollier, Keen, Warren, and others.

Professor Keen, who was received with great applause, made a speech distinguished by its excellence of matter and manner. Referring to the improvements in surgery, he said Warren and Lister had made them possible by their discoveries of anæsthesia and antisepsis.

The ceremony took place in the theatre of Burlington House, lately the abode (if such a disembodied spirit can have been said to have an abode) of the late London University. Always a picturesque figure, the president, Sir William MacCormac, showed to advantage in his brilliant surroundings and conferred the fellowships with impressive dignity. His reception was the more cordial because the company appreciated his services in South Africa—services which were gracefully referred to by Professor Keen.

Before the actual celebration a deputation from the Council waited on the Prince of Wales to present the diploma of the honorary fellowship to His Royal Highness. The Prince, having accepted the diploma, signed his name and so began the roll of this new honorary fellowship. The diploma says, "We, the Royal College of Surgeons of England, do hereby admit," etc. This does not express the fact that the college consists of thousands of members who have no vote in appointing the twenty-four gentlemen who constitute the Council, and who thus arrogate to themselves the name of the college. It should read, "We, the Council," etc.

There was a conversazione at the college on Wednesday evening, when the guests were received by the president and vice-presidents. On Wednesday and Thursday demonstrations were given illustrating the work of the laboratory, and each morning Professor Stewart, conservator, conducted visitors round the museum and gave a demonstration of some of the chief objects of interest.

The address of welcome by the president was an effective one, and it is said will be published together with biographical notices of the sixty-one masters and presidents who have held office during the last hundred years. The address itself goes further back, for the president attempted a sketch of the progress of the art of surgery from about the close of the second century.

The commission on the war hospitals held its first sitting on Tuesday, when some evidence was taken as to the state of preparation prior to the outbreak of war. It would seem that there was in store very inadequate provision, and that, of course, the necessary provision could not be obtained without time, but further evidence will be forthcoming. The commission will shortly sail for the Cape, and on its return will perhaps take more evidence in this country. Mr. Burdett-Coutts has made himself still more ridiculous by insinuating in Parliament that the commissioners will not be impartial. Then he declared that civil surgeons at the front were bound down not to disclose hospital secrets or scandals. Mr. Wyndham, Under-Secretary for War, being questioned as to this by Dr. Farquhar-

son, was able to deny it. Mr. Coutts further urged that the truth could not be obtained without special protection being afforded to all who gave evidence. Mr. Balfour declared that the precautions taken by the commission which would be made royal, were ample, and the suggestion made conveyed an uncalled-for insult on officers and others.

You know that we have recently established a post-graduate college here. The promoters have secured some excellent lecturers, and the institution seems likely to be of service. At the opening of the museum lately Prof. William Osler delivered an address in which he ably advocated a resort to study at intervals in order to avoid becoming fossilized, and told us how widely polyclinics and post-graduate courses were appreciated in America. He gave, too, some particulars of his own work in this department, and said it was superfluous to dwell upon the great advantages London offers for study by graduates and practitioners, considering that here are collected more sick people than in any city in the world. The unequalled facilities afforded by our special hospitals and their elaborate equipments he thought quite counterbalanced the absence of concentration of material so convenient in Vienna. The organization necessary is no longer lacking since the establishment of this college. The value of the museum as a means of practical instruction was first illustrated by John Hunter, and the college is indebted to a man with a truly Hunterian mind—Mr. Jonathan Hutchinson, to whom Dr. Osler paid a high tribute, in the course of which he said that when anything turns up on which text-books are silent and cyclopædias dumb he advised his students to look up the "Archives of Surgery," as, if not there mentioned, it must be something very much out of the common. He then drew an amusing picture of the routinist and the rationalist practitioner. No one, he said, needs more renovation than teachers; upon none does intellectual staleness steal more relentlessly, and the profession has suffered sorely from intellectual old-fogyism. Then he went on to say that men above the age of forty are rarely pioneers, rarely creators in science or literature. Over that age men are in danger of premature senility.

Professor Osler is thought so much of on this side that it may seem heterodox to interpose a *caveat*, and yet much work has been done for the world by older men. I might claim some of them as scientific, but science is essentially modern and its work appropriate for the younger men—though they will carry it on to the next generation. In older branches of intellectual work surely older men have accomplished much. Take literature, which Dr. Osler mentioned—one example will suffice: Milton was old and blind when he produced "Paradise Lost."

The Ingleby lectures at Birmingham were this year delivered by Dr. O. J. Kauffmann, who devoted them to the neuroses of children, confining his attention to the more common forms. Among the practical observations which marked the lectures was a distinction between migraine and recurrent paroxysmal headaches. The sensory symptoms of migraine, the unilateral commencement of pain, and the sickness and vomiting are the prominent marks, but other headaches may alternate with migraine. Moreover, the vasomotor symptoms and the fluctuations in the blood-pressure so pronounced in typical migraine are seldom, if ever, quite absent from recurrent headaches of a simple kind, and both are produced by exactly the same causes. In these, and, indeed, in most of the neuroses, constipation and other digestive disorders are pretty constant, and Dr. Kauffmann laid stress on the toxæmic condition that might thus arise. Overfeeding or faulty feeding was accordingly blamed. Excessive amount of meat is quite liable to set up a state of epileptic tension. Undigested food is not merely irritant; it is often the source of a toxæmia, particularly when constipation exists and has probably begun such a process. The first remedy, then, is proper diet. Beyond this medicines to get the bowels into a regular and healthy action must be employed. These are aperients, alteratives, and antiseptics. These are far superior to tonics, which are of only slight utility, and when there is any degree of auto-intoxication are injurious.

LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

A CASE OF SUSPECTED PLAGUE—DESPOTIC POWERS OF THE PREMIER—THE PLAGUE IN AUSTRALIA.

AUCKLAND, N. Z., July 9, 1900.

ON Sunday, June 10th, a man who had been at work all the previous week was taken ill with febrile symptoms and vomiting, headache, etc. As he was a member of a club, his wife sent for the club doctor. He continued ill all the week until Thursday, the doctor stating that it was a bad case of "blood poisoning." No restrictions were placed on visitors, no disinfectants were employed in the house. On Thursday a trained nurse was obtained, who took the patient's temperature at 5 P.M. It was then 101 F., pulse 120, respiration 32. That evening he read the newspaper in bed. Next morning, temperature 100.5 F., pulse 100, respiration 36. Ordered whiskey 3 i. every two hours. The temperature rose on Friday afternoon to 104.4 F., pulse 120: respiration to 44, 52, 56, and about 7 30 P.M. he died. In the afternoon a second medical man was called in. The patient had been in bad health for months, with blotches and pimples on his face. He drank quietly and unknown to his wife a good deal of beer. He had been cleaning out a drain on the Saturday before he was attacked, and had a small sore on a toe of the left foot. There was an enlargement of the femoral glands on the left side with red streaks of inflamed lymphatics. The two doctors declared it to be a case of bubonic plague, and gave a certificate accordingly. The people in the house were all quarantined, and three houses besides, in which were persons who had been in contact with the sick man. The patient died on Friday, June 24th, and on Saturday, July 7th, the inmates of the house were released from quarantine, no case of sickness of any kind having occurred among them. Altogether twenty-five "contacts" were quarantined; six others (doctors and undertakers) who had been in contact with the corpse were allowed at large, and among the thirty-one there was not a single case, even suspicious, after a fortnight's quarantine! Obviously the conclusion is that this was either not a case of bubonic plague, or that plague is not, in our climate and to our population, an infectious disease. I believe the case to have been one of simple septicæmia, probably by the introduction of septic matter through the sore on the toe.

The case has created great excitement in New Zealand and great indignation here, as exceptional legislation was passed in order to meet the emergency. We have a premier here, with a large majority, and he rules us with a rod of iron. By the new act anybody can be shut up, any property, including houses, can be taken and destroyed, without compensation, and all such acts are declared to be outside the jurisdiction of the courts of law. The plague is dying out in Sydney, but spreading to other Australian towns. The death rate in Sydney is below the average in spite of plague.

A WORD THROUGH THE FAMILY PHYSICIAN TO THE MOTHERS OF DEAF CHILDREN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am moved to write you under the above title by the frequent instances that come to my notice in which a timely word from the family physician to the mother of a deaf child would have made him a genuine benefactor.

Every physician some time during his practice meets with a case of total deafness or imperfect hearing in a child. In nine cases out of ten the deafness, whether partial or total, was not noticed by him on first seeing the child, and was not accepted as a fact by the parents for a long time after the doctor's suspicions were aroused and expressed. I have known many cases in which the child was four years old, and more, before the parents were convinced that it was so deaf as to need special attention. The result is that much valuable time is lost which, if properly used, would have had a most beneficial effect upon the future welfare of the child.

It is not generally realized by either physicians or parents how great a handicap even slight deafness is to a child in hindering the acquisition of language and such general information as comes from the ordinary conversation of those around him. If the truth was known, many so-called stupid children are only hard of hearing and have been so from infancy.

If the child's hearing is imperfect, the fact should be known as early as possible, and steps taken to determine the nature of the difficulty, and what means should be employed to develop the hearing, when possible, or to train the other senses if there is little hope of improvement in the hearing.

The first step, of course, is to determine whether the suspicion of deafness is correct, and if so, to what extent the hearing is impaired: and this is not so simple a thing as it might seem. In fact, there are not many more puzzling things than to determine satisfactorily these facts in the case of a child at the age of two years. Slowness in learning to talk may be an indication, but many children of normal hearing are slow in beginning to speak. Direct tests, such as calling when the child's back is turned, or clapping the hands, are apt to be misleading, for often a child with perfect hearing will pay no attention to such things if his mind happens to be occupied with something else, and I have frequently seen deaf children turn on such an occasion,

either as a coincidence or from perceiving vibration, to which they are often surprisingly sensitive. Deafness also presents so many peculiarities in relation to pitch as to add difficulty to the task. I have had instances in which sounds of a certain pitch were entirely unheard, while for other notes the hearing was almost acute. I have known instances of inability to hear certain vowels, while others were heard with considerable distinctness.

There are also certain mental defects that simulate deafness very closely, but, of course, require very different treatment. These and many other possibilities have to be known and taken into account in pronouncing upon the deafness of a child and in determining what course is best to pursue.

In general it may be said that if a child is slow in beginning to express itself in words, passes its second birthday, we will say, without having surely uttered any words except "papa" and "mamma," which words are generally spoken even by deaf children simply in imitation of the movements of the mother's lips, then it is time to prove that deafness is or is not the cause.

In the case of even a totally deaf child, the laugh and cry are perfectly natural, a thing which often deceives both mother and physician. If the child is wholly or partially deaf, but in every other respect physical and mental is normal, there have probably been many little occurrences before its second birthday to cause the mother to wonder if there may not be something wrong. But this suspicion is seldom strong enough to lead to a consultation with a specialist, though the matter may be mentioned to the family physician, and he should either carefully test the child himself or have the parents consult some one for the purpose.

It is no very unusual thing for an aurist to declare that a child is totally deaf who has really only some form of tonal deafness, and possesses enough perception of sound to be of great service if it was properly educated and developed. But the dictum of the specialist is accepted as final and the latent hearing-power is allowed to lie dormant until it is too late to do much in the way of awakening and educating it. But even if an aurist is not always of service in determining the state of the child's hearing, he should certainly be consulted at once in regard to the state of the child's ears, as soon as the fact of deafness is suspected.

Every mother, of course, wishes the child to speak and understand the speech of others, and to be as intelligent as other children. It is for the purpose of bringing this about, so far as it is possible in the case of a deaf child, that an early knowledge of the deafness is desirable. Few mothers realize, even after they are certain that their child is deaf, that the first thing they should do, if they wish him to become as proficient as possible in speech and the understanding of speech, is to consult some competent authority on the subject of the oral education of the deaf, and put themselves under the guidance of such a person in their dealings with the child. In this way they can often save years of time in the later stages of the child's education, and at the same time attain results which would be impossible if the beginning had not been made so promptly. A word to this effect from the family physician would have great weight and would be the means of conferring an incalculable benefit upon both parent and child.

JOHN D. WRIGHT.

42 West 76th Street.

AN EARLY EXPERIENCE WITH THE RAIN BATH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have no desire to enter the lists in the controversy of a mooted question, viz., that of priority in having brought to public notice in this country the advantages of the rain bath. However, recently I recalled that a number of years ago, when post-bellum literature referring to the Civil War was still popular, I had read something which, despite facetious narration, bears upon the subject.

Junius Henri Browne, war correspondent and author of "Four Years in Secessia," relates in the last-named volume his experience in Missouri while with Fremont's army. In one place he speaks with fervor of some evils of camp-life, animate and other. One hot night, having shed his garments for good cause, he resolves upon a certain line of action, which is described as follows: "A few minutes after, a storm which had been gathering burst with fierce lightning, heavy thunder, and torrents of rain. A happy idea seized me. I caught up my saddle and bridle and placed them on my sable steed, Festus, which stood neighing to the tempest, a few feet from camp. I mounted the fleet-footed horse and, nude as Apollo Belvidere, cried 'go!' to the restive animal, and off we sped, to the amazement of the sentinels, through the darkness and storm. Every few minutes the lightning blazed around us with a lurid sheen, as we went like the wind through the tempestuous night. Festus enjoyed it, as did his rider, and six swift-speeding miles were passed ere I drew the rein upon the neck of the panting beast covered with white flecks of foam. I paused and felt the fleas had been left behind. The pelting rain and rushing blast had been too much for them; while the exercise had made my attireless body glow into a pleasant warmth. Festus galloped back, and soon I was in the tent, rolled so closely in a blanket that no new attack could reach me. . . . So ended that memorable *noche triste*, an exemplification of the Scriptural declaration, 'The wicked flee when no man pursueth.'"

It will be noted in the above that both the stimulating and the cleansing effects of the rain were realized, therefore in a sense priority in employment of this method of hydrotherapeutics was established with a vengeance. And who will not say that thirty-nine years ago a layman's inspiration conceived and at once brought into practical effect all the benefits of a natural spray bath?

BERNARD OETTINGER.

DENVER, COLO., Aug. 2, 1900.

THE SPECTACLE AND EYEGLASS HABIT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your issue of August 4th contains an abstract from an article by N. B. Jenkins, which appeared in the *New York Medical Journal* of July 28th, entitled "The Spectacle and Eyeglass Habit." The following expressions the writer deems strange, if not absurd, in view of the facts and truths that are to-day incontrovertibly established: "The wearing of spectacles or eyeglasses out-of-doors is always a disfigurement, often an injury, seldom a necessity. The old rule, 'Wear glasses all the time,' should be changed to 'Wear glasses just as little as possible.'"

As concerns the disfigurement, it suffices to say that much of this can be obviated by the proper regard for cosmetic effects. There is no doubt that a face can be made to look ludicrous or comely, the effect produced depending chiefly on the oculist's knowledge of symmetry, harmony, and the angular or pleasing relation of lines and forms. But the statement that glasses are "seldom a necessity" is inexcusable. It is incorrect and could be excused only on the grounds that the author wrote from the standpoint of a layman, or one who deals with old and settled facts as if he were discoursing on the nebular hypothesis or other questions of undoubted controversial category. It is not necessary to state that an anomalous or ametropic eye, which cannot be restored by operative or other means to a normal state, needs a support as much as a short leg needs a high heel, etc., and what is more potent and true is, that it needs it as long as that abnormality exists; in-doors or "out-of-doors," or wherever vision is desired. It cannot be doubted that an eye having the proper correction will feel strained when the correcting lens is removed, as would the short leg when the heel is removed from the boot; but this Dr. Jenkins declares, with an unheard-of sweeping statement, to be "because they have wrong glasses." "The right glasses," he states, "can be put on and taken off at any time with ease, and no more discomfort will follow than when putting on or taking off a hat."

As far as the physical exertion of taking off and putting on is concerned, this is true, but in no other sense. In fact, it is possible only when eyes are *not* properly corrected. Even an incorrectly fitted glass you can take off and get much relief. It is an accepted fact that when you correct an astigmatism of 1 D, you relieve the strain that the patient makes in trying to obtain clear vision. Take this lens of 1 D cylinder and put it on a normal eye, and that eye will encounter the trouble that the patient with 1 D of astigmatism, without a lens, encounters, habit excepted. To say that a lens correcting an error of refraction, a heterophoria, or any anomaly is only temporarily necessary, is reversing not only pure logic, but turns topsy-turvy the laws upon which hygiene, sanitation, and healing are based.

The individual with healthy normal eyes can as consistently and with as much comfort put on 3 D+ lenses when he goes into the street as the 3 D hyperope can remove his when he goes out-of-doors, barring what of custom, disregard, and disuse habit may have established. The individual with 4 or 5 of exophoria can gain but little by suffering in "bits" when his comfort is complete and continual by wearing prisms constantly.

The individual with a marked congenital refractive trouble of one eye having caused an amblyopia, should be told to wear his glasses all the time, and educate and develop his defective vision.

T. T. BLAISE, M.D.

MASON CITY, IOWA.

Therapeutic Hints.

Cystitis.—

℞ Liquor potassæ ..... ʒ ij.
Mucil. acaciæ ..... ʒ i.
Tinct. hyoscyami ..... ad ʒ iv.
M. S. Teaspoonful every four hours.

—Burnside Foster.

Pruritus Ani.—

℞ Sodii hyposulphit ..... 30 parts.
Acid. carbol. ..... 5 "
Glycerini ..... 50 "
Aquæ ..... 450 "
Apply frequently by means of wet compresses.

—*Practitioner.*

Summer Diarrhœa in Children.—Salol is to be employed when symptoms indicate an implication of the upper bowel; naphthalin, however, is to be used when the colon appears to be chiefly involved. None of the bismuth preparations is superior to the subnitrate.

℞ Bismuthi subnit ..... ʒ iss.
Bismuthi salicylatis ..... gr. xv.
Tinct. rhei aromat ..... ʒ ss.
Aquæ destill. ..... ad ʒ ij.
M. S. Teaspoonful every three hours.

—Hayward and Butler.

Amyl Nitrite inhalations cautiously made quiet severe after-pains.—Winterburn.

Rachitis and Chronic Malnutrition.—

℞ Yolk of egg ..... No. ij.
Glycerini ..... ʒ ss.
Ol. oliv ..... ʒ iij.
Add one minim of creosote to each two drachms.
M. ft. emuls. S. Teaspoonful after food three times a day.

—*Practitioner.*

Mouth Wash and gargle for sweetening the breath:

℞ Acid. salicylici,
Sodii bicarb.,
Sacchari ..... āā gr. xv.
Spt. vini rect. ..... ʒ i.
Spt. menth. pip. ..... gtt. x.
M. S. Teaspoonful in a small cupful of hot water.

—Palmer.

Gonorrhœal Arthritis.—

℞ Syr. ferri iodidi ..... ʒ ss.
S. At dose gradually increased.

—Wilson.

Chorea.—

℞ Ol. gaultheriæ ..... ʒ ij.
S. Apply ʒ ss. to ʒ ii. to the skin with friction until systemic effects are noted.

—Luigi.

Hemorrhoids.—

℞ Chrysarobin ..... gr. xij.
Iodoformi ..... gr. v.
Ext. bellad ..... gr. viij.
Petrolati ..... ʒ i.
M. S. Apply.

—*Journ. de Méd.*

Senile Bronchitis.—

℞ Ammon. carb ..... gr. v.–x.
In three ounces of milk several times daily.

—Ex.

Tuberculous Laryngitis in the later stages may be best treated by insufflation, the patient himself using a bent glass tube for the purpose.

℞ Iodoform. 8
Cocainæ hydrochlor 0.08
Morphin. hydrochlor. 0.04

The pain is greatly relieved and the voice may be restored.—Leduc.

Tuberculous Joints.—A sun-bath of several hours' duration each day should be given. A firm bandage over wool dressing should be used during intervals.—Millioz.

The Mask of Pregnancy.—For uterine chloasma apply:

℞ Zinci oxidi 0.20
Hydrarg. ammoniat. 0.10
Ol. theobrom.,
Ol. ricini ..... āā 10.
Essen. rosæ ..... gtt. x.
M. ft. ung.

Erysipelas.—Apply mercurial ointment either in its full strength or diluted with other ointments according to the nature of the case.—Dematteis.

Measles with unconsciousness, delirium, carpologia, involuntary evacuations, etc., was markedly improved by an injection of 10 c.c. of antistreptococcus serum.—Edgar Gillrie.

Myocarditis.—Caffeine in small dose varying from day to day may be kept up for years with benefit in a great variety of chronic heart affections. It is especially indicated in weakness due to disturbance of pulmonary circulation.—Lemoine.

Eclampsia.—In coma introduce a stomach tube and inject a solution of chloral (gr. xlv. to lx.) directly into the stomach. If given by the rectum it is often expelled. When the mouth cannot be opened, pass through the nasal fossæ.—Fochier.

Chorea.—The good effect of belladonna is most marked in recent cases. Arsenic may be combined with it in rheumatic cases. Thirty minims or more of the tincture may be given to a child in a hospital ward, every four hours for ten days or more.—Overend.

Morphine is depended upon at the Willard Parker Hospital to maintain the heart's strength in diphtheria. Small doses hypodermatically (gr. $\frac{1}{15}$–$\frac{1}{10}$) are given. Strychnine, alcohol, and nitroglycerin are also employed.

Reflex Cough in Children.—Treat the cause. Hacking night-coughs are mostly due to nasopharyngeal obstruction. Paroxysmal hacking cough in emaciated children with normal temperature is held by Warner of London to be due to unbalanced central nerve action.—*Pediatrics.*

Enteric Fever with Excessive Diarrhœa.—Give compound tincture of benzoin, beginning with ♏ v. in water every two hours, and double the dose if the diarrhœa does not markedly decrease within twelve hours. Besides the antiseptic there is supposed to be an antipyretic action.—J. C. Potter.

To Bring on Labor.—The use of the Krause sound or the Farnier balloon are means largely employed. They prepare for rather than provoke labor. The Farnier divulsor at times gives good results when the part presses upon the neck. Manual dilatation is the method of choice, for it permits of complete and rapid dilatation and should be adopted in all cases in which it becomes necessary to terminate labor quickly.—Léon Weill.

Nitrogen Gas by Intra-Pleural Injection.—(1) It will have a permanent place in the treatment of pulmonary tuberculosis. (2) Bad results or unpleasant effects following the injections have not been personally observed. (3) No patient under my care has been cured by the method, although a great many have been distinctly benefited, with a marked recession of all the active symptoms. (4) The local improvement is not so marked as the constitutional. (5) A decided gain in the bodily weight was noted in every case subjected to this treatment. (6) It has never failed promptly to stop hemorrhages from the lungs, even in severe cases.—H. P. Loomis.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-eighth Annual Meeting, Held at Ipswich, July 31, and August 1, 2, and 3, 1900.

GENERAL SESSIONS.

(Special Report for the MEDICAL RECORD.)

First Day—Tuesday, July 31st.

At eleven o'clock the members of the association assembled in the church of St. Mary-le-Tower to take part in the usual opening service. The church was well filled with the members and their families, and the mayor and aldermen of Ipswich, who were present in state, attended by the bearers of sword and mace. The sermon was preached by the Right Rev. John Sheepshanks, Lord Bishop of Norwich, who took for his text Ecclesiasticus xxxvii. 13, 14, 15, and 16:

"Honor the physician with the honor due unto him, for the use ye may have of him, for the Lord hath created him.

"For of the Most High cometh healing, and he shall receive honor of the king.

"The skill of the physician shall lift up his head, and in the sight of great men he shall be in admiration.

"The Lord hath created medicines out of the earth, and he that is wise shall not abhor them."

At three o'clock the opening general session was held in the Higher-Grade School hall, the members in attendance (less than two hundred) being called to order by the retiring president, Dr. John Ward Cousins.

Resolutions of Sympathy.—He began by proposing a resolution of sympathy by the association with the Queen and all the members of the royal family in the death of the Duke of Edinburgh, the reigning prince of Saxe-Coburg Gotha, whose demise from cancer had recently occurred. This resolution having been unanimously adopted, the president delivered a short address upon retiring from the chair. He said that the membership in the association was steadily increasing, there being now 18,382 members of the parent association and of its various branches in the colonies. There were still, however, too many non-members among the medical men of the United Kingdom, and he would urge upon them the duty and the advantage of enrolling themselves in this great representative body. He spoke of the work of the medical men in South Africa, and expressed confidence that, when all the testimony concerning the alleged hospital mismanagement was in, it would be found that no blame attached to the army medical corps. There ought, he said, to be specialists in the medical department of the army. There should be surgeons to treat the wounded, physicians to treat the sick, and sanitarians to prevent sickness. After referring to the all too premature death of his predecessor in office, Sir Thomas Grainger Stewart, he introduced his successor, Dr. William Alfred Elliston, the president-elect for 1900–1901.

After the applause which greeted him had subsided, Dr. Elliston said that his first pleasant duty as president of the association was the nomination for honorary membership of H.R.H. the Prince of Wales, K.G., Hon. F.R.C.P., Hon. F.R.C.S. The nomination was seconded by Dr. Thomas G. Roddick, of Montreal, who said Canadians were very much attached to the Prince of Wales and would all be glad to learn that it was now permitted to him to practise medicine and surgery throughout the British dominions. The honor the association was about to bestow upon him was shared by a Canadian, Lord Strathcona and Mount Royal, and the speaker hoped both honorary members would attend some future meeting of the association in Canada. The election was unanimous.

A vote of thanks to the retiring president was then passed.

Report of the Council.—A motion calling for the adoption of the report of the Council and of the treasurer's statement was the signal for the usual dispute over matters of little general and no scientific interest. In the course of the wrangle Mr. Victor Horsley called attention to an article in *The British Medical Journal* which had displeased him, and accused the editor of dishonesty, and to emphasize his disapproval he moved that the following paragraph be omitted from the report of the Council: "The Council has every reason to believe that the journal has proved increasingly useful to members. The publication of the proceedings of the last annual meeting and of its sections was commenced immediately after the conclusion of the meeting, and was completed before the end of November."

DR. DAWSON WILLIAMS, editor of *The Journal*, in a straightforward speech disproved Mr. Horsley's charges, and maintained that he had written the objectionable leader in good faith, with no thought either of *suppressio veri* or of *suggestio falsi*. The offended member of the Council then agreed to withdraw his motion of censure on condition that his remarks and those of the editor be printed *verbatim* in *The Journal*.

The general session was then adjourned to reconvene at 8:30 in the Lyceum Theatre. After another resolution of sympathy with the Queen and royal family in their loss had been passed, the mayor of Ipswich welcomed the members of the association to the town, and spoke of the pleasure the citizens of Ipswich had experienced in the selection of their fellow-townsman, Dr. Elliston, as president of this representative body of British medical men.

The President's Address.—DR. WILLIAM ALFRED ELLISTON then delivered an address entitled, "Some Incidents in the Evolution of the Modern Physician." During the Dark Ages, he said, men of learning had spent their time in translating and repeating what the Greeks had taught, until at last they had come to believe that Ptolemy, Galen, and Aristotle had settled most of the scientific questions, and that no one had any right to doubt their decisions. The one exception to this apathy to science on the part of Englishmen was Roger Bacon. Thomas Linacre introduced what was termed the "new learning" from Italian universities, and Sir Thomas More, in his "Utopia," showed the effect upon health of pure water, the structure and ventilation of the house, the garden at the back, the width of the street, cleanliness, isolation of the infected sick, care of children, abattoirs, etc. The great event of the sixteenth century, so far as medicine was concerned, was the success of Thomas Linacre in persuading the king to grant a charter to a small body of medical graduates, who were thenceforth called the Royal College of Physicians. It gave them the sole power to license to practise physic in London or within seven miles' radius, with other privileges which were confirmed by a statute of Henry VIII., and extended to the whole of England. Soon after the birth of the new learning, the work of Vesalius, aided by his contemporaries Fallopius and Eustachius, raised anatomy to a science based upon the dissection of the human body itself, in addition to that of animals, but this scientific advance did not exercise its influence at once, as might be seen from the records of highly esteemed practitioners of the day. In the sixteenth century there were already established physicians, surgeons, and apothecaries, the first being men of education, the others with a few exceptions belonging to the less-educated classes until the rise of the nineteenth century. At the beginning of the seven-

teenth century the original researches of Gilbert and Harvey completely altered the position of Great Britain in scientific advance, and from that time to this Englishmen have taken a conspicuous part in the solution of the many scientific problems and discoveries of the last three centuries. Gilbert established the magnetic nature of the earth, and conjectured that terrestrial magnetism and electricity were two allied emanations of a single force. He described the properties of the magnet. Harvey's name was immortalized in the annals of medicine for his discovery of the circulation of the blood, the results of his observations were the more remarkable when the scanty instruments and appliances then available were considered. In 1645 a small body of students assembled at Oxford, who in 1662 were to be known as the Royal Society, which was the oldest scientific society in Great Britain and one of the oldest in Europe. Soon after its incorporation the society published papers by Malpighi, who by the microscope revealed the minute infinite particles of living bodies. A little earlier Boyle and John Mayow anticipated some of the great discoveries in chemistry and physiology a century later. Practical medicine was developing in this century; a pharmacopœia had been issued, cinchona bark was introduced, botanical gardens were established. In surgery the growth was slow, but Nathaniel Highmore discovered the cavity in the superior maxillary bone, and Thomas Wharton the duct of the maxillary gland. In the early part of the eighteenth century Boerhaave, of Leyden, shared with Dr. Hales, the great English chemist, the honor of founding the science of organic chemistry. At this time there was no systematic medical training in the British isles; but there were isolated attempts at special instruction. The study of anatomy increased, but there was a great amount of popular prejudice against dissection. William Hunter was the first great teacher of anatomy in London, and was selected and advanced by Dr. James Douglas, who discovered Douglas' pouch. The most remarkable scientific advance was in the science of chemistry. Black, Priestly, Cavendish, and Rutherford discovered respectively carbonic acid, oxygen, hydrogen, and nitrogen. In practical medicine Dr. Richard Mead communicated to the Royal Society Borrow's discovery of the acarus scabiei. Dr. James Lind published a treatise on scurvy, suggesting the use of fruit and vegetables and lemon juice. He also discovered that the steam of salt water was fresh. Toward the end of the century Sir Edward Jenner completed his observations upon the prophylactic power of cowpox against the virulence of smallpox. Dr. Baillie published his "Morbid Anatomy," which was the first book on the subject in English. He described ulcers of the stomach and of typhoid, the changes of the liver in cirrhosis, abdominal cysts, and other pathological conditions. The scanty means of education possible in London and the absence of medical societies in the eighteenth century were remarkable. Surgeons and apothecaries were supposed to be able to pick up a sufficient smattering of their work by attending a hospital for a few months, and physicians were educated elsewhere. The education of Edinburgh was far ahead of London; medical societies and periodicals flourished there before coming south. In London, in 1783, there were five lecturers on anatomy, three lecturers on surgery, and three lecturers on the practice of medicine. The eighteenth century closed with an immense advance all round in general science, particularly in chemistry and electricity. Of the physicians and surgeons in active practice early in the nineteenth century there were many of great distinction—Lettsom, Matthew Baillie, Edward Jenner, James Gregory the younger, Edward Grigby, Cline, Abernethy, Sir Astley Cooper, Sir Charles Bell. The long roll of eminent surgeons of later days began with several distinguished pupils of John Hunter. Abernethy and Cooper had great fame as lecturers and bold and philosophic surgeons. To Charles Bell were owed anatomical and physiological discoveries of the highest importance in connection with the nervous system. The important legislation of the nineteenth century was the Apothecaries Act of 1815. Previous to this act the education of the medical practitioners of England and Wales was entirely optional on their part. About 1850 a preliminary examination in arts was instituted as a necessary and independent requirement before proceeding to the medical curriculum. In 1858 the Medical Act became law. Women were admitted to practise in 1876. In 1878 the pharmaceutical chemists were licensed by act. In 1832 the Anatomy Act afforded facility for the practical study of anatomy, and did away with "body-snatching." The growth of the medical press began with the efforts of William Sharman, M.D., who in 1810 edited a journal called *The New Medical Physical Journal, or Annals of Medicine, Natural History, and Chemistry*. In 1815 Thomas Wakley founded *The Lancet*, with the primary object of disseminating much-needed information hitherto regarded as the exclusive property of members of the London hospitals, and also with the view of exposing the family intrigues that influenced the appointments in the London hospitals and the medical corporations. It was fiercely opposed for ten years. The brilliant work done by physicians and surgeons in this century would take too long to enumerate; but the speaker alluded to Bright's discoveries in the pathology of kidney disease, Hodgkin's observations on the lymphatic glands and the spleen, and Addison's publications in regard to the relationship between anæmia and disease of the suprarenal capsules. Sir William Gull, Graves, Gerhard, Hughes Bennett, and many other great names swelled the list. In surgery, more than in medicine, the tendency had been to specialize. Dentistry, ophthalmology, and aural surgery were branches of the science. The most brilliant advances had been in abdominal surgery, and operations that forty years ago were deemed unjustifiable were now performed with success in every hospital, thanks to Sir Spencer Wells, Keith, Clay, Greig Smith, and Lister. William Jeaffreson, of Framlingham, was the first surgeon in England to perform the modern operation of ovariotomy by a small central incision. The treatment of mental affections had greatly improved in this century, great thanks being due to William Tuke, Sir John Bucknill, and others. The two great discoveries of the nineteenth century in connection with medicine and surgery were the antiseptic treatment (due to Lord Lister) and the use of anæsthetics. Robert Liston was the first surgeon in the country to use ether, which was discovered by Faraday. Parkes was the founder and first teacher of military hygiene, and was a great factor in, if not the founder of, the science of modern hygiene. The special departments which concerned the surroundings of man had been the subjects of legislation during the present century. State medicine as an organized department of administration was of modern growth. The first act in this direction was the Towns Improvement Act of 1847, and in 1848 a general Public Health Act, embracing the whole of England except the metropolis, was passed. The Local Government Board was created in 1871, and in 1875 the existing laws were digested into the Public Health Act of 1875. In conclusion the president alluded to the fact that medical education was the most costly of all the modern professions, which was due to the long period of time required for the medical curriculum, and to the multiplication of qualifications, which he regarded as

a fashionable absurdity. There was necessity for the highest mental training, but the elements of science should be more generally taught in school life.

At the conclusion of the address a vote of thanks was proposed by Mr. Howard Marsh, seconded by Dr. I. H. Cameron, of Toronto, and carried unanimously.

Greeting to Colonial and Foreign Representatives.—Dr. John Ward Cousins then spoke a few words of welcome to the foreign and colonial guests, to which Drs. Nicolaysen, of Christiania, and Roddick, of Montreal, responded.

Second Day—Wednesday, August 1st.

The second general session was held in the hall of the High Grade School.

The Meeting of 1901.—After a list of names of the new and retiring members of the council had been read, the president of the council, Dr. Roberts Thomson, announced that, upon invitation of the Gloucester branch, the council suggested that the next meeting of the association would be held in Cheltenham under the presidency of Dr. George Bagot Ferguson. This recommendation was adopted by a vote of the association, with thanks to the members of the Gloucester branch for their courteous invitation.

Address in Medicine.—Dr. Philip H. Pye-Smith then delivered the annual address in medicine, taking as his subject "Medicine as a Science and Medicine as an Art." He said that medicine was defined by Aristotle as the art of healing and the art of curing, and to this might be added the art of preventing disease. Nevertheless, as the art of agriculture rested on botany, geology, and vegetable physiology, so the art of medicine depended on the science of pathology, the practice of physic, and the principles of physic. It must never be forgotten that it was an art. Theories, or what seem to be logical deductions, or explanations, or statistics, or authority, must never be allowed to take the place of observation and experience. The disease must never be treated without considering the patient. There need be no wonder if vast knowledge, profound learning, and the best scientific training sometimes failed to make a successful practitioner, for besides adequate knowledge and a strenuous effort to do the best for each individual patient there was ample room for the personal qualities which insured success in every department of life—power of observation and insight—the personal influence by which a strong character would secure obedience and inspire hope, the judgment which divined what kind of remedies were suited to each patient, and the sympathy which put one in the patient's place, and not only met but anticipated his wants. If, however, medical science without art was inefficient, medical art without science was not only unprogressive, but almost always became quackery. As soon as patients were treated by rule of thumb, by tradition, by dogmas, or by metaphysical axioms, injury was done to the physician and to the patient. Bonesetters ignorant of anatomy, wise women who cured by charm, were irrational; the indiscriminate use of "tonics" was as irrational as that of hydrotherapy, of alcoholic stimulation, or of electricity. There was no such thing as a tonic or strengthening medicine: the sole source of strength was oxidizable food, and bitter medicines could only give strength by improving the appetite. The last of the systems of medicine founded on a dogma was homœopathy. Apart from these exploded systems of treatment, our profession had often suffered from lack of the scientific, inquiring, sceptical spirit, and had been led too easily by authority, by tradition, and by fashion—as witness the past abuse of venesection and of mercury. The important and constantly growing branch of medicine which dealt with the prevention rather than the cure of disease also depended upon science, for tracing the dependence of one event upon another was the essence of inductive science. How closely natural science was related to preventive medicine was shown by the history of Jenner, who was a naturalist, and Pasteur, who was a chemist. We ought to give up the perfunctory explanations which so often did duty for investigation, and not ascribe every inflammation to cold, every doubtful symptom to gout, disease to overwork and worry; modern life was easier and safer and smoother than it was a hundred years ago, and young men and maidens were healthier, better grown, less emotional than their great-grandparents. The duty of a physician was not to flatter the selfishness of neurotic patients, but to inspire fortitude, and to prescribe regular and steady work as the best cure for a thousand nervous ailments. There was another temptation—and that was to assume that because many diseases were now proved to depend upon the presence of bacteria this must be true of all. Science did not anticipate, but waited for proof. Another important branch of medicine—prognosis—depended as an art upon experience and insight. Yet here also rational prognosis rested on the science of statistics. Statistics must be based upon cases which were both numerous and accurate. It was only after hundreds of cases had been observed that it was learned that infantile paralysis sometimes befell adults, and that osteo-arthritis might occur in children. This paucity might be remedied by time, but the defect of inaccuracy was without remedy. If diagnosis was perfunctory or careless, and nomenclature arbitrary and inconstant, the more cases were observed the less did they teach. The necessity for experiments for the progress of pathology and for the cure and prevention of disease was too important to be omitted. As its objects and methods were better understood, it would secure the enlightened patronage of all who desired the improvement of human knowledge and the increase of human happiness. The cure of disease rested upon science, but even in its practical carrying out we were bound to take with us a scientific spirit. Some men prescribed, and never saw that the prescriptions or directions were carried out. How could success be expected in treating an obscure nervous affection if galvanism was applied to the spine without making sure of any physiological effect—nay, sometimes without making sure that a current was passing through the electrodes; or if a patient was sent to drink the waters of a fashionable watering-place without the physician remembering that there were two or perhaps three springs, one of them inert and another possibly injurious? What success could be anticipated if ointment was ordered for a weeping eczematous patch when it floated on the secretion and never reached the inflamed tissue, or if a lotion was prescribed to be applied twice a day to a skin well protected by its sebaceous secretion? Much ineffectual treatment again depended upon want of confidence in one's diagnosis. If syphilis was only suspected, remedies would be given in inadequate doses. Another source of failure in therapeutics was the legion of new remedies. It was astonishing to find apparently rational men forsaking the drugs which had been proved effectual by the experience of long-past time in all nations, to take up with remedies the composition of which was often unknown, the use of which they had never learned, and of which the value rested upon the interested or credulous assertions of those who were trying to sell them. A scientific spirit should also be more freely admitted in treatment by baths and waters. Was a bath different in its effects because it came heated from the earth rather than from a kettle, or did salts act differently when occurring in natural solution than when dissolved in the same proportion in the

druggist's shop? It should be frankly acknowledged that benefit was derived by change of air and scene, by early hours, regulated rest, exercise, diet, and copious draughts of water. Was it not also a mistake to prescribe made-up drugs, and thus lead patients to ascribe their recovery not to the doctor's skill, but to this or that pill or tablet? As to the physician's just recognition, his patients could not be expected to understand the scientific basis of medicine, nor, as his services were to the individual and not to the community, could he expect the rewards given to statesmen, generals, or judges; but he did as a rule receive the trust, the honor, and the gratitude which he had earned, for patients understood personal character, honesty, sense, kindness and sympathy, liberality, and benevolence to rich and poor.

Award of the Middlemore Prize.—After a vote of thanks to Dr. Pye-Smith had been passed, the president announced that the Middlemore prize, of the value of £50, had been awarded for research in ophthalmology to Dr. Ernest Maddox, of Bournemouth.

Reform in the Association.—The reports of the parliamentary bills committee, of the scientific grants committee, of the general practitioners and ethical committee, of the anæsthetics committee, and of the therapeutic committee having been presented and adopted, Mr. Victor Horsley presented a resolution, "That a committee be appointed to consider and report upon the best means of reorganizing the constitution of the British Medical Association, such committee to furnish a provisional report to the branches by March 1, 1900." In speaking upon the motion he sketched the reforms which he thought necessary, and read a list of twenty-three names of men who, he said, ought to constitute the committee. After the members had recovered their breath they decided that Mr. Horsley was not the whole association, and that the others should have some voice in the matter. It was then decided that the committee should consist of twenty-four members, twelve to be nominated by the council and twelve by the general body, and that the appointment should be made at the next general session. The resolution was then carried, the date for the provisional report being advanced to February 1st, in order to allow time for consideration of the proposed changes by the Australian branches.

SECTION OF SURGERY.

First Day—Wednesday, August 1st.

President's Address.—Mr. Howard Marsh, of London, in opening the work of the section, said that, in accordance with a general agreement, he would make no formal address, but would briefly call attention to the work which had been planned for this meeting. An effort had been made to limit the number of papers, and so prevent the congestion that usually occurred and allow time for the intelligent discussion of the subjects introduced. There would be two set discussions, one on subphrenic abscess, the other on fractures. It might be thought that one of these conditions was too uncommon, the other too common to merit formal discussion by the members of the section, but this was not so. Subdiaphragmatic abscess was not such a rare condition as was generally supposed, and there had been many improvements in the diagnosis and treatment of fractures in recent years which would well bear discussion at the present day.

Subdiaphragmatic Abscess.—Mr. Rickman J. Godlee, of London, opened the discussion with a long and carefully considered paper. The condition, he said, was not a disease but a symptom, and he would define it as "a collection of pus, with or without gas, between the diaphragm and the structures in contact with it." There were no pathognomonic symptoms of the affection, a pleuritic stitch and hiccough being perhaps the most common. If there was no gas present, the percussion note would be dull when the abscess was near the surface, but in cases of subdiaphragmatic pneumothorax (as the condition had been called when gas was present) the note would be tympanitic. The respiratory movements of the chest were seldom interfered with, and the normal pulmonary sounds were generally audible—signs of value in the differential diagnosis. The speaker then presented an etiological classification of the different forms of subphrenic abscess, in which he said he had followed Maydl quite closely. This was as follows: (1) *Stomach.*—In cases of sudden perforation of a gastric ulcer the pus might escape into the general peritoneal cavity or into the smaller sac, but in either case it was not uncommon to find it localized. In other cases in which the perforation of the stomach walls was gradual, adhesions were almost always formed with the diaphragm or adjacent viscera, and a strictly circumscribed subphrenic abscess was sometimes the result. More often, however, these abscesses burrowed widely, and in such cases a diagnosis of empyema (especially if, as not infrequently happened, there was a coincident pleural serous effusion) was often made. (2) *Intestine.*—Subdiaphragmatic abscesses of intestinal origin were the result of perforation of ulcers of the duodenum or transverse colon. In such cases gas was mingled with the pus and the note elicited by percussion was tympanitic, though if the patient were made to stand, some dulness might be obtained at the lower portion of the collection. (3) *Appendix.*—A subphrenic abscess might result from the migration of a perityphlitic abscess. In such cases there was first a swelling in the iliac fossa, which usually subsided as the signs of a subdiaphragmatic collection became pronounced. The abscess might be on the left side, though naturally it was more commonly on the right. (4) *Hydatids.*—Suppuration might occur in an hydatid cyst of the liver or spleen. (5) *Liver.*—As would be expected, many subdiaphragmatic abscesses owed their origin to disease of the liver or gall tracts, a perihepatic abscess being a not very uncommon affection. (6) *Kidneys.*—Occasionally a perirenal abscess was formed between the kidney and the diaphragm, and sometimes a subphrenic abscess was simulated by a pyonephrosis of large size. (7) *Subcutaneous Injuries.*—Cases were on record in which a subdiaphragmatic abscess had followed a blow without a wound of the skin, but it was probable that in such instances an ulcer of the stomach or intestine had been present and the blow caused perforation. (8) *Wounds.*—Septic material might be introduced in the case of a penetrating wound of the abdomen and lead directly to the formation of an abscess. (9) *Metastases.*—Maydl had this division in his classification, but the speaker was inclined to regard the abscesses grouped under this head as due in reality to direct extension of pus from some lesion in the neighborhood. (10) *Ribs.*—Cold abscesses resulting from necrosis or caries of the ribs might burrow through the muscular tissues and become subphrenic in location. (11) *Thorax.*—The pus of an empyema or that resulting from Pott's disease or mediastinitis might pass down beneath the diaphragm. (12) *Various Causes.*—This was Maydl's last group, and included tuberculosis, pancreatitis, peritonitis, and actinomycosis. The last-named condition was seemingly not so rare as was generally supposed, for the speaker had seen no fewer than thirteen cases in the past five years. The matter forming the contents of the so-called abscess in cases of actinomycosis was not true pus. The progress of these cases was very slow, and the treat-

ment was not entirely satisfactory in its results. In those cases in which the subdiaphragmatic abscess resulted from perforation of a gastric or intestinal ulcer it was often necessary to close the opening in the viscus, though sometimes simple drainage of the abscess cavity was sufficient.

Mr. Bruce Clarke, of London, spoke of the diagnosis, which he said was usually difficult and could often be made only by exclusion. Among the causes he regarded a perforating ulcer of the stomach or intestine as by far the most common. He agreed with Mr. Godlee that it was incorrect to speak of metastasis as one of the causes of subdiaphragmatic abscess, and preferred the term "septic condition." He favored the making of an incision in the abdomen large enough to admit the hand for exploratory purposes, before cutting directly into the abscess.

Mr. Leonard A. Bidwell, of London, reported six cases of subphrenic abscess, in four of which a diagnosis of empyema had been made. Gastric ulcer was the cause in three cases and ulcer of the transverse colon in one. He spoke of the odor of the pus in cases of subphrenic abscess, which was peculiarly offensive and served as a diagnostic point in the differentiation from empyema.

Mr. Edward Barnard Fuller, of Cape Town, said that a bacteriological examination of the pus removed by an exploratory aspiration was often of great service in the way of diagnosis, the presence of the colon bacillus pointing with almost absolute certainty to the intestinal origin of the abscess and consequently establishing the diagnosis of subphrenic abscess as opposed to empyema.

Interesting cases of subdiaphragmatic abscess were reported by Mr. James Stanley Boyd and Mr. Noble Smith of London, Dr. Cameron of Canada, Dr. Lennander of Upsala, Mr. Firmin Cuthbert of Gloucester, and Mr. R. C. Chicken of Nottingham.

Pyloroplasty.—Mr. Leonard A. Bidwell, of London, reported a number of cases of non-malignant stenosis of the pylorus in which he had performed pyloroplasty with excellent results, and he regarded the operation in such cases as one attended with comparatively slight risk.

Prof. John Berg, of Stockholm, said his experience with pyloroplasty had not been entirely satisfactory, retraction of the stenosis having occurred in about half of his cases. He was obliged to resort to gastro-enterostomy in these cases, and usually now had recourse to this operation in the first instance as being the more sure in its results and not much more dangerous. He said it was not safe to tabulate the results of a pyloroplasty within three years of the operation, since recurrence of the stricture was sometimes very late.

Cholecystocolostomy.—Mr. Henry Betham Robinson, of London, reported a case of jaundice due to obstruction of the ductus communis choledochus by a syphilitic formation. An anastomosis was established between the colon and the gall bladder, and potassium iodide was administered. The patient made a good recovery, and the stricture was eventually relieved.

Oöphorectomy in Mammary Carcinoma.—Mr. J. Stanley Boyd read a paper in which he had collected the statistics of thirty-eight cases of this operation—all of which he could find mention in the literature up to the present time. In seventeen of these cases (nearly forty-five per cent.) the operation had been followed by improvement in the condition of the breast. In some of the cases thyroid feeding had also been resorted to, but the speaker did not think there was any evidence of benefit from this. The operation was still *sub judice*, but enough had been learned to show that it was useless to resort to it after the menopause.

Stricture of the Rectum.—Mr. Frederick Charles Wallis, of London, read a paper on the etiology and treatment of non-cancerous stenosis of the rectum. In almost all of these cases, he said, some toxæmic condition was present, as shown by the frequent coincidence of arthritis. Excision of the strictured portion of the gut, with pulling down of the mucous membrane and suture to the anus, was a method of treatment to which he had resorted with most satisfactory results in two cases, the histories of which he narrated.

Mr. Frederick Treves, of London, said that the operation of excision was of use only in cases of fibrous stenosis of the rectum, but in selected cases it was often of great benefit. He believed that many cases of rectal stricture, although not recognized until later in life, were really of congenital origin.

SECTION OF GENERAL MEDICINE.

First Day—Wednesday, August 1st.

The medical section met in the Art Gallery, Wednesday forenoon, under the presidency of Dr. Thomas Buzzard. The president said that complaints were often heard that the chairman's introductory address took up too much time that might more profitably be devoted to the scientific work of the section, and he would therefore content himself with a few informal remarks.

Influenza as it Affects the Nervous System.—The set discussion on this subject was opened by Dr. Judson S. Bury, of Manchester. He said that influenza was such a protean disease that it was almost impossible to picture any typical syndrome, and while four general forms might be recognized according as the symptoms were referable chiefly to the respiratory, the gastro-enteric, the cardiac, or the nervous apparatus, yet in all the nervous system was a special sufferer from the action of the toxin. Of the nervous form *par excellence* there were two divisions, embracing (1) cases in which the brain was chiefly affected, and (2) those in which the symptoms were of a mental, neurasthenic, or paralytic order. Cases in the first group, in which the most characteristic symptom was delirium or coma, occurred during the pyrexia, those of the second group were not marked by fever. The difference between the influenza and the diphtheria toxins, as regarded their influence upon the nervous system, was that the former seized upon no special part of the nervous system, but affected now one, now another portion, seemingly at haphazard. In the polyneuritis of influenza he thought it possible that the active agent might be a streptococcus or some other as yet unrecognized pathogenic agent, the influenza bacillus acting only as a forerunner preparing the soil for the specific germ. He reported several cases of nervous influenza in illustration of the various points brought out in his communication.

Sir William Broadbent, of London, thought a distinction should be made between the direct action of the bacilli upon the tissues and that of their toxins. The more serious forms, the comatose and delirious types of the preceding speaker, were probably due to the direct action of the bacilli, being analogous to pernicious malarial fever of cerebral type in which were found plasmodial and leucocytic emboli in the vessels. In the neuritic and neurasthenic cases, on the other hand, the symptoms were probably the effect of the toxin of the disease acting upon some already weakened spot. The speaker reported several interesting cases: one of acute dementia following influenza, six of the acute comatose form, and one of polyneuritis in which death occurred after involvement of the respiratory muscles. In one case, probably of thrombosis of the cerebral vessels of the right side, the patient suffered from hemiplegia of gradual onset and still more gradual decline; the attack occurred

ten years ago, and now the hemiplegia had almost entirely disappeared. In another case, which had ended in recovery, there were very severe unilateral convulsions, without paralysis.

Sir Peter Eade, of Norwich, was unable to agree with Sir William Gowers, who had said that the influenza poison affected chiefly the motor nerves, and believed that its incidence was rather on the sensory apparatus. The medulla oblongata was the part mainly attacked, and in this the speaker saw an explanation of the frequent cardiac complications. He thought it incorrect to call the nervous symptoms sequelæ, for he believed the implication of the nervous system began during the primary attack. He remarked upon the unexampled duration of the present pandemic of the disease, which had now lasted ten years.

Dr. T. Clifford Allbutt, of Cambridge, said that many cases were called influenza incorrectly, and he insisted upon the necessity for accuracy in diagnosis. One sign of value in this respect was the sudden onset of the disease. He thought the anterior part of the brain was the most frequently attacked, but whether certain areas here were more liable to involvement than others he could not say, though it would be well to determine this point. In cases in which the symptoms pointed to lesions of the central nervous system he advocated lumbar puncture in order to render possible a bacteriological diagnosis. He thought the prognosis of nervous influenza was not favorable. He related a case in which there had been aphasia and paralysis; the latter had disappeared completely, but the patient suffered from aphasia whenever he attempted to talk fast.

Dr. Newton Pitt, of London, questioned whether the meningitis and other severe nervous affections associated with influenza were due to the direct effect of the specific bacillus. He had seen several cases in which typhoid fever followed an attack of influenza, but no one would claim that the typhoid lesions were influenzal; the influenza bacilli had doubtless overcome the resisting power of the organism, which had then become vulnerable to the action of the typhoid germ, and it might be the same in the so-called influenzal meningitis. He had, however, found Pfeiffer's bacillus in a couple of cases in which the inflammation had crept up through the nasal sinuses. He held that the cardiac forms of influenza were really nervous, the heart suffering through its nerve supply and not from myocardial implication. In many cases also the symptoms referable to the heart were really secondary to gastric disturbances. In polyneuritis of influenzal origin facial paralysis was a common symptom.

Dr. Frank M. Pope, of Leicester, thought it not improbable that the incidence of the influenzal poison might often be determined by trauma, and related a case of comatose type seeming to support this assumption. He remarked upon the fact that the nervous forms of influenza were more common at the beginning of the epidemic than now, and thought this was due to the fact that those whose nervous system was vulnerable speedily fell victims, thus showing that the disease attacked the weak spots. He referred to cases of anosmia as being of unfavorable prognosis, and explained this by the fact that the olfactory centre was so close to the nasal mucous membrane, the portal of entry of the disease, that it received a large dose of the poison.

Dr. J. M. MacCormac, of Belfast, said that one spoke always of the influenza bacillus, and of influenza as a specific entity, but he questioned very much whether such a protean disease as that called influenza could really be due to the action of only one form of bacillus.

Dr. S. K. Mullick, of London, thought influenza was primarily a disease of the nervous system, the other organs and apparatus being secondarily affected, and of the nervous system the motor nerves were more commonly involved than the sensory.

Dr. S. E. Solly, of Colorado Springs, reported a case of influenzal hemiplegia terminating in recovery.

Dr. R. Saundby, of Birmingham, spoke of diabetes following influenza, which he said was exactly comparable to diabetes following any other acute infectious malady, and was not improbably due to a chronic interstitial pancreatitis set up by the toxin of the disease.

Dr. Garrett Anderson, of London, agreed with Dr. Clifford Allbutt as to the necessity for accurate diagnosis, and said that influenza was too often used as a convenient term to cover ignorance. She reported two cases of influenzal diabetes. Referring to the interesting series of cases reported by Sir William Broadbent, six of which occurred on a training-ship, she said that the poison was intensified by crowding; and she herself had observed similar aggregations of cases in the servants' quarters of great houses and in schools.

Dr. John Haddon, of Hawick, believed that influenzal pneumonia was due to an early implication of the vagus centres.

Dr. William Ewart, of London, spoke of the differential diagnosis of the influenzal imitation of the system diseases (such as tabes dorsalis, Friedreich's ataxia, and spastic paraplegia) and system diseases with organic lesions. In the former the symptoms were of sudden onset, the disease appeared at once in full intensity and then began to subside gradually; in the true disease the beginning was insidious and the symptoms increased very gradually in intensity. He recommended especially a study of the nervous forms of influenza, for he thought we might through this increase our knowledge of the mode of action of the various toxins upon the brain and spinal cord. In certain cases of recurring influenza or of nervous symptoms appearing some time after the subsidence of the primary attack, the speaker thought it possible that the bacilli might be persisting in the nasal mucous membrane or elsewhere and giving forth continually fresh supplies of toxin.

Sir John William Moore, of Dublin, said that in his opinion many cases of so-called influenzal nervous disorders were purely imaginary. Influenza frequently induced a peculiar psychical state in which the patients became hypochondriacal and imagined themselves the subject of various serious diseases, when, as a matter of fact, they had no organic lesions whatever. As to the cardiac form of influenza, he agreed with Dr. Newton Pitt that the symptoms were more often of nervous than of myocardial origin.

Dr. St. Clair Thomson, of London, referred to influenzal anosmia, and said he did not regard the prognosis as especially unfavorable. He advocated cleansing of the nasal mucous membrane, but doubted the utility of strong antiseptic solutions. He spoke also of influenzal paralysis of the larynx and of the pharyngeal hyperæsthesia occurring in this disease.

Dr. Thomas Buzzard, of London, the president of the section, said that we ought to distinguish between the symptoms actually due to influenza and those of the diseases which were pre-existing and had only been brought to light by the influenzal attack. As an example of the latter, he reported a case of locomotor ataxia in which the symptoms, previously slight, were greatly intensified after an attack of influenza. Similarly in many cases of influenzal mania and melancholia there was doubtless mental disease smouldering beneath the surface and only needing the disturbing influence of the acute infection to burst into flame. He referred to some earlier writings in which he had

noted the bizarre arrangement of the symptoms of syphilis of the nervous system, such as paralysis of a leg and an arm on opposite sides of the body, an arrangement which was now recognized as the result of the action of toxins. This same bizarre arrangement was seen in the symptoms of nervous influenza, showing that they were the expression of a toxæmia. In illustration of this the speaker reported several cases of unusual interest. One patient had double optic neuritis, nystagmus, paralysis of both arms and both legs, intention tremor of one arm, and absence of the patellar phenomenon. He said the nomenclature of nervous influenza was too cramped and a wider vocabulary was needed. Toxæmic nervous affections had largely increased of late, and this was in great measure due to the influenza pandemic.

Dr. Bury closed the discussion, giving several illustrations of the value of debates of this sort, showing how they added to the sum of the store of medical knowledge.

(To be Continued.)

Medical Items.

Plague in Oporto. — Dr. Albert Chalmette, writing in the *North American Review*, July, on the plague in Oporto says: "The experiments initiated by the French mission, and conducted with the aid of the Portuguese and foreign doctors present at Oporto, prove unexceptionally that with energetic measures intelligently applied it is easy to arrest the spread of the disease in a district or city. The experiments were first of all directed toward the prevention of the plague among animals susceptible to it and among mankind. The international committee appointed to verify this by the president of the Portuguese council of ministers affirmed that every one who will submit to the inoculation of 5 c.c. of the anti-plague serum of the Pasteur Institute would by such vaccination be protected against the plague for a period of about three weeks, and that it would be of the greatest value if this vaccination were made obligatory . . . The measures that the French scientific mission recommended to the sanitary authorities of Oporto were these: (1) Isolation and the obligatory transportation of those stricken to a special hospital; (2) compulsory vaccination of all persons who have been in contact with the sick or who inhabit the same house; (3) the building of temporary huts to lodge for a period of twenty days all persons who have inhabited a house where a case of plague has occurred; (4) complete disinfection, airing and abandoning for a space of twenty days a house where a case of plague has been observed; (5) the organization as at Bombay, if (as almost always happens) the population conceals cases, of search committees composed of doctors, nurses, litter bearers, and police, which committees, arranged for districts, should visit twice a day all dwelling-places in their quarter and satisfy themselves that no case of illness exists in them; (6) the methodical destruction of rats and mice in the shops, houses, and sewers; (7) liberty of circulation outside the town for all persons who have been vaccinated against the plague within a period of not less than forty-eight hours, nor more than fifteen days, after such vaccination; (8) the burning of buildings of small value where many cases of the disease have occurred."

New Air-Ship.—According to a cablegram in the daily papers, the first authoritative report on Count Zeppelin's airship was made on July 10th at a meeting of the Society for the Promotion of Aerial Navigation by experts who either shared in or watched the recent experiments. They declared that improvements in the steering apparatus were necessary, the one used at present having been thrown out of gear on one side of the balloon, rendering its proper guidance and return to the starting-point impossible. The steering-rods running upward from the car were too weak and became bent. The screw-blades consequently did not respond properly. The air-pressure motors failed, but it was difficult to say whether this was caused by a defect or by bad handling. The method of transmitting power to the screws will need great improvement to enable the airship to contend against even a light wind. During the recent ascent the wind had a velocity of three metres to the height of one hundred metres, and against this the vessel sailed well; but at a height of from one hundred and fifty to two hundred metres the balloon was evidently driven before the wind. It must be remembered, however, that this was when one of the rudders was out of gear. If the speed of the screws cannot be increased, the blades must be enlarged. Another defect was the continual escape of gas, necessitating constant filling up of the receptacle up to the moment of starting. This defect alone will prevent the achievement of the idea of remaining in the air for eight consecutive days, as a single filling costs 1,000 marks. Already more than 1,000,000 marks has been spent on the machine and experiments, of which amount Count Zeppelin furnished about 500,000 marks.—*Science.*

Mr. Treves on Wounds in War.—Mr. Treves, lecturing recently in London on his South African experiences, concludes that operations upon the wounded in battle should be performed under the following circumstances: (1) If the patient is seen before seven hours have elapsed; (2) if the patient has had a short and easy transport; (3) an empty stomach. In anteroposterior wounds of the abdomen above the umbilicus it is a *sine qua non* that the bullet should have escaped. He judges that the circumstances against operation are: (1) As a general rule, if the patient is not seen till more than seven hours after the wound; (2) if there has been a long and arduous transport; (3) all cases of transverse or oblique wounds above the umbilicus, because it is practically impossible to do all that is required, the openings in the bowel and the wounds of other structures being so numerous; (4) all cases of retained bullet; it is impossible in the field to start on a search for the bullet, a procedure that would require bringing the viscera out of the abdomen; (5) all cases of wounds of the liver, of the spleen, and of the kidney; (6) most cases of wound below the umbilicus, because they do all right if let alone; (7) cases in which the colon alone is implicated (perhaps excepting the transverse colon), because these cases do very well if let alone.

British Army Contract Scandals.—So much was written at the time of our war with Spain concerning the shortcomings of our army commissariat department that it is perhaps somewhat excusable on our part not to be too greatly distressed to find that the conduct of the same department of the British army has not been above reproach. London *Truth* says in reference to this matter: "Evidence of a most interesting, not to say sensational, character was given at a late sitting of the committee on army contracts. The story of the boots supplied to the company of the Second V. B. Worcestershire regiment formed for service in South Africa reads like a chapter from the history of the Crimean war. Not only were these boots delivered seventeen or eighteen days after the troops ought to have sailed, but after being tried during a route march to Aldershot were found to be useless rubbish, and one hundred and fifty pairs out of two hundred and twenty

six were actually condemned after being opened and inspected by the representatives of the middleman who took the contract. The worst feature of the case is that for these precious goods the regiment had paid considerably more than the usual government contract price. Within the past few months I have been in direct communication on this subject with two or three firms who have had a large experience of such contracts. All of them agree that in execution of an army contract it is the necessary and usual course to bribe subordinate officials chiefly for two purposes—the passing of the work and the passing of accounts. For instance, one contractor told me that he had an enormous sum—reckoned in tens of thousands of pounds—long outstanding, and his only chance of getting his accounts settled up in reasonable time was to grease the palms of the military foreman of works, who otherwise could and would delay the payment for an indefinite time. One contractor told me that I might take it as certain that, whatever tender is accepted, from ten to fifteen per cent. has been added to the price for the purpose of 'backsheesh.'"

Inhuman Experiments.—The Berlin correspondent of the *British Medical Journal* narrates the following experiments performed on a human being in Germany. He says: "Gross abuses in any profession should not be hushed up, but should rather be made public as freely as possible, so as to rouse public opinion against them and thus render their repetition or spread impossible; and, therefore, we have reason to thank the Social Democrat paper *Vorwärts* for dragging into light the 'experiments' made by Dr. Stubell (first assistant in Professor Stinzing's clinic at Jena) on patients suffering from diabetes insipidus, and published by him in the *Archiv für klinische Medizin*. Dr. Stubell there tells how he kept one of his patients in an attic with barred windows, the door of which he locked, putting the key in his pocket; how the patient, who was allowed only a very small amount of liquid, in his torturing thirst, which is a symptom of the disease, drank his washing-water; how one night in his agony he drank about 1,400 c.c. of his own urine; how another night he wrenched off one of his window bars, climbed over the roof to another small window, through which he crept, thus finding his way to a water-tap, where he was captured and brought back to his prison. Dr. Stubell calmly states that his patient must have endured 'frightful tortures' one night, and gives the following account of his condition in the morning: 'The patient was quite collapsed, his face seemed dried up, eyes and cheeks deeply sunken, pulse almost imperceptible, a great deal of pain, joints stiff.' The whole medical profession must reprobate cruelties such as these perpetrated in the name of science."

A Noble Doctor.—The London *Globe* recently published a letter from a correspondent in the Orange River Colony telling the following story concerning one of the medical officers to the British forces in South Africa: "I wanted to tell about our doctor. He is a splendid chap, named Martin. I believe the fellows simply swear by him. For instance, the other morning I took some men of my command down to see him, and after looking at the sick report, he said: 'Oh, yes! Jorkins, chap with rheumatics in the right leg.' 'Yuss, doctor, pains horful,' says Jorkins. Jorkins is a London cockney, good soldier, and particular friend of mine. 'Well, look here, Jorkins, you must have something warm over you at night; take this overcoat; you must go into hospital when we reach camp.' This overcoat I noticed was the doctor's own private property, and I thought what a good soul he was. Next came Walker. 'Let me see; Walker, bad chest; still painful, eh?' 'Shockin',' tersely answered Walker. Said the doctor, diving into a kit bag, 'take this,' producing a fine woollen shirt, worth its weight in gold out here. 'Rip it up and wrap it round your chest every night, and here's some more cough mixture for you. I can't do anything more for you just now.' I was walking just behind these two as they returned to their lines. 'Proper toff, ain't 'e,' says Jorkins. ''E's wot I call the fine root'; and when a soldier dubs a man the 'fine root' it means a lot." —*Physician and Surgeon.*

State Care of Dependent Children.—Henrietta Christian Wright contributed a well-written article on the above subject to the July number of the *North American Review*, in which she points out that the methods in vogue in New York State and in other States of the Union of grappling with the problem of how best to deal with indigent children are both unintelligent and harmful. She is in favor of the boarding-out system, and cites Massachusetts as a striking example of this mode of procedure carried out successfully. Referring to this State, Miss Wright says: "Massachusetts, with a population to the square mile exceeding that of New York, and in which the artificial conditions of living are practically the same, has no dependent children, technically speaking, in institutions supported by the State. Largely affected by the problem of immigration and under the strain produced by great centres of population engaged in mill and factory work and so removed from the more healthful influences of smaller village and country life, this State has yet so successfully solved the problem of juvenile pauperism, that out of a population of two and a half millions it has only twenty-eight hundred and fifty-two wards to support. The State has a nursery at Roxbury, where destitute infants are cared for while requiring medical or surgical treatment, and where children boarded out are brought for treatment when necessary. The nursery is a temporary home only in the strictest sense of the word, boarding-out being the end in view. There is also a temporary boarding-place at Arlington with a capacity for only twenty children, and a home for wayward boys, with a capacity for seventeen. The State has two industrial schools, the Lyman school for boys and the State industrial school for girls, which together cared for three hundred and ninety-one boys and girls during the year 1896. There are also two reform schools, having three hundred and ninety-seven children in charge. With these exceptions the dependent children of Massachusetts are placed or boarded out."

Conan Doyle upon Enteric Fever among the British Troops in South Africa.—Conan Doyle, writing to the *British Medical Journal*, says: "The outbreak of enteric fever among the troops in South Africa was a calamity the magnitude of which had not been foreseen, and which even now is imperfectly appreciated. We naturally did not dwell too much upon it while the war was in progress, but it was appalling in its severity both in quantity and quality. I know of no instance of such an epidemic in modern warfare. I have not had access to any official figures, but I believe that in one month there were from ten thousand to twelve thousand men down with this most debilitating and lingering of continued fevers. I know that in one month six hundred men were laid in the Bloemfontein cemetery. A single day in this one town saw forty deaths. There is one mistake we have made which will not, I think, be repeated in any subsequent campaign. Inoculation for enteric fever was not made compulsory. If it had been so, I believe that we should (and what is more important, the army would) have escaped from most of its troubles. No doubt the matter will be

fully threshed out in statistics, but our strong impression from our own experience is that, although it is by no means an absolute preventive, it certainly modifies the course of the disease very materially. We have had no death yet (*absit omen*) from among the inoculated, and more than once we have diagnosed the inoculation from the temperature chart before being informed of it. Of our own personnel, only one inoculated man has had it, and his case was certainly modified very favorably by the inoculation."

The Female Army Nurses now number one hundred and forty-five, practically all of whom are either in the Philippines, stationed at the hospitals of the various garrisons throughout the archipelago, or on their way there.

A Natural History Note.—A physician of Dyersville, Iowa, now on his travels, writing to *The Commercial* of that place a description of an ocean trip, says: "We have met several ships and have seen lots of flying-fish, which are three to four feet long and longer. When they jump from the ocean, they look more like a hog than a fish."

Plague Infection by Fleas.—The danger of infection by fleas exists, to those near the sick, but this insect does not infest man in great numbers, and besides it can gorge itself with bacilli only in the last days of the disease, since until then these do not appear in the blood. The most frequent cases of contagion are those of physicians who have made post-mortem examinations, doubtless from coming in contact with the blood and with organs infected by the microbes. Two of Kitasato's assistants acquired the plague in Hong-Kong in this way.—Dr. Montenegro on Bubonic Plague.

A New Terror of Courtship has been developed in the case of an Indiana brunette. For some days she had been suffering from a supposed attack of pleurisy, but, when Dr. S. F. Bordman was called in, he found that one of the young lady's ribs was fractured. After much questioning, the girl blushingly admitted that her best beau had inflicted the injury while giving her his usual tender embrace before parting on his last visit. The occurrence of the accident was marked by a sharp pain in the side, "a catch in her breath," and a sudden relaxation of her hold.—*Chicago Medical Recorder*, July, 1900.

Power of the Eye.—"We often hear," writes Hiram M. Stanley, "people say that they can merely by a steady gaze affect a person at a distance, who is not looking at them, and some say that they are able to make one sitting in front turn the head in this way. Mr. Bell in his 'Tangweera' mentions this feeling when he says: 'Presently I felt as if some one was looking at me, and raising my head I saw a large puma standing ten yards away.' To the physiologist it may seem uncalled-for to investigate a manifest absurdity, but it has at least a practical value to explode a common error by direct experiment. I asked a young man, who is very confident of his powers, to stand unknown to reagent A behind a bookcase and look through a carefully concealed peep-hole. I gave him the best opportunity, placing A about four feet from the hole directly facing him, and I engaged A in mechanical writing. To the young man's confessed disgust and irritation he was unable to disturb A. My few experiments were negative in results. However, it may be that telepathic influence is exerted under certain conditions, and experiments with twins and others constantly *en rapport*, especially when under emotional stress and at critical junctures, might be worth trying. If there is nervous telepathy, this is perhaps as simple and common a form as any. If disturbance arose subconsciously the test would be that the tracings from an instrument, to show nervous conditions, should show large fluctuations coincidently with the times when the agent regards himself as successful."

The Heat in Paris.—The long uninterrupted spell of tropical heat, unprecedented in Paris during the present century, is producing most deplorable results. The list of persons who succumb in the streets is lengthening every day, and all the inhabitants and guests in the French capital are suffering real inconvenience from the high temperature. At the same time the water-supply is running short, and the ice manufacturers find it impossible to satisfy the demands of all their customers. There is, however, a yet more serious effect of the prolonged heat and drought. The water in the Seine is not only very low but has just below Paris become absolutely putrid. A few days ago all the fish in the river died, it was alleged from the heat of the water. Efforts were made to collect their dead bodies and to bury them; but they were so numerous that though they were carted away by wagon-loads those which remained floating on the water rendered life in the suburban villas almost impossible. Together with the sewage which flows into the Seine at St. Ouen these dead fish have transformed the Seine at Argenteuil, Bougival, Marly, Croissy, and Chalons into a veritable cloaca. The river inspectors have declared that nothing can be done to improve the situation but to wait patiently for a heavy fall of rain to raise the waters of the Seine and to increase the current which will carry away the putrid matter.—*Public Opinion.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 10, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Louisiana, New Orleans	July 28th to August 4th	4	1
Massachusetts, Lowell	July 28th to August 4th	5	
Nebraska, Omaha	July 28th to August 4th	1	
N. Hampshire, Manchester	July 28th to August 4th	2	
Ohio, Cincinnati	July 27th to August 3d	1	
Cleveland	July 28th to August 4th	6	1
Washington, Tacoma	July 21st to 28th	1	
Smallpox—Foreign.			
Belgium, Antwerp	July 7th to 21st	..	4
Egypt, Cairo	June 23d to 30th	..	1
England, London	July 7th to 21st	31	
France, Lyons	July 7th to 14th	..	1
Gibraltar	July 15th to 22d	1	
India, Bombay	July 3d to 10th	..	4
Calcutta	June 30th to July 7th	..	18
Karachi	July 1st to 8th	4	1
Madras	June 30th to July 6th	..	3
Mexico, Vera Cruz	July 21st to 28th	..	2
Russia, Moscow	July 7th to 14th	8	3
Odessa	July 7th to 21st	8	4
Warsaw	July 7th to 14th	..	6
Scotland, Glasgow	July 19th to 27th	48	2
Switzerland, Geneva	June 30th to July 7th	5	
Yellow Fever.			
Africa, Goree Dakar	June 16th to 30th	1	
Rufisque	June 30th	Several.	
Colombia, Barranquilla	July 14th to 21st	3	1
Bocas del Torc	July 29th	2	1
Cartagena	July 7th to 14th	3	3
Panama	July 23d to 30th	4	
Cuba, Cardenas	August 3d	1*	
Matanzas	July 25th	..	1†
Santa Clara	July 24th	1	

* Suspicious. † United States Volunteers.

Cholera.			
India, Bombay	July 3d to 10th	..	175
Calcutta	June 30th to July 7th	..	37
Karachi	July 1st to 8th	1	1
Madras	June 23d to 29th	..	1
Plague.			
Australia, Sydney	June 14th to 30th	18	3
Egypt, Port Said	April 20th to July 9th	90	36
India, Bombay	July 3d to 10th	..	80
Calcutta	June 30th to July 7th	..	71
Japan, Formosa, Tamsui	June 14th to 21st	33	30
Philippines, Cavite	June 16th to 23d	1	
Manila	June 16th to 23d	2	

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Original Articles.

ERRORS CAUSED BY THE FALSE INTERPRETATION OF THE ROENTGEN RAYS, AND THEIR MEDICO-LEGAL ASPECTS.[1]

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NEW YORK.

SINCE the Roentgen rays began their triumphant march from the modest town on the Main throughout the world, our knowledge of the obscurer ailments has been greatly enlarged, and our methods of treatment have been revolutionized. It may safely be said that treatises on fractures, for instance, which were written before the Roentgen era, have ceased to be regarded as authoritative. The proofs of the immense usefulness of the Roentgen rays in surgery are so overwhelming, indeed, that to discuss them would be carrying owls to Athens.

Unfortunately the strangeness of the subject soon attracted many imaginative and speculative minds, that drew unwarranted conclusions and spread erroneous impressions. The ease with which some of the small bones of the human body can be reproduced by the rays on a photographic plate led many medical novices and even ignorant laymen to the indiscriminate use, or rather abuse, of the new discovery. Little wonder that the consequences of such abuse of the rays were soon heralded and misapplied by officious friends, inconsiderate and malicious confrères, and last, but not least, by shyster lawyers. It naturally shared the fate of other inventions, as did anæsthesia and asepsis, and as still do many new remedial measures.

The public mind was deplorably disturbed by reports of extensive dermatitis and gangrene of the skin. But while in some individuals a peculiar trophoneurotic idiosyncrasy may exist, predisposing to dermatitis, in the great majority of cases the burns of the skin were caused either by the ignorance of the unskilful operator, the tube often being too near the object, or by too prolonged and too often repeated exposures. Such accidents are not surprising so long as laymen, such as opticians and instrument makers, who understand nothing of the anatomy and physiology of the skin, are intrusted with "the manufacture of skiagrams." As in many other respects, the question of "proper dosage" must also here be perfectly understood by the operator. A person who irradiates a patient suffering from sycosis, for instance, every day intensely for a whole hour, irrespective of the reaction following such a radical procedure, so that gangrene occurs, is as much qualified to do skiagraphic work as is a shoemaker to prescribe morphine.

Since February, 1896, I have made nearly three thousand skiagraphs, and have never observed the slightest irritation of the skin in any case in which the rays were used for diagnostic purposes. In but two cases did circumscribed depilation supervene. In both skiagraphy of the skull was required frequently and at short intervals. In the first case depilation began after the fifth, and in the second case after the sixth, exposure. Within three weeks the depilated spots had recovered their hair. In addition to such misadventures, crass ignorance is responsible for many distorted Roentgen-ray pictures, which caused such fatal errors that even medical men felt much discouraged by such results. But in considering these errors more closely, it becomes evident that the Roentgen rays never lie, but that it is entirely our own imperfections which induce us to err under peculiar circumstances.

In order to avoid errors, it should in the first place never be forgotten than a so-called Roentgen-ray picture is by no means an ordinary photograph of an object, but a silhouette only (skiagraph)—that is, a photograph of its shadow. To interpret such shadows properly, a thorough knowledge of the normal anatomical relations of the tissues, especially of the bones, that produce such shadows, is required. As the most minute gradation of density is registered, it is important to be thoroughly acquainted with the anatomical relations of the bones producing the doubtful shadow. The question, then, would be whether the supposed shadow is normal or not. On certain portions of the skeleton the muscles and tendons would naturally cause obscure shadows. The carpus is especially likely to produce such errors in the skiagraph; the tuberosities of the trapezium, the scaphoid, the hamulus ossis hamati, the os pisiforme, and the eminentiæ carpi volaris, radialis, and ulnaris double up the thickness of the carpus, thereby causing dark shadows, which might be mistaken for foreign bodies. Similar considerations and similar cautions apply to the other diagnostic opportunities offered by the rays.

If a skiagraph of the human hand, for instance, is taken, the plate will show the least light where the bones rest, while the soft tissues appear opaque. There is also a difference of opacity according to the thickness of the tissues, their blood-supply, and their air-capacity. The foot, while easily skiagraphed in the direction of the dorsum toward the planta pedis, from the toes up to the upper third of the metatarsus, presents an obstacle farther backward in the first and third cuneiform bones and the scaphoid, so that it is necessary also to skiagraph the foot on these portions transversely by having the outer face rest on the support. It is by this procedure only that the isolated shadows of the astragalus, the calcaneum, the os cuboidum, the scaphoid, and the fourth and fifth metatarsal bones can be distinctly outlined, so that false interpretations may be excluded. In the early era of the Roentgen rays the normal sesamoids were also sometimes incorrectly interpreted.

How important the knowledge of minute anatomical details is, especially of non-pathological abnormalities, will be evident from the fact that the os intermedium cruris (os trigonum tarsi) has been mistaken for a fragment severed from the astragalus. This bone is a typical part of the tarsus of all mammalia, and its frequency is estimated at from seven to eight per cent. Shepherd, who mistook this bone for a fractured fragment, says: "The fact that this fracture is not mentioned in any of the text-books of surgery or in special

[1] Read before the Society of Medical Jurisprudence of New York, May 4, 1900.

treatises on fractures would easily be accounted for by its only being discovered by dissection; it causes no deformity, and the symptoms it would give rise to during life would probably be obscure." The same author tried to produce this fracture artificially on

Fig. 1.—Os Trigonum Tarsi in a Man Forty Years Old.

the cadaver, but "in every case," he says, "where this manœuvre was performed, I failed, even when the greatest force was used, to break off the little process of bone mentioned above." Pfitzner regards the os trigonum tarsi as an integral part of the posterior process of the astragalus in the adult, which is analogous to the os intermedium antibrachii.

The practical significance of this bone is evident from a case described by Wilmans, which is also highly interesting from a medico-legal standpoint: A laborer claimed that he was injured by an iron bar on January 20, 1897, but was able to work during the whole day. On the following day he called on Dr. Wilmans, complaining of intense pain at his internal malleolus. He limped and asserted his inability to work. Wilmans found a slight swelling below the right internal malleolus. Ecchymosis of the skin being absent, the swelling was attributed to the presence of a considerable degree of talipes, from which the laborer suffered at the same time. The leg was elevated and fomentations were applied for several days. The patient still complaining of great pain, it was decided to transfer him to a hospital for observation. When discharged, after several weeks of treatment, the laborer made an effort to resume work, but at once declared that he was unable to keep it up. He was therefore admitted to another hospital, where he repeated this manœuvre several times during a period of six months. Finally he claimed damages for having been crippled by the injury sustained on January 20, 1897, but in view of the negative objective condition found by Dr. Wilmans, the society decided not to grant any claims. The consequence was that the man was transferred to the surgical division of a third hospital for further observation. There he complained that he had continuous pains below the right external malleolus, even while in the recumbent position. The pain increased during walking or sitting. Stepping on the right heel he also declared to be impossible. By distracting his attention, however, it was noticed that he could stand well on his heel, and he would undoubtedly have been declared a malingerer, had not the Roentgen rays come to his rescue, at least temporarily. A skiagraph showed a bone-fragment at the junction of the astragalus with the posterior surface of the calcaneum. On the strength of this skiagraphic "proof" Dr. Wilmans, although still mistrusting, was forced to modify his original opinion, and certified that the patient suffered from "fracture of the astragalus, in consequence of which he was damaged for life." The laborer therefore received an annuity of thirty per cent., in proportion to the estimated curtailing of his wages. Soon afterward the laborer was discovered by Dr. Wilmans carrying a heavy load without any apparent pain, while formerly he had claimed to be unable to walk without a cane or a crutch. Now Dr. Wilmans insisted upon a second irradiation, this time also skiagraphing the uninjured left foot. The skiagraph showed the "severed bone fragment," which had first been regarded as a sesamoid of the musculus flexor longus hallucis, but which was now recognized as a normal os intermedium cruris. The society of course refused the annuity, and the German supreme assurance court, to which the man had appealed, not only sustained the verdict of the society, but also decided that the laborer must return the annuity which he had unjustifiably enjoyed for eighteen months.

The practical significance of the os trigonum tarsi is also evident from the case of a laborer forty years of age, who reported to me that he broke his ankle by falling from a stairway. After four months' treatment in a mining district of Pennsylvania he still complained of considerable pain in the ankle, the intensity of which increased when he stepped on the foot. Limping was also present to a great extent. The protuberance of the left external malleolus and the well-marked tenderness at this region pointed to a fracture of the external malleolus, united in a deformed position. On the internal side but little swelling and considerable tenderness could be noted. A skiagraph, (Fig. 1) taken in the antero-posterior direction with a slight lateral turn, showed a dehiscence to the extent of ½ cm. on the external malleolar side. The gap was partially filled with callus. On the internal malleolar side the marked evidence of a separation of a small bone fragment could be seen, just as it is observed in Pott's fracture. It appeared to be displaced downward to the extent of ½ cm. and its upper surface looked so much like the lower surface of the internal malleolus, that it seemed to be almost certain that the two surfaces belonged to each other and had only recently been separated by external violence. Consequently I assumed that there was a typical case of Pott's fracture, and that the pain in the sphere of the internal malleolus was due to the pressure caused by the displaced fragment. While considering its removal, I studied a second skiagraph in the lateral position, and, to my great surprise, recognized the integrity of the internal malleolus. Now it became clear to me why there was no callus formation around the alleged bone fragment and why at the same time the connection with the astragalus was so close. By skiagraphing the healthy foot a normal os trigonum tarsi was found. This showed that the patient had sustained a fibular fracture only, which became united in a deformed position, and that the alleged fragment, which had misled me at the first exposure, represented the intact os trigonum tarsi.

The same considerations apply to normal muscular sesamoids, heretofore unrecognized. This I found a sesamoid, belonging to the semitendinosus muscle, in the popliteal space, in the same percentage (8).

The significance of a skiagraph for the purpose of estimating the degree of functional disability is not always conclusive. A skiagraph (Figs. 2 and 3) may show a considerable degree of bony deformity after a fracture, and still the function may hardly be disturbed at all. Skiagraphic test has shown that, as a whole, even our best functional results show by no means an ideal union. An unscrupulous patient who secures possession of a skiagraph of his own case, which shows considerable deformity, may, although there is no functional disturbance, strongly appeal to a jury on the strength of his skiagraph, if he succeeds in simulating great impairment. On the other hand, there may be but little evidence of bone injury on the skiagraph, but there may be severe impairment of function on account of the injury to the soft tissues (circulatory, trophic, or inflammatory disturbances), which can be represented only faintly, if at all. This shows the necessity of considering all the other clinical symptoms in connection with the skiagraph.

While it is easy, even for a layman, to understand the significance of most skiagraphs, there are, as alluded to, injuries the correct interpretation of which presupposes, besides thorough anatomical knowledge, the greatest care and a vast amount of experience as to the different modes of delineation in various projection planes. The greatest diagnostic difficulties are offered by the joints. The more complicated a joint is, the more complicated the skiagraphs of its various positions will naturally appear. It is especially the elbow joint and hip joint which are kept in view. First of all, the interpretation of the displacement caused by supracondylar fracture of the humerus, and the deformities resulting from it later on, may tax the power of discrimination considerably. The older the fracture, the less conspicuous the fracture line will appear, since it will be more or less overshadowed by the callus. In old fractures the lines cannot be represented as such, and it is only in case of union in a displaced position that its features can be guessed.

Fig. 2.—Vicious Union of Oblique Fracture of Femur, showing riding of divergent fragments, in a boy four years of age, seven weeks after the injury.

In the case of a lady aged seventy years, for instance, a second skiagraph, taken three years after a supramalleolar fracture was sustained, showed essentially the same features as the first, which had been taken four weeks after the injury.

In case of the entire absence of displacement it is only a very distinct skiagraph that shows the line clearly. It is natural that in such cases there is no skiagraphic evidence after recovery—that is, in from four to ten weeks, according to the type of the fracture. Should a court, for instance, doubt, in such an event, that there had been a fracture, a skiagraph taken after such a period might show a negative result, although there surely was a fracture. In this boy whom I present to you tonight, the very distinct skiagraph, taken only two months after he had sustained a subtrochanteric fracture of the thigh, showed no signs of a fracture. Had this case not been skiagraphed shortly after the injury, no evidence of the fracture could have been subsequently obtained. When no displacement existed, only a faint fracture-line will show, but the presence even of small amount of callus leaves no doubt as to the previous existence of a fracture.

Fig. 3.—Case Illustrated by Fig. 2, showing less deformity and loss of functional ability than should be guessed from the skiagraph.

On the other hand, callus formation may be so abundant that, in spite of the absence of displacement, the fullest evidence of fracture may still be furnished after months. In one of my cases, callus formation was so excessive that the attending physician was accused of malpractice, and it was the skiagram only which convinced the patient that his physician had treated him correctly, the bones being in perfect apposition, and which thus exonerated the practitioner.

The intra-articular fracture types offer the greatest diagnostic difficulties, inasmuch as the fracture line is also often obscured by the callus formation. If, however, a skiagraph of the other joint is made at the same time, in the same position, and in the same projection, the various delineations of the shadows will be correctly understood and interpreted.

A normal skeleton should also always be compared with the skiagraph. It should particularly be remembered that certain pathological conditions, such as rachitis, for instance, influence the outlines of the bones and may deceptively be supposed to represent a portion of an injury. In such an event the skiagram of the fellow-extremity will set matters right. In very young children the eminentia capitata appears as if entirely severed from the humerus, although the relations are absolutely normal. The explanation of this very important phenomenon is that the epiphyseal tissues are not sufficiently ossified to produce a shadow on the plate. If these points are not thoroughly considered, a displaced fracture fragment might be erroneously diagnosticated. Union between the epiphysis and the diaphysis of the head of the humerus is not perfect before the twentieth year. The lower epiphysis of the humerus consists of four nuclei, which ossify from the eighth to the seventeenth year.

The epiphyses of the trochlea as well as of the olecranon ossify between the seventh and twelfth years, which explains why an osseous nucleus that is still connected with its neighboring epiphyseal nuclei and the diaphysis by cartilaginous tissue appears as an isolated piece of bone which might erroneously be taken for a fragment. The acromio-clavicular junction sometimes shows in the skiagraph a hiatus of the width of a finger, so that a diastasis of the joint might be assumed. But since our knowledge on this new subject has increased, we know that this apparent diastasis is by no means pathological, and that there is a normal gap between the osseous ends of the acromion and the acromial end of the clavicle. The upper epiphysis and the diaphysis of the radius unite between the seventeenth and the eighteenth year, and its lower epiphysis and the diaphysis join in the twentieth year. During the early Roentgen era the translucent space above the epiphyseal cartilage in children was erroneously taken for a fracture line. The head of the femur unites with the diaphysis at the eighteenth or nineteenth year, and the lower epiphysis follows after the twentieth year. The upper epiphysis of the tibia unites with the diaphysis in the twentieth or twenty-second year, while the lower tibial epiphysis unites with the diaphysis between the eighteenth and the nineteenth year.

For the thorough interpretation of skiagraphs in children, it is important to know that at birth the diaphyses of the radius, the ulna, the metacarpal bones, and the phalanges are ossified, while their epiphyses, as well as the whole carpus, are still cartilaginous. It is not before the seventh year that an osseous nucleus shows at the lower epiphysis of the ulna. Union with the diaphysis sometimes begins with the twelfth year, but, as a rule, not before the fifteenth. Even then a small epiphyseal disc remains, which does not disappear before the seventeenth year in the female, and not before the nineteenth year in the male.

The osseous nuclei of the carpus show at different periods—viz., at the os capitatum at the fourth month; at the hamatum at the fifth month; while the triquetrum shows its nucleus between the second and the third year, the lunatum between the third and fifth, the naviculare between the fifth and the seventh, the trapezium and the trapezoid between the sixth and the seventh year, and the os pisiforme between the eleventh and the fifteenth year. After five years the capitatum, hamatum, and triquetrum have assumed their regular shapes, while the others, with the exception of the pisiforme, are perfectly developed at the twelfth year.

The osseous nuclei of the epiphyses of the metacarpal bones show at the second year, their synostosis with the diaphysis taking place between the twelfth and the seventeenth year in the female, and at the age of nineteen in the male. The epiphyseal nuclei of the phalanges are ossified between the fourth and the fifth year, their synostosis with the diaphysis taking place at the same age as that of the metacarpal bones (from the twelfth to the seventeenth year in the female, and between the sixteenth and the nineteenth year in the male).

Regarding the elbow-joint, it must be considered that an osseous nucleus appears at the medial side of the capitulum humeri between the second and the third year, another one in the internal epicondyle at the fifth year, a third in the trochlea between the eleventh and the twelfth year, and soon afterward a fourth in the external epicondyle. The nucleus of the internal epicondyle unites with the diaphysis between the sixteenth and the twentieth year; but the other three nuclei form a synostosis among themselves at the seventeenth year, and then form the uniform osseous epiphysis, which completes its synostosis with the diaphysis at about the twentieth year. In the capitulum radii an osseous nucleus appears between the fifth and seventh year, and in the olecranon between the sixth and the eighteenth year, both uniting with the diaphysis between the twentieth and the twenty-fifth, and between the sixteenth and the twentieth year.

Regarding the knee-joint it must be considered that the lower femoral epiphysis contains an osseous nucleus at birth, while the nucleus in the tibial epiphysis shows shortly afterward. At the fourth year both these epiphyses have completed their development, but they do not unite with the diaphysis before the fifteenth year. The anatomical text-books say that union takes place between the seventeenth and the twenty-fourth year, but skiagraphic experience points to an average period of only sixteen. The osseous epiphyseal nucleus of the fibula appears beween the second and the fifth year, and unites with the diaphysis between the eighteenth and the twenty-fifth year; but skiagraphy dates this period earlier, viz., the fifteenth year. The osseous nucleus in the tibial spine appears between the eighth and the tenth year; the epiphyseal line between it and the diaphysis disappears at the fifteenth year.

As to the bones of the foot, it may be said that the lower epiphyses of the tibia and fibula show their osseous nuclei in the first and second years, and unite with the diaphysis between the eighteenth and the twenty-fifth year; according to skiagraphs, as early as before the eighteenth year. The osseous nucleus of the astragalus and calcaneum appears in utero, that of the cuboid shortly before or after birth, that of the cuneiform bones between the first and the fifth year, and that of the os naviculare from the first to the fifth year. The osseous nuclei of the metatarsal bones and of the phalanges appear from the second to the tenth year, and unite with the diaphyses between the sixteenth and the twenty-second year.

In elbow-joint fractures occurring in childhood it is necessary, therefore, to take at least two skiagraphs in different projection planes and to compare them thoroughly with the normal fellow. In a case of fracture of the femoral head, for instance, the deformity had appeared three times as large as it actually was, on account of inappropriate projection. The degree of shortening of the limb was overestimated accordingly. This shows the necessity of considering the other clinical symptoms and data in connection with the skiagraph.

In fractures of childhood it should also be remembered that the process of ossification is influenced by various affections of the bone, as, for instance, by rickets.

How important the question of projection is becomes evident when we consider that grave errors may sometimes occur even if all the preliminary conditions required for a thorough understanding of the case seem to be fulfilled. This will appear from the following experience, which has probably not been paralleled in the literature of this subject (compare *New York Medical Journal*, January 6, 1900).

A boy four years of age, while playing in the street, fell against an iron bar. Being unable to rise again, he was taken up and carried to St. Mark's Hospital, where in the first instance moderate pain was noted besides the functional disturbance. There was neither any difference in level or any other deformity, nor any shortening or the typical equinus position. A photograph taken two days after the injury only showed a very moderate and uniform swelling of the leg. Abnormal mobility and crepitus, in accordance, could be produced only by very rough manipulations.

On the day following the injury two skiagraphs were made in different positions; one of them in the dorsal and the other in the lateral position. To my

surprise, the one which had been skiagraphed by a direct irradiation, the centre of the platinum disc of the tube being perpendicular to the anterior surface of the leg, did not show the slightest indication of a fracture, while the one which represented the leg irradiated from the outer aspect of the tibia showed a marked fracture line. The fracture presented the typical oblique type in the middle of the tibia, the fracture line running from below anteriorly to above posteriorly, the upper, tapering fragment overlapping the lower end. No sideward displacement having been present, it can be understood why the rays reaching the long axis of the tibia in a vertical direction did not show the fracture line. A very slight change in position, when the inclination toward the fibular direction amounted to less than 1 mm., brought out the fracture distinctly.

Now if I had, as is the custom in general, taken a skiagraph in the antero-posterior direction only, and if the manipulations made during the first examination were carried out as gently as they properly should be, the fracture might have been overlooked entirely. And if, in view of the local pain and tenderness, the swelling, and the functional disturbance, the possibility of a fracture had been seriously considered, the skiagraph might have silenced the uneasy conscience.

If the case had been brought before a jury, the expert might there on the strength of the first skiagraph have testified in good faith that there was no fracture.

This experience teaches the necessity of adopting the principle of always taking at least two skiagraphs in two different positions in all cases of suspected fracture.

In taking skiagraphs of foreign bodies it must be considered that their size varies according to the distance from the tube. In oblong bodies great errors as to their extent may be committed. Once I was very much surprised in a case in which a needle-fragment had entered the palm of the hand in a perpendicular direction. The plate, while indicating the presence of the needle, distinctly created the impression that the fragment was only about 2 mm. in length. When extracted it was found to be more than an inch long, the rays having reached the hand in a perpendicular direction so that the circumference of the fragment was reproduced rather than its length. A side view, of course, would have cleared up the error at once.

Misinterpretations have also arisen from unavoidable mechanical and chemical defects, causing markings in the photographic plate, the significance of which must be well known to the skiagraphic interpreter. Blemishes may also be produced by spots caused by pus from wounds or by perspiration.

In the location of foreign bodies, especially in the skull, many errors were and are still committed. Their avoidance will be considered in a special article.

The case of the German malingerer is a striking illustration of the significance of the Roentgen rays, which for a time proved a protection on account of erroneous interpretation, but showed the case in its true light when assisted by better anatomical knowledge. Soon after the discovery of the Roentgen rays the courts were in a position to grant damages to patients, especially veteran soldiers, who claimed to have been damaged by bullets and were unjustly rejected by medical experts as malingerers. The presence of the bullet, shown on the photographic plate, cannot be denied, and a patient who harbors a piece of cold metal in any part of his body has, as a rule, a good reason to complain. On the other hand, an impostor, who pretends to have been shot and simulates functional disability, will be exposed by a distinct skiagraph, which would show the absence of the alleged bullet.

It is a question to be solved by my colleagues of the other faculty, whether the court has a right to censure a surgeon for not having used the Roentgen rays in a suitable case, and furthermore whether it can compel a patient in a doubtful bullet—or fracture—case to submit to an exposure to the rays.

A distinct skiagraphic plate will always tell the truth. If accompanied by the registration of the details of operation, viz., the source of the current (whether battery, static machine, or street), the length of spark of the induction coil, the intensity of the tube, the distance of the platinum disc of the tube from the photographic plate, the position of the object, the kind of plates, and the time of exposure, it will be a valid document, intelligible to every expert. And together with the anatomical and clinical knowledge of the expert it should be evidence in court.

THE PRESENCE OF VIRULENT TUBERCLE BACILLI IN THE HEALTHY NASAL CAVITY OF HEALTHY PERSONS.

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It cannot at present be stated that the methods of infection of tuberculosis are well understood. Since the discovery of the bacillus tuberculosis in 1882 much work of a various nature has been done to throw light upon this important subject. Some of this has been most thorough and painstaking; much, on the other hand, has been of a purely miscellaneous character. Assuming the purely parasitic nature of the tubercle bacillus, this work has naturally tended toward the study of the micro-organism in its relation to the bodies and excretions of animals affected with tuberculosis, and the atmosphere and the dusts which have been supposed to contain portions of these materials as component parts. The former belief of a universal atmospheric contamination was first disproved by the work of Cornet, who has shown that virulent tubercle bacilli are not to be found in atmospheres unfrequented by consumptives. This has since been verified by the works of many other investigators. The question of the infectiousness of dust, on the other hand, is far more important in that all recent researches show more or less causative relations existing between infected dust and the various forms of the disease, particularly inhalation tuberculosis.

Briefly reviewing some of the literature bearing on this subject, it is to be noted that Klebs[2] does not believe infected dust to be a potent factor in the causation of the pulmonary disease. Cornet[1] agrees that the dust of the street is not of much importance in its production, because, as he has shown, the bacillus loses its virulence within a few hours under the action of the direct rays of the sun, although Marpmann[3] claims to have found virulent bacilli in this material. Indeed, Heron and Chaplin,[4] of London, state that dust that has come in contact with the excreta of tuberculous patients does not play a very important rôle in the carrying of this infectious germ. Their series of one hundred inoculation tests with guinea-pigs, using dust collected from six important hospital rooms, including wards, laboratory, waiting-rooms, etc., show but two dead of tuberculosis. The clinical statistics of the London hospitals during a period of twenty years prior to 1894, as summarized by Theodore Williams,[5] also seem to point to a like conclusion. On the other hand, the more recent work of Cornet[1] in Berlin shows positively, he believes, that the factor of infected dust is an important and dangerous one, especially to those in attendance upon tuberculous pa-

tients. The source of greatest infection, according to his work, is tuberculous sputum that has become dry. The mucous contents of the nasal cavities is less infectious for obvious reasons. The spread of tubercle bacilli through the urine, the fæces, or tuberculous pus is of but slight importance, because, first, they are present in small numbers only; secondly, they die on decomposition of these substances. And, finally, the expired air from the patient, when not laden with fine droplets of mucus and saliva thrown out by coughing, speaking, or forced breathing, contains no tubercle bacilli whatever, as has also been demonstrated by numerous observers, namely, Buchner, Weinich, F. Müller, Straus,[6] etc. In all, Cornet collected one hundred and forty-nine samples of dust from various places frequented by tuberculous patients, namely, hospitals, insane and orphan asylums, prisons, private rooms in which such patients lived, surgical wards, streets, etc., and made inoculations into three hundred and ninety-two animals. Fifty-nine animals became tuberculous, representing forty samples of the dust, or a percentage of 26.8. On the other hand, twenty-nine animals inoculated with dust from non-infected places remained healthy.

An interesting series of experiments has recently been made by R. Sticker,[7] under the direction of Flügge, in Breslau, with the direct object in view of showing the infectiousness of dust bearing dry powdered sputum. In the first place, three attempts were made by blowing fine, sterile dust into the faces of guinea-pigs, and with negative results. He then treated twenty-nine guinea-pigs in a similar manner with infected dust. Of the first eleven experiments in which comparatively strong currents of air were used—*i.e.*, a rate of one metre per second—seven gave positive results. Of the succeeding eighteen experiments with weaker currents of air none resulted positively, that is, in producing inhalation tuberculosis, but in the latter case he was able to obtain bacilli on receptive plates (*Vorlagen*). He concludes that virulent tubercle bacilli can be disseminated in dust under the influence of strong currents of air, as above indicated, and also that highly dried sputum, under the influence of weaker currents, can carry bacilli when mixed with the finest, lightest dust; but the number is dependent (*a*) upon the strength of the air stream, and (*b*) upon the absence of moisture. Such conditions must necessarily more or less limit the operation of this factor in general infection, for, as Flügge[8] well says, such conditions cannot be applied to the conditions actually surrounding persons. Again, the danger of the use of handkerchiefs by phthisical patients, and the dissemination of tubercle bacilli in dust therewith, are referred to by Cornet,[1] Laschtschenko,[9] and Beninde.[10] The latter has shown experimentally that particles of mucus laden with bacilli can be blown from wet handkerchiefs by strong currents of air, while weaker currents are entirely unable to do this. On the other hand, when the handkerchief is dry, weaker currents are also able to disseminate bacilli. But Flügge,[5] again, maintains that practically such a condition of dryness is never obtained, and, although agreeing with Cornet that such a condition is possible, he believes it to be a doubtful factor.

There is not, to the same degree, this uncertainty surrounding the experiments with coughed, sneezed, or sprayed sputum that one notes in the case of dust experiments. Quite all writers are agreed that fine droplets of mucus laden with tubercle bacilli have been shown experimentally to play an important rôle in the dissemination of this microorganism. In recent years great stress has been laid upon this factor by Flügge and his pupils. Laschtschenko[9] has shown that on moderate speaking, sneezing, and coughing, growths could be obtained on agar plates when the mouth had been washed with a solution containing Bacillus prodigiosus. Not so, however, in the case of ordinary breathing. Out of nine attempts with phthisical patients, four guinea-pig inoculations resulted positively, and of a second series three experiments gave two positive results. In these experiments the patients, washed and dressed in sterilized clothing, were placed in a glass cage, which previously had been disinfected, and were allowed to remain in it for some time in order that mucous droplets thrown out on coughing, speaking, etc., might fall into dishes containing sterilized salt solution, which in turn was used for the inoculation. Heymann[11] has in a somewhat different manner obtained the same results. He caused phthisical patients to cough through a tube into a sterile box containing guinea-pigs, and out of six series of experiments in which were used twenty-eight animals, six became tuberculous, representing four of the series. Similar results have been obtained by von Esmarch,[12] Hübner,[13] and V. Weissmayr.[14]

In all cases the elements of distance and duration of exposure play most important parts. Heymann shows that at a distance of 50 cm. there is marked distribution of bacilli on the slides; that this continually decreases up to a distance of 1.5 metres, when the slides remain free, and also that it is necessary to collect 10 cubic metres of air at this distance to obtain occasional positive results. It is quite apparent that such experiments as these teach us certain limitations of the infectiousness of tuberculosis by these methods of dissemination also. It is quite true that many phthisical patients probably do not distribute bacilli at all, or again only at certain periods of the day, or at certain stages of their disease, so that it is reasonable to believe that the thorough employment, on the part of the patient himself, of the ordinary prophylactic measures now used in hospitals would restrict enormously the spread of the disease. Flügge concludes a review of the present status of our knowledge of tuberculous infection by stating that infection will result, first, in those places in which tuberculous sputum has been allowed to dry on the floor and fixtures, and in which the air is filled with a visibly coarse dust; such dust being scattered by the walking about of persons, the continuous vibration of machinery, railroad coaches, etc. But even under these conditions the probability of infection is brought about only by a person's remaining in such places continuously for a relatively long time. Secondly, concerning the spread of bacilli through fine droplets of mucus, infection is practically possible only when repeated approximation to coughing patients takes place within a distance of one metre, such as may occur in the case of nurses, or occupants of factories, counting-rooms, wórkshops, and the like, where the workers are closely crowded; and this danger, Flügge believes, could well be obviated by the use of proper prophylactic measures.

In 1894 Straus,[15] of Paris, proved that the presence of virulent tubercle bacilli could be demonstrated in the nasal cavities of those who, being non-tuberculous themselves, were in more or less constant attendance upon tuberculous patients. His experiments numbered twenty-nine in all, and were made upon hospital attendants, internes, and patients suffering with chronic maladies other than tuberculosis. The dirt, solid particles, and mucous contents of the nasal cavities were removed by sterile cotton swabs, washed into sterile bouillon or water, and the total solution was injected intraperitoneally into guinea-pigs by means of a large hypodermic syringe or small trocar. The result of this series of experiments was as follows: Seven animals died within a few days of septicæmia, or acute peritonitis; nine animals died, in times varying from twelve to thirty-three days, of tuberculosis of the omentum, mesenteric glands, spleen, and occasionally

the lungs and liver. The remaining thirteen animals were killed or died from causes non-tuberculous, after having lived a sufficient length of time for tuberculous lesions to have developed if bacilli had been introduced. In four of the nine animals showing positive results there were found caseous abscesses in the abdominal wall at the point of inoculation. These tests show the presence of bacilli in the enormous number of 40.9 per cent. of all persons experimented upon, the seven animals dead of septicæmia and peritonitis having been deducted from the total number because of their early deaths.

In view of what has been previously related, the questions naturally arise: (1) Are tubercle bacilli to be found in the nasal cavities of healthy individuals following the ordinary vocations of life? (2) Are they to be found in such proportions as Straus' work would show in the case of those in more or less intimate relations with the tuberculous; and if not in such proportions, in what numbers can we expect them to be present, bearing in mind the variations which different conditions and modes of life would necessarily produce? As tending to answer these questions, I wish to narrate the results of the following experiments. My object was to demonstrate, if possible, virulent tubercle bacilli in the nasal cavities of those who were free from tuberculous processes, and were subjected only to the ordinary amount of infection to which every dweller in a large city must submit. I failed in the effort to study public-school children as I had desired, and, therefore, relied upon my fellow-students to furnish me with this material. I am quite aware that an objection may here be raised concerning the environment of such persons. This was met as best it might, by choosing mostly men who were in good physical health, and who were not haunters of laboratories or clinics. The technic of the experiments was as follows: The entire contents of the nasal cavities, particles of dirt, of crusts, and of mucus were removed by five or six sterilized cotton swabs, made by spinning cotton on wires of suitable length, by carrying them back as near the pharynx as possible and cleansing the cavities from within outward. The nose and face were not previously washed or prepared in any way. These swabs were washed in test-tubes containing 10 c.c. of sterilized normal salt solution, by rotating them rapidly in the solution. The animals were then prepared in the usual manner. The hair covering the lower abdomen was removed by shaving and by a depilatory, and the surface scrubbed with soap and water and again with a ten-per-cent. formalin solution. The skin, fascia, and muscles were then nicked with sterile scissors, and the solution with its solid contents, measuring 5 c.c. or 6 c.c. in amount, was introduced into the peritoneal cavity by quickly plunging the point of a large glass capillary tube containing it through the remaining fascia and peritoneum. The wound then was closed by collodion dressings. Thirty-one inoculations were made, and briefly the results are tabulated below.

Experiment Number.	Date of Inoculation.	Number of days Lived.	Anatomical Diagnosis.	Bacteriological Examination.
I	Nov. 1, 1899.	73	Lobular pneumonia of both lungs; acute infectious changes of all visceral organs.	Negative.
II	do.	86	do.	do.
III	Nov. 3, 1899.	70	Double lobar pneumonia; infectious changes as above.	do.
IV.	do.	72	Lobular pneumonia and hypostatic congestion of both lungs; acute visceral changes as above.	do.
V	do.	70	Lobular pneumonia and acute visceral changes as above.	do.
VI.	Nov. 7, 1899.	59	do.	do.
VII.	do.	70	do.	do.
VIII	Nov. 9, 1899.	59	Tuberculosis of omentum and spleen; passive congestion of lungs, liver, spleen, and kidneys.	Staphylococcus aureus from omentum. Micrococcus tetragenus from liver and lungs.
IX.	Nov. 11, 1899.	78	Lobular congestion of lungs; the usual acute changes of visceral organs.	Negative.
X	do.	47	Multiple small abscess formations of spleen; acute infectious lesions of lungs, liver, and kidneys.	Staphylococcus aureus from spleen.
XI	Nov. 13, 1899.	79	Lobular pneumonia and the usual visceral changes.	Negative.
XII.	Nov. 16, 1899.	73	do.	do.
XIII.	do.	65	do.	do.
XIV.	do.	65	do.	do.
XV.	Nov. 25, 1899.	8	Tuberculosis of omentum; lobular congestion and emphysema of both lungs.	Micrococcus tetragenus from heart's blood.
XV.a.	Dec. 2, 1899.	26	Tuberculosis of spleen; miliary tuberculosis of liver and lungs.	Negative.
XVI	Nov. 25, 1899.	14	Lobular congestion and emphysema of both lungs; passive congestion of liver, spleen, and kidneys.	do.
XVII.	do.	43	Lobular congestion of both lungs; the usual acute infectious changes of visceral organs.	do.
XVIII.	do.	49	Abscess formation of spleen; metastatic abscesses of lungs and liver.	Staphylococcus aureus from spleen; Micrococcus tetragenus from kidneys.
XIX.	do.	73	Lobular pneumonia of both lungs, and the usual visceral changes.	Negative.
XX.	Dec. 6, 1899.	33	Lobular and hypostatic congestion of both lungs, and the usual visceral lesions.	do.
XXI.	do.	15½	Abscess formations of rectus abdominis muscle; metastatic abscesses of liver; the usual inflammatory changes of visceral organs.	Staphylococcus aureus from rectus abscess.
XXII.	do.	14	Tuberculosis and abscess formations of spleen; miliary tuberculosis and metastatic abscesses of liver and lungs; passive congestion of kidneys, lungs, and liver.	Staphylococcus aureus from spleen; Bacillus coli communis from spleen and liver.
XXIII.	do.	20	Lobular congestion of both lungs, and the usual visceral lesions.	Negative.
XXIV.	Feb. 22, 1900.	18 hrs	Acute septicæmia.....	Streptococcus pyogenes from intraperitoneal fluid.
XXV	do.	17	Passive congestion and hemorrhagic infarction of lungs.	Negative.
XXVI.	do.	20	Lobular congestion of lungs and passive congestion of spleen, liver, and kidneys.	do.
XXVII.	do.	13	do.	do.
XXVIII.	do.	3	Diffuse purulent peritonitis.	Staphylococcus aureus from intraperitoneal fluid.
XXIX.	do.	20	Lobular congestion of lungs; passive congestion of liver, spleen, aod kidneys.	Negative.
XXX.	do.	17	Lobular congestion of lungs; anæmic infarction of kidneys; marked gastrectasis; passive congestion of liver.	do.
XXXI.	do.	19	Lobular congestion of lungs; passive congestion of liver and kidneys.	do.

It is desirable to describe somewhat in detail the tuberculous cases.

Case VIII.—The nasal contents of No. 8, a merchant by occupation, forty years of age, was inoculated into a guinea-pig intraperitoneally November 9, 1899. The animal died fifty-nine days later, and on post-mortem examination showed the following: The animal was large and well nourished; wound had healed by primary union. The omentum showed a large caseated mass on the external surface; the lungs, liver, and kidneys showed no visible tuberculous lesions. From the omentum the staphylococcus aureus was obtained by smears and cultures, and the micrococcus tetragenus from the liver and lungs. Cultivations from the spleen remained negative. Histologically the omental mass revealed tubercle formations with typical giant cells. There were congestion and diffuse miliary tuberculosis of the spleen. No tuberculous lesions were found in the liver, lungs, or kidneys.

Case XV.—A guinea-pig was inoculated November 25, 1899, intraperitoneally with the nasal contents from No. 15, a student twenty-seven years of age. The animal died eight days later. On examination the wound was found apparently healed by primary union. Six to eight small yellowish masses were found on the omentum underneath the cardiac end of the stomach. There were no mesenteric adhesions. The lungs, liver, spleen, and kidneys were free from visible lesions. The lungs, however, showed areas of lobular congestion and emphysema. Cultures and smears from the yellowish tuberculous masses remained negative. The micrococcus tetragenus was isolated from the heart's blood. Histologically the omental tubercles showed an aggregation of lymphoid cells with areas of necrosis near one surface. The remaining organs appeared as above described.

Case XVa.—A control animal was inoculated December 2, 1899, subcutaneously in the groin with three of the yellowish masses found on the omentum of Case XV. The animal lived twenty-six days, when it died in an emaciated condition. On post-mortem examination the wound was found to be healed by primary union. There was no swelling of the inguinal lymph glands. The omentum and mesenteric glands were free from change. The spleen was enlarged and congested; it contained several large caseous masses, the largest being the size of a bean. No further tuberculous lesions were found. Smears and cultures from the spleen resulted negatively. A bacteriological examination of the remaining organs was not made. Histologically tubercle formations were demonstrated in the spleen, but they contained no typical giant cells. A miliary tuberculosis of the liver and lungs was present.

Case XXII.—A guinea-pig was inoculated in a similar manner December 6, 1899, with the nasal contents from No. 22, a student aged twenty-six years, and died fourteen days later greatly emaciated. Post-mortem examination showed the wound to have healed by primary union. The omentum possessed several yellowish punctate bodies; as also did the under surface of the left lobe of the liver. The mesenteric glands were not swollen. The spleen was large, congested, and filled with large, yellow, caseated masses. The liver, lungs, and kidneys showed the usual acute infectious changes. Bacteriologically the staphylococcus aureus was obtained from the caseous masses of the spleen, and the colon bacillus from the tissues of the spleen and liver. The omental nodules appeared histologically as lymphoid tissue which had undergone partial necrosis. There were typical tubercle formations with giant cells and also local abscess formation in the spleen and metastatic abscesses of the liver and lungs.

The following cases are also of interest: Cases XXVI., XXVII., XXIX., and XXXI. These animals were inoculated February 22, 1900, as usual with the nasal contents from students. The animals lived from thirteen to twenty days, and on examination practically the same conditions were found in each, so that a description of Case XXVI. will suffice for all. The animal died after twenty days. It had lost some weight. The inoculation wound had healed by primary union. On the omentum were found two opaque grayish bodies, the size of half a split pea. The mesenteric glands were swollen and of the same color. The spleen, liver, and kidneys showed marked passive congestion, and the lungs lobular areas of congestion. Smears and cultures of the swollen glands remained negative, as also did the lung cultivations. Histologically, the omental and mesenteric glands showed a hyperplasia and partial necrosis of lymphoid cells. There were no unequivocally tuberculous lesions anywhere. The remaining visceral organs revealed the usual acute infectious changes.

Briefly summarizing the records, we note the following facts: Of the thirty-one animals inoculated, one died within a few hours of septicæmia, and another in three days of acute peritonitis; twenty-two died from acute pulmonic lesions of unknown origin, as all attempts to isolate micro-organisms from the lungs resulted negatively; and it is significant that nearly all of these deaths occurred during the extreme cold nights of the past winter months. The swollen mesenteric glands found in Cases XXVI., XXVII., XXIX., and XXXI. of this group are to be explained by the acute infection, as neither lesions resembling tuberculosis were found, nor was the presence of bacilli in the tissues demonstrated. Three animals died of staphylococcus aureus infection with multiple abscess formation of the spleen and liver after several weeks. One animal (No. XXV.) was drowned on the seventeenth day, and three died of or with tuberculosis in fourteen, twenty-six, and fifty-nine days respectively. The lesions found in these last cases are from a histological standpoint positively tuberculous. In Case XV., this was further proven by re-inoculation of the omental tubercles into another animal with resulting tuberculous lesions of the spleen. Very many most careful attempts were made to obtain the bacilli in the tissues, without success, but because of the technical difficulties so frequently encountered in finding them in tuberculous tissues in general, and in view of the positive histological and re-inoculation findings cited above, I do not hesitate to give these as positive results, making it possible to state that in this series of experiments three out of twenty-nine cases developed tuberculosis, or a percentage of 10.3.

It is to be noted that Flügge's conditions necessary for infection are not to be applied to these cases. In the case of No. VIII., a dealer in second-hand furniture, the physical examination showed him to be free from visible tuberculosis. He is not subject to the continuous breathing of visible dust, nor does he associate with tuberculous patients. The other two cases, those of students, are likewise not subject to these conditions, though, no doubt, from the nature of their work they are somewhat more prone to infection than the average person. In order to explain these findings we must, I believe, accept a wider range of possible infection than the experimental researches of Flügge and his *confrères* would allow, and, to my mind, the conclusions of Cornet as to the general infectiousness of contaminated dust satisfy these conditions in a more liberal way.

On taking up this work it was my intention to make further researches than I have recorded, but circumstances prevent it. I believe the question justifies further observations—observations which should be exhaustive and differentiative. It would be interesting, for instance, to determine whether or not the bacillus is limited to the purely respiratory portion of the nasal cavities. Its occurrence on the pharyngeal mucous membrane, in the lacrymal secretions, in the external auditory passages, etc., should be studied. These are all matters that have some bearing upon the spread of tuberculosis.

In general we may conclude as follows: First, that virulent tubercle bacilli are to be found in the nasal cavities of healthy persons in the ordinary walks of life, as nearly as this series will represent this class; and, secondly, they are not to be found so frequently in these persons as in those who have the care of the tuberculous.

I wish to express my thanks to Dr. Ludvig Hektoen for advice and aid, and to Dr. T. R. Crowder for examining physically a number of the persons.

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ANURIA FOLLOWED BY RETENTION OF URINE IN A CASE OF HYSTERIA.

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Mrs. S——, forty-five years of age, had eight children, four living. At the age of thirty-five she had typhoid fever, and since, she says, she has not been feeling very strong. Her menses were regular, every twenty-eight days. Her present trouble began ten days after her married daughter was taken ill with scarlet fever; two days later her daughter's children took scarlet fever. Immediately previous to her daughter's illness her son underwent an operation for appendicitis. The patient, being very much attached to her family, became so much alarmed and affected, that a few days following her grandchildren's illness she developed the symptoms of anuria. When I first saw her, she affirmed that she passed a teaspoonful of urine in twenty-four hours. After questioning her again and again, she repeatedly assured me of the truthfulness of her assertion. I immediately catheterized her, but could obtain only a few drops of urine. Palpation and percussion of the region of the bladder did not reveal any dulness. The patient seemed to be perfectly normal. There was no complaint of headache or of pain in any part of the body. She passed a comfortable night. On the following day, not having passed urine she became alarmed. One of her daughters told me that her mother constantly kept on talking of her condition and spoke even to neighbors of it. She had constantly in her mind the idea that she could not live without urinating, and that her kidneys were undoubtedly affected.

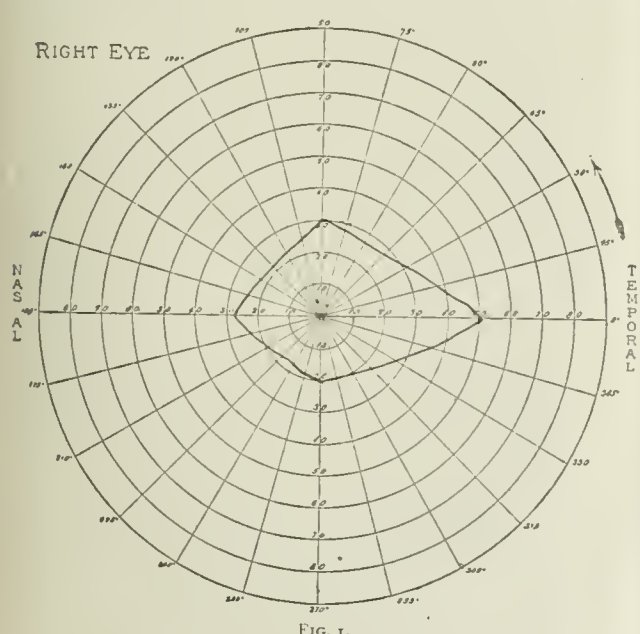

Fig. 1.

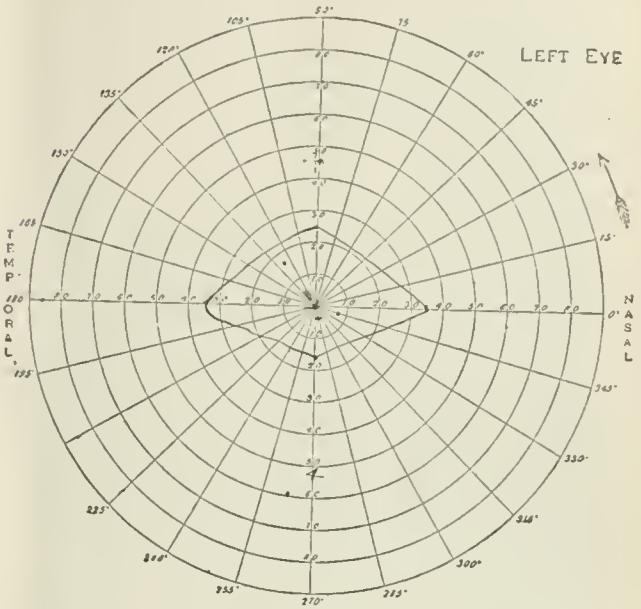

Fig. 2.

Knowing the family for a considerable length of time, I was aware of the fact that all the members of it were neurasthenic. The treatment on the first day consisted of abundant drinks, especially milk, hot applications to the region of the kidneys, and strychnine. At my third visit I was informed that the patient passed about two teaspoonfuls of urine, and with another catheterization I obtained again a teaspoonful of urine. What appeared to me remarkable, was that there was no vomiting, and the patient had no headache and apparently no suffering. The lumbar region was not sensitive; the abdomen was soft; the patient's bowels moved as usual, and in spite of two quarts of milk and two glasses of water a day she did not urinate. The only inconvenience the patient experienced was a perspiration during one night, and she affirmed that it had the odor of urine. She became very much alarmed and begged me to save her, as she expressed herself, because she was told by a friend she would not be able to urinate by herself, but she must ask her doctor to make her do so.

After excluding all possibilities of anything organic which could interfere with the function of the kidneys, and being somewhat struck by the comparatively non-suffering appearance of the patient, I began immediately an investigation in regard to hysterical symptoms. Of all stigmata that we usually find in hysteria there were only two: complete anæsthesia of the plantar region of the right foot, and a very marked concentric narrowness of the visual field in both eyes (Figs. 1 and 2). While the normal field of vision is 95° for temporal region, 55° nasal, 65° lower, and 55° upper, in this case, as is seen by the charts, it was far below normal. These were the only symptoms of hysterical character which I found in my patient.

I have always been of the opinion that it is an error to think that only cases of true insanity are accompanied by physical stigmata of degeneration. I firmly believe that physical stigmata of degeneration lead very frequently to psychical degeneration, and not only in serious organic psychoses, but also in many functional neuroses, such as hysteria, epilepsy, chorea, neurasthenia. A person affected with any of these neuroses should always be watched closely, for al-

though of slight character, they might some day turn into a serious psychosis. I scarcely ever fail to detect more or less physical signs of degeneration in cases of chorea, neurasthenia, and hysteria, whether it is of the head, face, palate, hands, or feet. The early recognition of physical and psychical stigmata of degeneracy is of the highest importance in diagnosis. In examining any case of nervous disorder I make it a rule to look invariably for stigmata of this character, for their nature is of great value as to the future of the patient.

In the present case I could detect the following signs of degeneracy: ogival, deep palatine vault, one ear larger than the other, the second being almost perpendicular to the head; three bony elevations on the head, which was of square shape; a vestige of a supernumerary finger on the left hand. The deeper I went into my investigation the clearer appeared to me the cause of my patient's anuria. I was therefore convinced that I had to deal with a degenerate, who subsequent to an emotion due to diseases in the family to which she was so much attached, developed anuria. This anuria was not originated by any lesion bearing upon the functions of the kidneys, but was one of the symptoms of hysteria. My presumption was completely verified by subsequent events in the course of the disease.

I persuaded the patient that she was really ill (any other course would never make her believe me); that the trouble was in her kidneys, and that a special external application over the region of the kidneys would undoubtedly cure her. She was enchanted with my announcement, which I made most emphatically. Accordingly I prescribed a lotion composed of chloroform and alcohol, and advised her to rub it over the lumbar region for one minute every three hours. I told the patient to be as quiet as possible, this being a necessary element of the treatment; to carry out my instructions, and she would positively urinate the following day. My next visit was exactly twenty-four hours after the previous one. The patient and her daughter met me with a happy smile, and appeared to be glad to see me. To my satisfaction I learned that my instructions had been followed to the letter, and she had urinated a little more than a pint. She was very much encouraged, felt contented, and with a reaffirmation on my part felt sure she was recovering. This time again I told the patient that to-morrow she would urinate just as much as anybody else, and she would not have any more trouble. This suggestion worked remarkably well. Early on the following day the patient sent me word not to come, as she was entirely well; she urinated five times during the day and three times during the night; she began to eat full meals, and felt happy.

Four days later I was called in haste to see my patient again. I learned that she suffered intense pain in the lower part of the abdomen, and had not urinated for ten hours, but felt the desire to do so and could not. On uncovering the patient I found a swelling above the pubis which was evidently the distended bladder. Immediate catheterization brought a large amount of urine of very strong ammoniacal odor. The patient informed me that she rubbed over the abdomen the same lotion I prescribed for her previous anuria, but it did not give her any relief. I stated then that the lotion was a special remedy for the kidneys, but this retention of urine was due to some disturbance of the bladder, and I could cure this disease with another lotion specially for this case, but I preferred to wait until evening. In the evening I called again and found exactly what I expected. The patient had not urinated since the catheterization; she was expecting me with the greatest impatience to obtain "the great remedy" for her bladder. I immediately prescribed alcohol with some laudanum. The patient hurried her daughter to send for the remedy at once. Upon leaving I said to her that she would be entirely well. She blessed me in her old-fashioned way and looked pleased with my promise. The following morning her daughter reported that her mother urinated after the first rubbing with that remedy, which my patient called "wonderful." Since then I heard that she had not had any more trouble, but she kept copies of the prescriptions, on which she marked in German which was for kidney and which for bladder. I happened to be in her house three weeks later to attend one of her children. I took the trouble to examine her again in regard to those hysterical stigmata I mentioned above. The visual field, although not entirely normal, was considerably enlarged; not having with me a perimeter this time, I could not obtain the exact field. The plantar anæsthesia disappeared entirely. Instead she developed a pharyngeal anæsthesia.

It is four months since the patient recovered, and she has not had a relapse, but there is no assurance that she will not have one. A patient who is a degenerate and has once developed hysterical symptoms is liable to have repeated attacks of functional disorders and even to develop other neuroses.

This case appeared to me to be of great interest in regard to the rarity, character, peculiarities, diagnosis, and treatment. Perhaps there is no disease of which there has been so much written as hysteria. The number of symptoms and the peculiarities of the case are so striking that it seems the subject can hardly be exhausted. It is extremely interesting in making a diagnosis and applying a proper treatment in order to obtain the proper results. And the more there is written on the subject, the more one feels anxious to study each case.

Anuria of course, as well as oliguria and ischuria, has been observed in hysteria, but contrary to the opinion of some writers I believe it is rather a rare symptom. During the three years I spent in La Salpétrière, where the number of hysterical subjects is legion, I had an opportunity to observe but three cases of anuria. In looking up the literature for the last five years at my disposal I could find but one case reported by Guisy.[1] His case, however, differs in many points from mine, and resembles those reported by the older writers. Guisy's case can be summed up thus: The patient could urinate only half a cupful of urine; he was permeated with the odor of urine; his eyes and nostrils were congested, swollen, and red; they discharged a fluid of ammoniacal odor; examination of this fluid showed urea, pus, and mucus. The patient vomited, and the vomited fluid had the odor of urine and contained urea. There was also paresis of the left superior and inferior members. Hysterical symptoms were present. The anuria lasted twelve days.

The present case, as one can readily see, differed much, and there is the extreme interest in it that there was no vomiting, no odor of urine around the patient, no fluid from the eyes or nostrils, indeed nothing but a slight perspiration during one night, so that I could not even examine the sweating fluid. In addition to this a vesical retention followed. When the physician is not prepared for such an emergency and does not bear in his mind the possibility of hysteria, he will feel greatly embarrassed for lack of symptoms from which to make a diagnosis. If the diagnosis of similar cases is so interesting, their treatment is still more striking. In fact, what did I do to relieve the patient? Merely and simply suggestion. It is useless to mention that it was not the chloroform or the alcohol. The patient was hysterical, which condition

[1] Progrès Médical, 1895, vii., 3 s., p. 84.

is rather a psychical one, or a disease sine materia, which is of superior functional disturbance. It is therefore rational to apply a treatment which shall bear upon the patient's psychic centres. The result, as has been seen, was satisfactory. It is curious to see how complex and at the same time simple is the human cerebral condition, at least in hysteria. One feels attracted by the study of this great and exceedingly interesting functional neurosis. Let us see what we know about its pathogeny, and whether the most recent discoveries in the domain of neuropathology give a key to explain the nature of this disease, and why suggestive therapeutics give often the best results.

First of all, how and by what mechanism can anuria and vesical retention be the result of hysterical disorder? It is a well-known fact that intense moral impressions increase and decrease or suppress altogether the glandular secretions through the nerves of the cerebrospinal and sympathetic system, which nerves produce a reflex action upon the contraction or dilatation of the blood-vessels, and through them upon the excretory glands. The vaso-constrictors or vaso-dilators have their centres in the medulla and spinal cord. Any intense moral impression acts first upon the cerebral hemispheres, whence a reflex reaction takes place in the medulla and spinal cord, in which is situated the centre for the vasomotor nerves; these last send through the sympathetic system fibres to the renal plexus, which in its turn sends fibres to the muscular walls of the blood-vessels of the kidneys and contracts them; hence diminishes and even suppresses urinary secretion. The centre for the vaso-constrictor nerves, particularly of the kidneys, is situated in that portion of the gray substance of the spinal cord which is between the last dorsal vertebra and third lumbar vertebra. But this centre is dependent upon the vasomotor centre situated in the medulla. This is exactly what took place in this case. The mental tension produced by repeated attacks of illness in her family, to which she was very much attached, broke down the patient, and the reaction appeared in the urinary apparatus, first the kidneys and then the bladder, or rather the sphincter of the neck of the bladder. This last muscle, like other similar muscles, is always in a state of permanent semi-contraction which is called tonicity. This is due to the fact that the muscular fibres of the sphincter are united by nervous fibres with the motor centre of the sphincter, which is placed in the spinal cord between the fourth and sixth lumbar vertebræ (Budge). Any excitement of the centre, direct or indirect, makes the sphincter contract. In this case the impression was conceived by the cerebral hemispheres, and through a reflex reaction it was transferred to that portion of the spinal cord which contains the centre of Budge; the motor nerves going from this centre to the sphincter being put in action, produced the contraction of the muscle.

From this short discussion we can learn only of the mechanism which puts in action different centres reacting upon the organs. But how explain the initial factor, and in which way are the superior centres influenced in hysteria? Charcot said that we must consider hysteria as a disease essentially of psychical order; of the whole vast nervous apparatus it is the brain that is especially affected. At any rate, if there is an anatomical lesion, which, however, escapes as yet our investigations, we can say that this lesion is of a dynamic order, for we know that the most tenacious of hysterical manifestations are liable to disappear almost always and instantaneously from a psychical influence, as, for instance, from an intense emotion. Therefore the basis for the treatment of hysterical accidents will consist of psychical procedures. The mental state of hysterical people is characterized by its aptitude to be under the influence of suggestion. And this we mean not only during hypnotic sleep, but also in waking state. As we have seen in our case, suggestion interrupts the state of consciousness and develops other ideas. Our patient previously to the treatment was positive that she was affected with a grave disease, spoke of it everywhere and to everybody. It was therefore essential that the state of consciousness in regard to her trouble should be removed and a new idea developed. Of course, suggestion requires certain conditions, outside of which it cannot exist. A mind which has not a certain degree of weakness will not be overpowered by suggestion. Suggestion requires a disease of the personality. This explains the fixed ideas of the hysterical, which ideas are by themselves spontaneous suggestions, or at least they are automatic phenomena developed independently of will and under the influence of accidental causes. What is the cause of such a state of the nervous system in which, under the influence of a moral emotion, functional disorders take place, and why, under the influence of suggestion, do those disorders disappear?

Of all the theories there is one which has for basis the most recent studies of neuro-pathology, *i.e.*, the theory of neurons. Waldeyer was the first who suggested the idea of neurons. It is now admitted that the neuron is a unity consisting of a nervous cell with all its ramifications; while the dendrites, which are identical in their composition with the cell, are unequal to each other in their diameter and length, the ramifications of the axons are almost always dichotomous. Ramon y Cajal discovered that the neurons are independent of each other and are not continuous, so that two cells are in relation with each other through the ramifications, the ends of which are only in proximity but not in actual contact. Since it has been proven that the nervous elements are not a continuous chain and do not present a closed circle, a belief naturally arises that in order to give passage to a nervous current it is necessary that they should be in contact sometimes, and for this it is supposed that the ends of the ramifications possess amœboid movements. Rabl Rückhard first suggested amœboid movements of cells in ganglions in vertebrata.[1] Later Wiedersheim, basing his belief on Weissmann's observations concerning the movements of certain cerebral cells in leptodora hyalina, became a partisan of this theory.[2] In 1894 Lépine, in 1895 Mathias Duval applied the theory of amœboism to the intellectual phenomena. Dercum in 1896 adapted the same theory and ingeniously explained the phenomena of hysteria. At the present time this hypothesis has made great progress, and many phenomena can be explained by it. Take for instance acts of habit: in order to acquire a habit, frequently repeated efforts are indispensable; this brings often the ends of the neurons together, and as soon as relation of contact is established, then automatic action takes place. In senility the aptitude of amœboism is greatly diminished, for the neurons lose their power of expansion; the interval between them is large, the habit of contact and the transmission of nervous influence are difficult, hence cerebral or spinal memory becomes slow. The amœboism of nervous elements gives us the key of many phenomena, physiological as well as pathological. If the ramifications are simply near each other, but not continuous, we can readily understand why under any psychical influence an insignificant displacement of them is apt to destroy their contact. On the other hand, the contact can be restored under the influence of will, or of a new psychical influence, as suggestion. For example, in our case of hysterical anuria and vesical

[1] Neurolog. Centralblatt, 1890, No. 7.
[2] Anat. Anz., December, 1890.

retention a psychical influence, namely, mental tension and worry, broke the normal equilibrium of the neurons in the cerebrum and the spinal cord; some perturbation took place among them, the normal contact in some of them was interrupted, and the neurons in the neighborhood became so disturbed locally as to produce a reflex reaction upon the renal centre and the centre of the vesical sphincter; then the above-mentioned morbid manifestations took place. A new psychical phenomenon appeared, *i.e.*, suggestion, which re-established the loss of equilibrium and har-

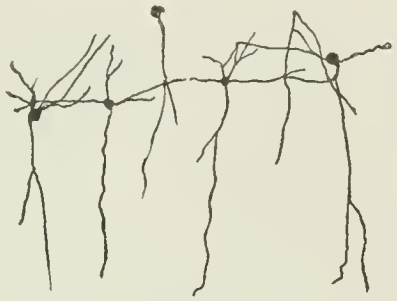

Fig. 3.

monious contact of the nerve elements, the patient recovered.

It is interesting also to know how the contact between the neurons is formed. Numberless histological researches have been made to elucidate this. The most recent are those of Stefanowska, who observed that the dendrites are provided at their ends with enlargements of ovoid shape (Fig. 3). Of course the appendices will increase considerably the surface of the free ends of the dendrites, and consequently help the contact. S. Soukhanoff corroborated the results of Stefanowska's researches, reporting his observations in the *Journal de Neurologie de Bruxelles*, April, 1898, p. 147.

WHAT ARE NECESSARY AND DESIRABLE DATA UPON HEALTH RESORTS?

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The physician who has frequent occasion to advise his patients regarding a change of climate and the selection of a health resort is often baffled in his search for data sufficient to enable him to decide intelligently upon the applicability of any resort, under consideration, to the patient he is purposing to send away. There may have been much written about the region by both residents and visitors, but the statements are in many cases vague and unverified, and the real essential facts are wanting. Some have written with a genuine desire to state the truth; while others have exaggerated the advantages and ignored the disadvantages of a resort from a desire to make it popular. Those who, with the best intent, have attempted to describe a resort have often woefully failed to apprehend what were the necessary and desirable data—climatic, regional, and hygienic—to be determined from the point of view of a health resort.

I would make a classification of the facts and data necessary to be known in order to give a clear and working description of a health resort under two heads, the natural and the artificial. Under the former would be included the meteorological or climatic data; the elevation and distance from the sea; the configuration of the land, whether mountainous, hilly, flat, or undulating; the existence or not of water in the form of river, pond, or lake; the character of the soil and subsoil, whether dry, sandy, clayey, moist, or marshy; the character of the vegetation, and the varieties of tree, shrub, and plant; whether wooded or not; the animal and insect life—the presence of mosquitos, for instance, would be a serious objection to some persons, and, according to the new theory, might mean malaria.

Under the head of artificial facts would be included the population; the system of drainage and water supply; the existence or not of a board of health and its efficiency; the characteristics of the town as to streets, buildings, churches, public buildings, etc.; the amusements and attractions; the roads and their conditions; the accommodations, including the character of the hotels and boarding-houses, the food, sanitary arrangements, bathing facilities, expense; manner of reaching the resort, and the time and distance from one or more great cities; then the prevalent diseases and mortality, and whether reliable and skilful medical service can be obtained; and finally, what are the diseases upon which the resort is said to exercise a favorable influence; and, if the reporter is a resident physician, what has been his personal experience in the observation and treatment of these diseases.

The reader may suggest other points, but if one is in possession of the above facts—their accuracy being assured—he will be able, I believe, to form a pretty reliable estimate of the resort and judge intelligently as to its applicability to any case under consideration.

To examine in detail some of the above-enumerated facts: Under climate, various and differing data are included, or omitted, by those describing a resort, and generally, in the writer's experience and opinion, either too much or too little is given. Elaborate charts of climate are more or less perplexing to the ordinary reader and do not convey so much definite knowledge as fewer data, which should be, as far as possible, self-explanatory. I may add here, that in order to appreciate any statement of climate, a knowledge of that of the reader's residence is essential in order to comprehend fully by the comparison the differences of that of the region under consideration.

The following plan, suggested by Dr. Phillips of the United States Weather Bureau, appears to the writer to be simple and plain and yet to convey the main climatic facts of any region:

Climatic Data.	January.	July.	For Year.
Temperature:	The data for as many months as desired, or all the	months of the year in these columns.	The average for the year in this column.
Average or normal			
Average daily range			
Mean of warmest (mean maximum)			
Mean of coldest (mean minimum)			
Highest or maximum			
Lowest or minimum			
Humidity:			
Average relative			
Average absolute			
Precipitation:			
Average in inches			
Wind:			
Prevailing direction			
Average hourly velocity			
Weather:			
Average number clear days			
Largest " " "			
Smallest " " "			
Average number fair days			
Largest " " "			
Smallest " " "			
Average number cloudy days			
Largest " " "			
Smallest " " "			
Average number rainy days			
Smallest " " "			
Largest " " "			

As to the temperature, we want to know, first, what is the average daily temperature for the season in which one visits the health resort: for instance, if it

is a resort in Florida, the winter temperature; if Mount Desert, the average summer one. If an all-the-year resort like Colorado or Saranac, we want the temperature for the whole year. Next, it is important to know the average diurnal range, from which we obtain an idea of the equability of the temperature—for instance, how much colder it is at night than during the day, or when the sun is overcast than when it is clear. The mean of warmest temperature is the average daily maximum of all the days of any given month throughout the entire period of observation, be it one year or ten; for example, the mean of warmest temperature of Baltimore for thirteen years for the month of January is 40.5° F., which means that in the 403 (13×31) January days, the highest which the maximum thermometer may be expected to reach on each of these days is 40.5° F., this representing the maximum temperature of a normal January day. In the same way the mean of the coldest, or the minimum temperature of a normal day for any month, is obtained; and subtracting the one from the other we have the average daily variation or range referred to above. The highest or absolute maximum temperature is the highest reached upon any day of the given month in any year of the period of observation; and the lowest or absolute minimum is the lowest temperature reached.

These extremes, as Dr. Huntington Richards has sententiously remarked, are the "chances the invalid has got to take in any resort; they do not indicate what temperature he may expect, but what it may be his good or evil fortune to encounter." A severe frost is the "chance" in Florida, for instance; it is not expected, but occasionally it comes, and the orange-trees are frozen.

Next in importance to the purity of the air comes, perhaps, the question of moisture, whether the air is damp or dry. The average relative humidity is the best indicator of this, and is determined by dividing the absolute humidity by the amount of vapor that might exist if the air was saturated. Both the temperature and soil, as well as distance or proximity to large bodies of water, have a direct influence upon the humidity. The average rainfall is of obvious importance, and this factor should be considered in connection with the character of the soil, for if the latter is dry and porous, quickly absorbing moisture, the amount of the rainfall is of less importance than if the soil was clayey and held the water.

The direction, regularity, and velocity of the wind are extremely important facts to be noticed. From one direction the wind brings dampness, like the east wind on the Atlantic seaboard; from another dryness, like the sirocco of southern Italy, or the winds from the great Australian plains. From one direction it come fresh and pure, blowing over forest expanses or from the hills; from another, laden with dust and germs, exhausted of its ozone and deficient in oxygen. Sudden and frequent changes of the wind are generally undesirable, though, for instance, the sudden appearance of a cool sea-breeze at the sea-shore on a hot day is wholesome and refreshing. Although every region has its prevailing winds, absolute and continued regularity is found only in the region of the trade winds at such resorts as Nassau or Barbadoes, W. I.; here the northeast "trades" can be depended upon to blow daily as certainly as the sun to rise. No resort is desirable where high winds are frequent, especially for pulmonary tuberculosis; hence the importance of knowing the frequency and velocity of the wind.

Under weather data we have the average number of clear, fair, and cloudy days, as well as the rainy ones. This enables us to determine the amount of sunshine we are to expect at the resort, and the degree to which one can enjoy out-door life. Some observers note the number of hours of sunshine during the season, which perhaps is rather more accurate. The largest and smallest number of days of the different kinds of weather are again the "chances," above referred to, which we have to take; for in almost all resorts there are exceptionally bad seasons, as well as extraordinarily good ones. It is obviously of high importance to be sure of a large proportion of fair and clear days at a health resort, for, whatever the disease, it is the out-door life which is desired. On the other hand, occasional rains are desirable to cool and purify the air. If the resort described is one in the northern latitudes, like Saranac or Liberty, or of the high altitudes like Davos, it is essential to know the amount of snowfall, and the length of time snow lies continuously on the ground, and when it begins to melt in the spring. The elevation above sea-level, if at all considerable, is accompanied with especial climatic conditions which are to be noted.

Again the configuration of the land often modifies the climate, sometimes detracting from otherwise favorable climatic conditions, and sometimes neutralizing certain unfavorable ones; for example, a hill or mountain may afford protection from high winds or those blowing from an injurious quarter; or if the resort is in a valley the daily amount of sunshine may be reduced. Moderate ascents are often of value for exercise, as Brehmer utilized them at Görbersdorf for his consumptives, or as they are used in the Oertel "cur de terrain."

A hilly or undulating country is less tiresome to look upon than a dead level; it is pleasant to wonder what is beyond the hills.

Under vegetation, we want to know, in the first place, whether the region is well wooded or not, and the extent and character of the forests, if they exist. The fir, pine, spruce, and other evergreen trees are generally considered an advantage to a health resort on account of their balsamic exhalations, their shade, and the æsthetic effect. Arcachon in France, Bournemouth in England, Lakewood and the southern pine belt in this country are illustrations of resorts in the midst of pines. Görbersdorf in Germany and the Adirondacks are in the region of the fir and spruce.

Second, some account of the other forms of vegetation should be given, especially the flora. The invalid may happen to be a botanist, and a rich and varied flora may afford him unending delight. If he is a sufferer from hay fever, a knowledge of the plant life is important; if an entomologist or zoologist he will want to know something of the insect and animal life to be found there.

It is evident that dryness of soil and subsoil is desirable, and that any large amount of stagnant water in marsh, lake, or pond is undesirable, on account of the increased humidity and the possibilities of malaria.

After a consideration of the natural conditions of a health resort, we have to examine next the artificial ones, as I have termed them. What facilities exist for comfortable living, without which the best of climatic conditions are likely to prove elusive? The invalid requires good food, properly cooked; a well-ventilated and sunny bedroom and a comfortable bed; suitable and sufficient attendance, good sanitary arrangements; facilities for sitting or reclining out of doors, if the open-air "Liegekur" is to be taken; and if it is a resort for pulmonary tuberculosis some assurance that his neighbors will properly dispose of their sputum. He must be sure of obtaining pure drinking-water, and know that the sewage is safely disposed of, that the risk from the zymotic diseases may be avoided. An intelligent and efficient local board of health is quite indispensable at a health resort; for instance, hotels, boarding-houses, or rented cottages, receiving consumptives, should be under the supervision of

such a board, by application to which one can be sure that a room or cottage which has been occupied by a consumptive has been satisfactorily renovated and disinfected. At Cannes, France, the health authorities, in conjunction with the physicians, do this. In many other ways the invalid can be protected by a capable health board from avoidable dangers of contagion.

The amusements and diversions the resort affords should receive mention, and not be exaggerated as is too often the case. One cannot live by climate alone, but must have something to occupy his mind when away from the sweet influences of home and the usual routine of life, and depressed by illness. The outdoor diversions are the ones to which especial attention should be given, for in the majority of cases the invalid is expected to spend the greater portion of his time in the open air. The amusements of the quieter kind will be the ones most applicable to the patient—driving, walking, shooting, fishing, etc. The condition and extent of the roads are also to be mentioned. Is there a library; and are there schools? What are the churches? For many prefer to go where a church of their own denomination is to be found. A most important and in many cases decisive fact to be known is the probable expense; about what will it all cost? For what price can one obtain comfortable accommodations, and what are the other necessary expenses? No resort should be recommended which does not contain one or more good physicians, known either by reputation or personally to the physician sending the patient there, and to whom the invalid should be referred by a note of introduction, briefly stating the case.

If the results of cases treated at a resort can be presented by physicians practising there, they will indicate, as nothing else can, the actual benefits to be expected from a residence at the resort, for whatever disease its climate is recommended. The careful results published by the late Dr. Geddings, of Aiken, those of Dr. Trudeau, of Saranac, and of Drs. Fiske and Solly, of Colorado, are admirable illustrations of this. Simply to make the statement that such a resort is beneficial in such and such diseases, without facts and results, carries but little weight, when one considers how inconsiderately this claim is often made.

The writer is well aware that to obtain all the data and facts enumerated above, with accuracy and a strict adherence to truth, requires long experience with a health resort, and painstaking observations. Indeed some of the data can be collected only by observations which must extend over a series of years, like those of climate; but others are always at hand, like those relative to the soil and vegetation. It is, however, some such plan as here suggested which should be kept in view, and every year of experience will add something toward the completeness of the record.

The therapeutic value of a change of climate, and the many advantages of health resorts, are becoming more and more appreciated by the profession. With this greater appreciation, however, comes the greater desire to be in possession of sufficient and definite knowledge of the various health resorts, so that they can be prescribed with something of the same accuracy with which one prescribes a drug or other treatment. If one has a new remedy to offer, its composition, physiological action, and the effects of its use in the disease for which it is advocated, are given. So it must be with a health resort, so far as the intrinsic conditions will allow. At all events, while the knowledge is accumulating to render such a description possible, let not hasty and unproved generalizations be given for facts. State what is known, and wait for more evidence and the results of more extended observations and longer experience.

TUMOR ALBUS.[1]

By FRANK E. PECKHAM, M.D.,
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Tumor albus, or white swelling, is a term applied to a chronic tuberculosis of the knee joint. This process may first attack the epiphysis of the long bones either above or below the joint. It may attack the patella, or it may first appear in the synovial membranes.

In 1898 Dr. Nichols, of Boston, presented a very elaborate paper before the American Orthopedic Association, proving that in over one hundred and twenty tuberculous joints examined by him the disease had begun in the epiphysis. From this he reasoned that in all probability this was the original point of attack in the majority if not all cases. This was rather difficult to believe, because clinically joints had been opened, the gelatinous tuberculous material removed, the bone found to be in many cases not seriously if at all damaged, and the operation of arthrectomy (sometimes spoken of as erasion) being entirely sufficient to limit the progress of the disease. Since that time clinical experience has become still more definite, and the *x*-ray photographs have begun to show that undoubtedly there are many cases that do not begin in the epiphysis, but rather in the synovial membranes or joint surfaces.

The symptoms of this disease come on very slowly, and the most prominent ones are heat, swelling, tenderness, and the presence of fluid causing distention. When fluid is not present and the joint is enlarged it has a peculiar boggy feeling to the touch, and the tissues are raised above the patella. When the joint is opened this is found to be due to the presence of a gelatinous tuberculous condition of the membranes, and this is quite characteristic of tuberculous knees in the early and acute stages, whether with or without the presence of fluid. The inner condyle is very apt to be more enlarged than the outer, causing a condition similar to knock-knee. These symptoms coming on also cause lameness, which may be intermittent in the very early stages. With increasing irritability the flexor muscles slowly become contracted, causing flexion and subluxation, two characteristic deformities. The muscles above and below the knee become atrophied. In this stage of the disease there is very apt to be an actual lengthening of the leg due to an overgrowth, the epiphysis being stimulated to greater activity for a time. The temperature of the joint is elevated, the difference between the two knees being perceptible to the sense of touch. At first when the patient is still bearing weight on the leg there is slight pain, which becomes more and more aggravated and may be excruciating if treatment is delayed. The face also begins to be an index to the general condition, becoming anxious and careworn, and sleep may be interfered with, although the "night cries" of hip disease are absent. If treatment be delayed then the constitutional symptoms appear—fever, debility, emaciation, loss of appetite, and loss of flesh. Abscesses may complicate knee-joint disease, but usually in the more acute forms or in the neglected cases.

Without entering into an exhaustive differential diagnosis, I shall mention two or three diseases which most commonly give trouble in ruling out. Synovitis in the early stages, particularly if the general physical condition is a little run down, may be difficult or even impossible to distinguish absolutely. In synovitis the patella can be depressed until it is felt to strike the femur beneath, while in tuberculosis the swelling is a boggy thickening surrounding the patella rather than floating it as fluid would do. In synovitis motion is not interfered with so much, and atrophy is not present.

[1] Read before the Providence Clinical Club, May 2, 1900.

In acute articular rheumatism there is a sudden onset with fever, and other joints may become involved, while ordinarily white swelling is an insidious affair. In the chronic forms of rheumatism greater care is necessary in differentiating, and it may be even impossible to do so clinically.

Rheumatoid arthritis is another affection which may closely stimulate white swelling. With this disease the enlargement at the joint is bony and is more apt to be of a spindle-shape. The ends of the bones become more or less eroded, and motion is liable to cause a grating which can be felt when the hand is placed upon the knee, and in many cases the sound is audible. More than one joint is liable to be affected.

Hysterical joints may give trouble at times, but careful examination at different times should reveal the true nature of the affection.

The treatment of tumor albus naturally resolves itself into conservative and operative. The conservative method includes a general tonic treatment which would be of value in any wasting disease. The mechanical part of the treatment includes fixation and protection. Fixation is best obtained by a plaster-of-Paris bandage extending from the ankle to the groin, and in some of the more sensitive cases even the foot should be included. Other materials may be used, and the leg may be splinted, but when one becomes thoroughly accustomed to the use of plaster of Paris there is nothing which gives such complete satisfaction. Later in the disease and during convalescence a leather corset may be fitted, lacing up in front, thus giving a much lighter support and one that can be removed and the skin cleansed every day.

Protection is accomplished by keeping the weight from the diseased leg. The patient in a great many cases will get along with just the plaster of Paris and a pair of crutches, swinging the leg during the act of walking. A high sole may be applied to the shoe of the well leg, thus raising the patient up two inches. At the same time a splint may be applied to the diseased leg, thus transferring the weight to the perineum when walking. This splint may be worn over the plaster of Paris or leather corset, and during convalescence the splint alone may suffice.

In the early stages various external applications were recommended in the text-books, but I never yet saw any good results from such treatment, and I fail to see how anything applied externally can have any effect whatever upon tubercle bacilli deep within a joint. If such a thing were possible, certainly the treatment in other tuberculous affections, such as tuberculous meningitis, should show better results.

Operative procedures become necessary in the cases that do badly under conservative treatment. The operation which I most frequently do, especially in children, is arthrectomy. The joint is thoroughly opened by a circular incision extending through the ligamentum patellæ, a flap being formed which, when elevated, exposes the supra-patellar space. With this free opening every portion of the joint can be inspected and every portion of tuberculous material removed, and if the bone is found to be seriously diseased everything is already thoroughly exposed for an excision, and no time need be lost. In doing a simple arthrectomy my experience is that the curette is of very little value, as it slips over the tough, gelatinous-like material without taking off very much of it; but with a pair of mouse-tooth forceps and curved scissors it can be removed with much greater facility. The semilunar cartilages will usually be found diseased, and the space above the patella and beneath the rectus muscle must always be thoroughly explored, and will usually be found filled with tuberculous material. It is impossible to know in any given case whether all disease has been removed, but a thorough operation must be done. The ligamentum patellæ, which is divided in this operation, readily unites, as is demonstrated in cases operated upon a second time.

If, on opening, the bone is found to be extensively invaded and the patient is an adult, excision should be done immediately, while in children oftentimes the curette will be sufficient. In the adult the bone has attained its growth, and so saving the epiphysis is not of such importance as in a child.

Arthrectomy is the most usual operation, excision coming next, while amputation would be necessary only as a life-saving measure.

I shall now submit a few illustrative cases:

Case I.—The first patient, a little girl, A. G——, now aged seven years, first came under observation November 21, 1896. The disease had been present then six months, and had involved both knees and both ankles. There were beginning contractures of the hamstring muscles, with swelling of knees and ankles. She was unable to walk on account of pain; the child was crying out at night, and considerable loss of flesh had taken place. This case has been treated through the whole course of the disease as an out-patient at the hospital, and plaster of Paris has been the only method used. All treatment ceased December 30, 1899, about three years in duration, and the patient now attends school. There is no thickening about the joint; there is normal motion at the ankles, while at the knee flexion is possible up to a right angle, which allows her to sit down easily. In walking about the room nothing unusual is observed.

Case II.—The next patient is K. McL——, now aged nine years. She first came under observation November 5, 1896, the disease having already existed one year. This case did not do well, and early in 1898 arthrectomy was done, followed by plaster-of-Paris splint until June, 1899, when all treatment was omitted, almost one year ago. The knee is stiff and slightly flexed, and the diseased leg measures now three-eighths of an inch longer than the sound leg. She walks and runs easily.

Case III.—This result is also an excellent one. This boy, J. H——, aged ten years, came under observation November 10, 1896, the disease having existed for four months. Two operations, both of them arthrectomies, have been done; the first one early in 1898, and the second one in the fall of 1898. Plaster of Paris was omitted in the early fall of 1899, and the boy has been walking on the leg ever since. The knee is slightly flexed in this case also.

I wish now to speak of two cases in adult life in which arthrectomy was entirely sufficient. There are a number of these cases, but two will be sufficient, and they are interesting as well as the cases of the children, showing that the disease in many cases must begin in the synovial membranes and not in the epiphysis.

Case IV.—M. M——, aged twenty-four years, came under observation November 3, 1897. His knee had been troublesome for over a year on account of pain, and at times the joint would become "locked." In March, 1897, a piece of floating cartilage had been removed, and in the latter part of October the joint had been aspirated. As the joint looked bad an arthrectomy was done November 8, 1897, and a large quantity of sero-purulent fluid was found in addition to the usual gelatinous condition. The bone was only superficially involved, and hence an excision was not done. The joint was drained and continued to discharge a small quantity of serous fluid until May, 1898, when it closed and was apparently perfectly solid. The man works at present in a coal-yard, shovelling, and says he has had no trouble since leaving the hospital three years ago.

Case V.—O. T——, a man twenty-one years of age, came under observation February 19, 1900, with the history of a tuberculous knee of four years' duration. He had been walking about on it all this time, but it had become so painful that he had to give up and go to bed. On March 5, 1900, the joint was opened, the tuberculous material all cleaned out, and the bone found perfectly healthy; consequently only an arthrectomy was done. The wound was closed practically without drainage. There was no trouble whatever with healing, and the patient was discharged on April 14th, with a perfectly solid joint. Plaster will be continued for a short while, when the leg should be all right without any further treatment.

A FURTHER REPORT UPON THE USE OF PURE CARBOLIC ACID IN THE TREATMENT OF MASTOID WOUNDS AND CHRONIC SUPPURATION OF THE MIDDLE EAR.[1]

By WENDELL C. PHILLIPS, M.D.,

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At the fifth annual meeting of this society I called your attention to the use of pure carbolic acid in mastoid wounds and in chronic suppurations of the middle ear. The paper[2] gave a short résumé of Powell's article on "Carbolic Acid in Surgery,"[3] wherein he had demonstrated that a ninety-five-per-cent. solution of the crystals of carbolic acid could be rubbed freely on the hands and allowed to remain for a few seconds with no unpleasant effects, providing the hands were rinsed with pure alcohol; in other words, he had shown that alcohol is a perfect antidote for carbolic acid.

At the time the previous paper was presented, I had made use of this drug for three months only in the treatment of mastoid wounds and chronic suppurative otitis media in which necrosis existed, and in the sinuses so often found in mastoid wounds which are so difficult to heal; I also presented a convenient atomizer for spraying the acid when it was required in attic cases.

Several of the cases presented at that time had resisted all methods of treatment, but with the use of carbolic acid healing rapidly took place. From the number of cases in which it had been used, six were reported, in all of which the patients have remained well up to the present date. During the past year I have continued the use of carbolic acid both in private and hospital practice, and am able to give a fuller report as to its benefits. My cases have been about the same as those reported before, excepting that I have used it upon the denuded surfaces after ossiculectomies and also in burrowing pus sacs accompanying mastoid suppurations. Some of these pus sacs extended well down into the sterno-cleido-mastoid muscle, and others had burrowed downward and backward upon the external surface of the cranium. I have used it freely in these latter cases, and cannot say too much as to the favorable results obtained. After emptying the pus cavities freely I used the carbolic acid with considerable freedom, making use of a cotton carrier and leaving the cotton rather loose at the point. I swab out these cavities with the acid. One improvement in its use in this connection seems to have been obtained from leaving the acid a longer time in contact with the tissues before using the alcohol. I often leave the carbolic acid for from thirty to sixty seconds before resorting to the alcohol. This seems to me to be the more rational method, giving the carbolic acid more time to produce its effect upon the necrosed tissues with which it comes in contact.

In the pus sacs in which I have used the carbolic acid, I have not in any single instance been obliged to make any operation for secondary abscesses. At this moment I can recall four ossiculectomies in which I have made use of carbolic acid to destroy any resultant necrosis. I might state here that I never perform ossiculectomy except in those chronic suppurations which have resisted all forms of local medication for a reasonable period of time.

In all these cases I believe pure carbolic acid has had a beneficial effect, although I am fully aware that many of these patients recover as a result of the removal of the ossicles alone; at least I have seen no ill effects from its use in this class of cases, and I have come to believe that there is a more rapid healing when carbolic acid is employed. I might further add that in no instance has the use of carbolic acid in the cases above described been followed by any unfavorable reaction or any untoward symptoms, so that if applied even with considerable freedom one need have no fear of doing harm, of course bearing in mind the fact that the acid is thoroughly destroyed by the subsequent free application of alcohol.

I have the following note from Dr. Parker, house surgeon to the Manhattan Eye and Ear Hospital, giving in a few words the result of his experience with the acid. Dr. Parker gives his experience in effect as follows: He has used pure carbolic acid, followed by alcohol, for the past six months in about twenty cases that have been operated on for mastoiditis, and has observed that the discharge has been markedly lessened by its use in cases in which other cauterizing agents had failed. To quote his words: "Under its use, areas of necrosed bone have taken on a healthy healing-process, sluggish granulations have been stimulated to healthy activity, and in many cases secondary operations have been avoided. It has been particularly valuable when used by means of the spray; in discharge of the middle ear, many cases of persistent discharge have been entirely stopped."

[1] Read before the American Laryngological, Rhinological, and Otological Society at its sixth annual meeting.

[2] Published in the MEDICAL RECORD, September 2, 1899.

[3] MEDICAL RECORD, March 11, 1899.

Experiments on the Resistant Powers of the Plague Bacillus to Cold.—H. Noguchi, of the General Hospital in New-Chwang, China, has found that the plague bacillus is not devitalized by a three weeks' exposure to a temperature of 24° C. below zero. This bacillus can develop slowly but steadily, at a temperature of from 20° C. to 37° C. Near the freezing-point it remains inert. Chinese houses, with their bad ventilation and other unhygienic conditions, furnish favorable conditions for the development of the plague bacillus. Mice and some other animals (excepting birds and swine, which are immune) help to propagate the plague. It is difficult to enforce sanitary measures in China, where legislation and police protection give no assistance, and the author thinks it safer for foreigners to isolate themselves than to try to isolate the Chinese. Their houses should be under strict sanitary inspection, and a public market should be started for their provisions apart from the town.—*The Sei-i-Kwai Medical Journal*, Tokio, May 31, 1900.

The Occurrence of a Peculiarly Altered Blood Pigment in the Urine of Paroxysmal Hemoglobinuria.—Jolles relates the case of a patient who for eight years has suffered from occasional attacks of hæmoglobinuria. These never occur in summer, but only in cold weather, when they are ushered in by

painful, chilly sensations in the extremities and a sense of oppression, which symptoms are speedily followed by the characteristic discoloration of the urine. In examining this the author found a body which does not give the spectroscopic field typical of any of the blood pigments hitherto studied, and which on boiling coagulates without undergoing decomposition and yields crystals of hæmin. It is also precipitated unchanged by ethyl alcohol, amyl alcohol, and ether, while acetic and hydrochloric acids act by splitting it into two components, one of which, a peptone-like substance, goes into solution, while the other, containing iron and phosphorus, is thrown down and does not yield the Teichmann's hæmin crystals.—*Wiener klinische Rundschau*, July 8, 1900.

A Channel of Infection in Man.—Aron endeavors to explain the variations in individual susceptibility to infection by the zymotic diseases by giving the tonsils an important rôle as portals of entry for the contagium. Accepting this view it is easy to believe that greater or less resisting-power to invasion by disease goes more or less hand-in-hand with differences in the structure and conformation of those organs. It is particularly the tonsillar crypts that furnish suitable lurking-places for bacteria of all sorts, and it is well known that in some persons these are abnormally numerous and deeply placed. It seems well proven that from this point infectious material can find its way directly into the blood stream without first having had to pass through the successive filter-beds existing in the shape of the numerous cervical lymph nodes.—*Wiener klinische Rundschau*, July 8, 1900.

Diagnosis of Tuberculosis in Chronic Aural Suppurations.—G. Ferreri lays down the following propositions: (1) It is necessary from a diagnostic as well as a therapeutic point of view to determine the true nature of a chronic suppuration of the ear when there is a suspicion of tuberculosis. (2) As a careful and exact means of establishing the existence of an osseous caries an opinion from a dermatologist may be of the greatest value. (3) As the presence of caries is not absolute testimony in favor of the existence of a specific tuberculous lesion, we ought to call in to our aid all other possible means of research. (4) In the present uncertainty of our knowledge the best course to follow is to make the tuberculin test, and to remove for microscopic examination the pre-mastoid lymphatic ganglion.—*Archivio Italiano di Otologia, etc.*, July 7, 1900.

Clinical Forms of Purulent Rhinitis; their Pathology and Treatment.—C. de Rossi says that the essential principle of treatment is comprehended in the words "non nocere." The mucosa invaded by pus germs is easily vulnerable. If one touches the mucosa too roughly, it bleeds easily, and if the young epithelia which are forming are detached, a new channel is opened for the micro-organisms; moreover hemorrhage, however slight, interferes with the exact and efficient application of topical agents. The circumscribed forms of purulent rhinitis, which lead to ulcerations, perichondritis, septal abscess, carious or necrotic osteitis, etc., require surgical treatment. Ordinarily the removal of necrotic portions and the application of the electro-cautery are sufficient to effect this.—*Archivio Italiano di Otologia, etc.*, July 7, 1900.

Ulcerations of the Tonsils.—Brindel and Raoult divide these into primary (such as ulcerative lacunar tonsillitis, pseudo-diphtheritic, gangrenous, ulcero-membranous, etc.), secondary (infectious maladies as diphtheria, typhoid, the exanthemata, and tuberculosis), symptomatic (as those of lupus, syphilis, and scrofula), and ulcerations of malignant tumors. The term ulceration denotes a loss of substance at least of the epithelium, and more often of the basement membrane and underlying tissue. Ulcerations should be distinguished from mere erosions. The particular class to which a given case belongs requires a consideration of the entire history of the case and a careful watching of the progress of the lesion in its different stages.—*Revue Hebdomadaire de Laryngologie, etc.*, June 23, 1900.

The Etiology of Malignant Tumors.—Ziem reports a series of cases of malignant tumors of the upper air tract, all having the common features of traumatism and the antecedent existence of a purulent discharge. He believes that this combination of factors is the frequent cause of the development of malignant growths in the upper air passages at least. The likelihood of their development is still further increased if with the existence of the discharge there is an infectious complication, such as syphilis, erysipelas, influenza, typhoid, and possibly also malaria.—*Revue Hebdomadaire de Laryngologie, etc.*, May 9, 1900.

Septic Pyohæmic Otitis.—G. Laurens lays down the following rules for guidance in treatment: Given a pyæmia in the course of an acute otitis without any localization in the mastoid, and without grave infectious symptoms, we should puncture the drum so as to provide for perfect drainage and care for the general condition; if mastoiditis is present, the apophysis must be opened and the sinus uncovered preparatory to examination; finally, if the pyæmia runs its course without involving the mastoid, but with grave symptoms of severe general infection, we must open the antrum, and if it is healthy we should proceed as in the case of the sinus; if the exploring needle withdraws blood, abstain from opening; if there is thrombosis, incise the sinus after previous ligation of the jugular.—*Revue Hebdomadaire de Laryngologie, etc.*, July 7, 1900.

The Treatment of Burns.—G. S. Armstrong thus summarizes the appropriate treatment for burns, he having in the past two years treated one hundred and seventy-six cases, chiefly of the second degree, one caused by boiling oil, and all the others by flying metal. Water or solutions containing water are bad; vaseline acts badly; the application of cotton lint, gauze, or any dressing with a rough surface is inexcusable. (1) Cut away with particular care every portion of every bleb, even the smallest. See that no margin is left under which burrowing may take place. (2) Apply castor oil ninety-five per cent. and balsam of Peru five per cent., or lanolin. (3) Cover this with gutta-percha or oiled silk, perforated or not. (4) The molecular death and separation of tissues will cause an accumulation under the gutta-percha, which must be removed each day by gentle mopping with absorbent cotton. This is easily done, without disturbing the granulations or causing bleeding. (5) A small portion of cases improve more readily during the later stages under dry boric acid.—*Medical Sentinel*, July, 1900.

Acute Mastoiditis Following Infectious Diseases.—J. W. Murphy says that about twenty per cent. of the children suffering from an infectious disease have, at some time during the course of the disease, an infection of the mucous membrane lining the tympanum and mastoid antrum. If toward the close of an attack of one of the infectious diseases there is a sudden rise of temperature, with restlessness, especially marked at night, it indicates some new focus of infection. The drum membrane may be found inflamed, and pain on pressure over the mastoid, or swelling in that region, will point to involvement of the middle ear.

One of the most reliable symptoms of involvement of the pneumatic spaces of the mastoid is swelling or bogginess of the posterior superior wall of the external auditory canal, near its junction with Schrapnell's membrane. If after the continuous action of heat or cold (not poultices) for thirty-six hours there are still much pain and tenderness over the mastoid, we should not wait longer, but open up the mastoid cells by means of Schwartze's mastoid operation—opening the antrum and pneumatic spaces of the mastoid.—*Columbus Medical Journal*, July, 1900.

Experimental Researches on the Latero-lateral Anastomoses of the Vas Deferens.—Enrico Trocello has conducted experiments with a view of determining the best treatment for establishing the continuity and permeability of the vas deferens in cases of complete transverse wounds of the duct. He finds that the indications are met by means of a latero-lateral anastomosis of the two stumps and closure of the end of the duct. He describes the methods adopted, and claims that the results are excellent.—*Il Policlinico*, June 15, 1900.

The Treatment of Movable Kidney.—D. Biondi in eleven cases of nephrorrhaphy has made an incision in Petit's triangle between the posterior margin of the oblique and latissimus dorsi muscles. In this situation all that is needed is to cut down on the anterior margin of the quadratus lumborum through the anterior and posterior folds of the aponeurosis of the transversalis, to reach the adipose capsule of the kidney. He then removes the adipose and fibrous capsule, corrects any anteflexion of the kidney, and puts it in place, where he keeps it by tampons of gauze, which are stuffed into the space below the kidney. When the gauze is withdrawn six to eight days later, the kidney is found to be firmly fixed in place. The operation is innocuous and efficacious.—*La Riforma Medica*, July 10, 1900.

Non-Tabetic Lesions of the Posterior Columns of the Spinal Cord.—E. A. Homén divides these affections into three groups: (1) Those caused directly by neuritis, due either to purely anatomical nerve lesions, or to noxious agents such as toxins or microbes; (2) those co-ordinated to neuritis, that is to say, those in which the same noxious agent can affect the intramedullary tract, as well as the peripheral portions, or else both at once; (3) those entirely independent of neurons or of fibres, but in close relation to the blood-vessels. In chronic alcoholism there may be affection of exogenous sensory fibres of Goll's column, with peripheral neuritis. In eleven cases of cancer there was rarely alteration of the posterior extra-medullary roots, but there was of the intra-medullary. In grave anæmia the lesions are most pronounced in the posterior columns; in senile marasmus there is thickening of the neuroglia, with corresponding atrophy of the nerve fibres, principally in the posterior columns and around blood-vessels. Myelitic lesions in acute infections and purely syphilitic lesions of the spine show no special predilection for the posterior columns of the cord.—*Finska Läkaresällskapets Handlingar*, June, 1900.

An Unusual Case of Prolonged Intubation.—D. Tanturri describes a case in which intubation was prolonged to one hundred and thirty-six days. In his conclusions he states that a possible complication of croup may be a peri-tracheal-laryngeal abscess, followed perhaps by partial necrosis of the cricoid. In acute laryngeal stenosis of long duration intubation is a valuable resource. The tube may be left for a long time in the larynx without harm, provided that it is of the proper size and material and that the surgeon bear in mind the delicacy of the structures upon which he is working. O'Dwyer's fenestrated tube is of the greatest value in granulations of the cricoid. Ichthyol with gelatin is an excellent medicament for the larynx in cases of intubation. Meat gelatin is a good food in these cases.—*Giornale Internazionale delle Scienze Mediche*, June 30, 1900.

The Effect of Fatigue in Modifying the Minute Structure of Kidneys and Liver.—Guido Guerini by experimentation upon animals has found that as an effect of great exertion the protoplasm of many cells of the convoluted tubules become homogeneous and granular. The cells increase in size. Still greater fatigue causes them to break down and fill the lumen with a fine detritus. The changes in the liver cells are very similar, consisting in the first place of turbidity and increase in size of the cell contents, and under greater stress of rarefaction and sponginess. The cells contain much bile pigment.—*La Riforma Medica*, July 9, 1900.

Gout as a Function-Failure.—S. W. MacIlwaine enters a protest against the narrow view so frequently expressed that gout finds its essential expression in joint disturbance. We should rather take a broader view and look upon it as a failure of the metabolic functions under conditions that produce no such untoward results in the majority of people. The essence of the disease is the production of imperfectly soluble waste products difficult of elimination. The cause of gout is therefore function failure. It is intrinsic in origin, and treatment must be directed to the individual, to the re-establishment of his deranged functions. Roughly speaking, the bulk of the metabolism occurs in the muscles; further, the commencing channels of excretion are emptied by vigorous muscular contraction. Exercise flushes the joints with their viscid and sluggish fluids. Experience teaches us that a man on a rational diet, and in the enjoyment of exercise necessitating the daily vigorous use of all his muscles, does not suffer from gout.—*Medical Press and Circular*, July 18, 1900.

The Pathology and Etiology of Acute Articular Rheumatism.—J. C. Young discusses this question from the standpoint of the effect of the disease as bearing on the question of life insurance. His inferences are as follows: (1) If the disease has occurred in the ancestor and not in the applicant it need not be considered, for heredity can be traced only in about thirty per cent. of the cases anyhow; and if a parent has had rheumatism, it by no means follows that his child must suffer from it. On the other hand, if such an applicant has himself had an attack already, the probability of recurrence is thereby greatly enhanced. (2) As a rule, the earlier the age at which a primary attack occurs, the greater the likelihood of repeated attacks, the greater their severity, and the greater the probability of cardiac complications. The later the age, the less the danger to be apprehended from the consequences which the disease engenders. (3) Occupations calling for great muscular exertion, with consequent fatigue and free perspiration, and particularly when the applicant is exposed to sudden chilling, produce more than half the cases, and if he has already had an attack, persistence in such occupation greatly increases the risk. (4) Conditions of living which favor a lowering of tone of the nervous system, or produce a uric-acid diathesis, or serve to enfeeble the muscular system, increase the susceptibility of the individual and augment the chances of recurrence. So, too, with diseases which lower bodily resistance. (5) A combination of two or more of these elements just so far increases the probability of recurrence and impairs a risk in the same proportion.—*Medical Examiner and Practitioner*, July, 1900.

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THE PROGNOSIS OF GLYCOSURIA AND DIABETES.

THE interpretation applied to the presence of sugar in the urine depends essentially upon whether it is to be looked upon as a simple glycosuria or as a symptom of diabetes. On the one hand, a transitory failure on the part of the sugar-assimilative functions of the organism may be concluded to exist, while, on the other, the manifestation is to be looked upon as a symptom of an incurable disease. The prognosis must necessarily vary in accordance with the pathology of the morbid process in operation. On the basis of a considerable personal experience, Hirschfeld (*Berliner klinische Wochenschrift*, 1900, Nos. 25 and 26) expresses dissent from the prevailing view with regard to the curability of diabetes. Improvement, he maintains, is frequently observed, even in severe cases of diabetes, and it may at times reach a degree sufficient to transform a severe into a mild case.

From observations in some two hundred and fifty cases of diabetes, Hirschfeld was impressed with the variability of the glycosuria, improvement taking place far more commonly than aggravation. This was especially marked in mild cases and less so in severe. In analyzing the cases an attempt was made to determine in how far prognostic conclusions could be reached from the severity of the functional disturbance in the individual case. Associated conditions, such as the presence of nervous symptoms or complications, afford no indication of the severity of the diabetes. Only from the degree of the glycosuria itself does the prognosis as to the severity of the diabetes seem possible. In this connection the question arises, When can such a degree of improvement be hoped for that the urine will remain permanently free from sugar? The improvement that follows the withdrawal of carbohydrates sets in only in the course of a few months, although the assimilative power is increased immediately afterward. Improvement, further, is less commonly to be expected if the disease is of long standing, and it may be assumed that under such conditions the curative effects of antidiabetic diet are to a certain degree exhausted. Nevertheless, transitory improvement in assimilative power may be brought about by temporary rigid restriction of the diet and active muscular exercise. In general, it may be said that if in a case of long standing such conditions cannot be established, in spite of restriction of carbohydrates, permanent improvement cannot be hoped for. Exacerbations are due principally to overloading the organism with an excess of carbohydrates. Such exacerbations develop slowly, *i.e.*, in the course of months or even of years, in contradistinction from changes due to extraneous circumstances. At times, it is true, the disease increases in severity without external cause. Such conditions are present principally in young patients, and rarely after the thirtieth year.

In addition to glycosuria, there may be an increased elimination of acetone. In severe cases there is an increased amount of acid present in the urine. It is a debatable question whether diabetic coma is to be looked upon as an acid intoxication. In mild cases the elimination of acetone is but little, if at all, increased. If the amount is large, diacetic acid also is usually demonstrable by the ferric-chloride reaction. Progressive increase in acetonuria is of unfavorable prognostic significance. The patient may feel well, but coma is readily induced, as, for instance, by physical effort or inanition. It is of general prognostic importance that acetonuria, in contrast with glycosuria, more frequently exhibits a tendency to spontaneous increase. In some cases, it is true, the exacerbations are also induced by unfavorable external conditions and by disease states that exert an unfavorable influence upon the glycosuria. A third metabolic disturbance is to be taken into consideration, viz., deficient absorption of the food. This of itself renders the prognosis unfavorable, as with imperfect utilization of proteids and fats maintenance of the bodily weight is difficult.

Among extraneous conditions capable of increasing glycosuria, intercurrent disease especially is worthy of mention. Exhausting disease at times, though not always, to a certain degree displaces the glycosuria. Disease of the kidneys, especially, exerts such an influence. On the other hand, the opposite effect also is sometimes observed. The hyponutrition attending most diseases causes diminution in the glycosuria in a large majority of cases of diabetes. In Hirschfeld's experience, however, the majority of febrile diseases were without any influence on the glycosuria. To this rule influenza constitutes an exception in many cases, often causing increase in the glycosuria and coma. Painful attacks of colic, with transitory diarrhœa or constipation, may make their appearance early in cases subsequently attended with deficient absorption. A directly deleterious effect is exerted also by those disorders considered peculiar to diabetes, viz., furuncle, carbuncle, gangrene. In some cases, however, the excretion of sugar is slight. Psychic influences, particularly severe fright, have a bad effect on diabetes, as have also painful affections, biliary calculi, renal calculi, hypochondriacal delusions.

Cardiac enfeeblement may be a manifestation of diabetes, and it will under such circumstances be relieved by antidiabetic diet. An appearance of well-preserved nutrition is, as a rule, an indication that the disease is not progressing; but to this there are numerous exceptions. Increase in polyuria is sometimes indicative of aggravation of diabetic functional dis-

turbance. In Hirschfeld's opinion, alcoholism or alcoholic intoxication can scarcely be considered a factor in the etiology of diabetes. He holds that the essential point to be borne in mind is that in cases of diabetes glycosuria is a most variable symptom, with a tendency, especially in recent cases, to undergo spontaneous improvement, unless the organism be overwhelmed with carbohydrates. As to the recognition of alimentary glycosuria as a distinct affection, its brief duration, and the lower percentage of sugar, as well as the absence of characteristic symptoms, such as polyuria and nervous manifestations, can no longer be considered as decisive, while the evidence goes to show that its clinical course is identical with that of diabetes. Finally, Hirschfeld prefers to speak of relative, rather than absolute, recovery or cure, and this he considers accomplished if the patient can tolerate constantly 200 gm. of carbohydrates daily without the appearance of sugar in the urine.

CLIMATE AND DISEASES OF CHINA.

If the war now being waged by the civilized world against China should be a lengthy one, it will be incumbent upon the governments of the several powers engaged to pay particular attention to the numbers, composition, and equipment of the medical and nursing staff. By neglect of this most necessary branch of the military service serious results are certain to follow. This has been recently evidenced in a conclusive manner among the British troops in South Africa.

The climate of China is, according to trustworthy accounts, and especially in those portions in which American soldiers will be called upon to operate, decidedly insalubrious to men of the white race. In the region in which are situated Peking, Tien-Tsin, and Chefoo, the heat in the summer season is tropical, while during three winter months the thermometer goes down as low as 15 degrees Centigrade below zero. These extremes of temperature are characteristic of this part of the Middle Kingdom and peculiarly so of Peking, and consequently very trying to those not acclimatized. Rain never falls in winter, and snow but on rare occasions. As a matter of fact the rainfall in and about Peking is slight. The greatest extremes of climate are exhibited in Shan-Si and portions of Shan-Tung. The rivers and streams in these districts are deeply frozen, as is the Gulf of Pechili along the coast line to eight or ten miles from shore. The change from heat to cold and vice versa is extremely sudden, and is therefore certain to have a bad effect upon the health of foreigners.

The New York *Herald* of August 12th says, in an article referring to the diseases of Northern China, "that on account of the extreme character of the climate, the diseases follow the seasons in a well-marked order. During winter, besides the direct results of the action of cold, such as acute affections of the lungs and rheumatism, typhoid epidemics are noted, as well as typhus fever and diphtheria; their development is due evidently to the confinement to which the rigors of winter condemn the population, which is shut up in narrow houses, generally in overheated air, where the disease-carrying microbes find favorable conditions for development. On the other hand, when the temperature becomes milder, the inhabitants leave their houses to live very much in the open air, and typhoid disappears almost absolutely. Soon, however, under the influence of the heavy rainfalls of the months of July and August, the soil of the cities impregnated with filth exhales miasma, which gives rise to poisoning, manifested under form of fevers, sometimes dangerous, of diarrhœa and dysentery."

Smallpox is the greatest and most deadly scourge of China, the disease always being present to a greater or less extent. This fact is undoubtedly due to the disgustingly filthy sanitary conditions in which the vast majority of the Chinese people live. The three diseases, then, with which an invading army must contend in China are typhoid fever, dysentery, and smallpox. Every care should and doubtless will be taken to ward off and effectually to fight these maladies. It need scarcely be said that one of the most important protective measures to be enforced will be the providing of efficient means of sterilizing water. Another point only second in importance to that just mentioned is the necessity of revaccinating the soldiers and sailors whose duties will call them to the far East. China has not agreed to the Geneva convention, and the Red Cross Society is not represented in its army. The allied forces must be equipped to meet any contingency, as the wounded who may fall into the hands of the Chinese will not receive the care always given them among civilized nations. The disastrous results from an inadequate medical and nursing staff has lately had so striking an object lesson in the South African campaign that there can be no excuse for pleading ignorance in this respect, and if the government of the United States does not profit by the experience so dearly bought by the British, the reckoning at the hands of the American public will surely be a heavy one.

DR. JACOBI ON MEDICAL JOURNALISM.

In common, doubtless, with many of those who have read his address, we can but regret that the American orator at the International Medical Congress in Paris should have chosen as his theme an *apologia pro patria* instead of selecting some scientific subject which he is so well fitted to handle. Had he delivered, as he so easily could, a brilliant address embodying the results of original research or the fruits of his ripe experience, he would have brought much more honor on the country of his adoption than he has by this timid presentation of her claims. But it is not in criticism of the address as a whole that we would write; we desire only to call attention to an insult to a few hard-working members of the medical profession in America and a few business men, of which the author of the address was guilty. In speaking of medical journalism, Dr. Jacobi asserted that "the policy of a

journal, the selection of the advertisements, sometimes even the admission of articles more or less scientific or quackish, is to a greater or lesser extent in the hands of the publisher. It takes an editor of unusual character or prudence either to hold his place or to be removed unceremoniously. But the publisher gets rich; that is what, in his opinion, medical science, art, and quackery are made for." The sentence referring to the editor is obscure, but we take it to mean that the editor must always do as the publisher tells him or be dismissed. If that is what the speaker intended to say, we can only reply that of our personal knowledge it is not true. As to the publishers of medical journals, we have no doubt that they are inspired by a desire to make money, but we believe that other men, even physicians far removed from the corrupting influence of publishers, are not averse to accepting a just compensation for their labor. But that the editor of a reputable journal was ever constrained by its publisher to accept an article which the editor regarded as unfit we do not believe. That the publisher has control of the admission of advertisements is true enough, and natural and proper enough, but a comparison of the advertising pages of the journals owned by lay publishers and those controlled wholly by medical men is by no means to the disadvantage of the former. Dr. Jacobi owes an apology to American medical editors and American medical publishers, for he has recklessly charged the latter with dishonesty and the former with what is no less despicable—a truckling subserviency, and in both cases he has spoken rashly and with insufficient knowledge.

News of the Week.

America as a Field for Post-Graduate Study.—In an address delivered at the opening of the Museums of the Medical Graduates' College and Polyclinic in London recently, Dr. Osler, after dwelling on the importance of post-graduate study, the value of museums as a means of profitable instruction, the desirability of change in one's teachers from time to time, and pointing out the silent revolution that has taken place in the educational field in the United States during the past quarter of a century, suggested to students who wish to have the best the world offers that "the lines of intellectual progress are very strongly toward the West," and made the interesting prediction that in the twentieth century "young English physicians will find their keenest inspiration in the land of the setting sun."

Hot-Weather Mortality Statistics of Philadelphia.—For the week ended August 18th there were reported to the Philadelphia bureau of health 550 deaths—98 more than for the preceding week, and 169 more than for the corresponding week of the previous year. The principal causes of death were as follows: Sunstroke 56, pulmonary tuberculosis 54, cholera infantum 42, heart disease 40, marasmus 27, inanition 24, inflammation of the stomach and bowels 24.

Sir William Stokes, who went out to South Africa some time ago as one of the consulting surgeons to the British forces, died at Durban on August 19th. He was born in Dublin in March, 1839, and received his education at the University of Dublin. He was president of the Pathological Society in 1881, president of the Royal College of Surgeons in Ireland in 1887, and honorary president of the International Medical Congresses at Berlin in 1890, Rome in 1894, Moscow in 1897, and Paris in 1900. He held the office of surgeon in ordinary to the Queen in Ireland.

The British Congress on Tuberculosis.—It is announced in the *British Medical Journal* that a Congress on Tuberculosis will be held in London during the last week of April, under the presidency of the Prince of Wales. Among the vice-presidents are the Duke of Fife, the Marquis of Dufferin, Earl Spencer, Lord James of Hereford, Lord George Hamilton, Lord Reay, Lord Lister, Sir John Burdon Sanderson, Sir Hermann Weber, the presidents of the Royal Colleges of Physicians and Surgeons, the president of the Royal College of Veterinary Surgeons, the director-general of the Medical Department of the Navy, and the chairman of the London County Council. The president of the organizing committee is the Earl of Derby; the chairman, Sir William Broadbent; the honorary treasurers, Lord Avebury and Sir James Blyth; the chairman of the general purposes committee, Professor Clifford Allbutt; and the honorary secretary-general, Mr. Malcolm Morris. The Prince of Wales has consented to open the congress in person. In order to make the congress as comprehensive as possible, every colony and dependency in the empire will be asked to send representatives, and distinguished guests will be invited from Europe, Asia, and America. Authorities in these and other countries will be invited to take an active part in the work of the congress. It is hoped that the congress will be able to adopt practical resolutions which will serve to indicate the measures best adapted for the suppression of tuberculosis. The work of the congress will be divided into sections as follows: Section 1 (state and municipal): president, Right Hon. Sir Herbert Maxwell; secretaries, Dr. Bulstrode, Dr. Arthur Newsholme, Dr. James Niven. Section 2 (pathological, including bacteriology): president, Professor Sims Woodhead; secretaries, Dr. Wethered, Professor Rubert Boyce, Dr. E. J. McWeeney. Section 3 (tuberculosis in animals): president, Sir George Brown; secretaries, Professor Hobday, Royal Veterinary College; Messrs. Harold Sessions, Stuart Stockman (Glasgow), Frank Leigh (Bristol). Section 4 (clinical and therapeutical, including climatology and sanatoria): president, Sir R. Douglas Powell; secretaries, Sir Hugh Beevor, Dr. Hector Mackenzie, Dr. R. W. Philip, Dr. William Calwell (Belfast).

Medical Reciprocity in Canada.—For several years past there has been a movement on foot, initiated, we believe, by Dr. Roddick, of Montreal, looking to the creation of a central medical examining-board for the Dominion of Canada, the object being a uniform standard of medical licensure. Such a

board will not conflict with any of the existing provincial boards or colleges. Under Dr. Roddick's plan a physician possessing a diploma conferring the right to practise in one province of the Dominion may register it with the central board and receive from this board the right to practise in any other part of Canada without further local examination. A similar movement is under consideration in this country, and was the subject of discussion at the meeting of the National Confederation of Medical Examining and Licensing Boards in Atlantic City in June.

The Geneva (N. Y.) City Hospital will receive $10,000 by the will of the late Judge Francis O. Mason. Upon the death of two sisters of the deceased, it will also receive $80,000 additional.

A New Yellow-Fever Serum?—A despatch to the daily papers from Vera Cruz states that the most severe cases of yellow fever there are being treated with Bellinzaghi's serum and seem to improve wonderfully. The patients are quickly relieved of black vomit and revived from their lethargy.

Smallpox has broken out among the Indians on the Turtle Mountain reservation in North Dakota near the Canadian line. There are about twelve hundred Indians on the reservation, and among them were some thirty cases of smallpox, when the outbreak was reported the middle of this month.

Dr. T. M. Lippitt, assistant surgeon U.S.N., who was in charge of the marines sent to Pekin to guard the United States legation there, was wounded in the thigh. The femur was fractured, but the leg was saved, and he is now reported convalescent. He was thought at one time to have been killed.

Dr. Thomas G. Roddick and Sir William Hingston, of Montreal, were among those elected honorary fellows of the Royal College of Surgeons of England at the centenary celebration in July.

The Plague in Manila.—The record of the plague in Manila for the two weeks ending on July 7th, as just reported to the Marine-Hospital service, was seven new cases and five deaths. Of the new cases four were Filipinos and three Chinese.

High Mortality Rate in Porto Rico.—Assistant Surgeon King of the Marine-Hospital service reports that in Ponce City and surrounding country, for the two weeks ending July 28th, there were two hundred and sixteen deaths, against seventy births during the same period. An investigation into this remarkable mortality is being conducted by the superior board of health of the island.

Yellow Fever in Havana.—During July there were thirty deaths from yellow fever in Havana. The average July mortality record for the decade from 1885–94 was thirty-four. The principal unfavorable factor at present is the number of non-immunes. Last year upward of twenty-five thousand immigrants came to Havana, or three times the normal number. The normal death rate from yellow fever, estimated from the statistics of 1885–90, is 4.2 per 1,000. Last year it was only about 1.2 per 1.000. When the enormous increase in the number of non-immunes is taken into account, the rate of mortality for 1899, as well as the rate for July of this year, is much below what might have been expected.

Mortality of Officers and Privates in War.—The official table of casualties in the British army in South Africa shows a curious discrepancy in the relative mortality from disease and that from bullets, of the officers and men. The figures are: Killed in action and died of wounds, 344 officers, 3,183 men. Died of disease, 141 officers, 4,836 men. That is to say, that for every one officer killed in battle nine men die, but for every officer dying of disease thirty-four men die.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 18, 1900. August 11th.—Assistant Surgeon M. K. Elmer commissioned assistant surgeon from July 18, 1900. August 13th.—Surgeon C. H. T. Lowndes commissioned surgeon from June 7, 1900. August 15th.—Assistant Surgeon W. M. Garton detached from the *New York* and ordered to the *Massachusetts* immediately, temporarily, by the commander-in-chief of the North Atlantic Station. August 16th.—Passed Assistant Surgeons C. D. Costigan, G. A. Lung, and J. T. Kennedy ordered to the *Monadnock* for additional duty with regiment of marines. Assistant Surgeon E. Davis ordered to the *Yorktown*. Passed Assistant Surgeon A. R. Alfred ordered to the *Castine*.

Obituary Notes.—Dr. Edwin Evans died at his home in Rome, N. Y., on August 16th, of heart disease, at the age of fifty-five years. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1870. He was very prominent in Masonic circles.

Dr. John H. W. Chestnut, of Philadelphia, died at Dutch Harbor, Alaska, on August 5th, of cancer of the stomach. He was born in Philadelphia in 1846, and was a graduate of the medical department of the University of Pennsylvania in 1871.

Dr. Franklin Booth, of Elmhurst, borough of Queens, died at St. John's Hospital, Long Island City, on August 19th, at the age of sixty-three years. The night before his death, while on the way to visit a patient, he was run over by a trolley car and both legs were badly mangled. Before the ambulance arrived he gave directions to one of the passengers how to apply a tourniquet improvised from a bit of rope so as to arrest the hemorrhage. One leg was so badly injured that it was amputated at once; the knee of the other leg was resected after Dr. Booth reached the hospital. He rallied well at first, and it was hoped he might recover, but he soon sank and died about twenty-four hours after the injury was received. Dr. Booth was a graduate of the Bellevue Hospital Medical College in the class of 1864.

Dr. Herbert Park, surgeon on the Red Cross Line steamship *Grangense*, died suddenly at sea on August 11th. He was twenty-three years old, and was born in Wigan, England. He was buried at sea.

Progress of Medical Science.

The Philadelphia Medical Journal, August 18, 1900.

Military Surgery.—W. C. Borden continues the paper on this subject, in which he discusses wounds of bones and other parts caused by bullets of various kinds.

The other original articles in this issue are the opening remarks of the presidents of the sections on tropical medicine, pathology, pharmacology and therapeutics, state medicine, surgery, and army, navy, and ambulance, reprinted from the *British Medical Journal.*

Boston Medical and Surgical Journal, August 16, 1900.

Purgation with Opium.—J. W. Wainwright reports a case of intestinal obstruction, without pain, in a child aged five years, in which high enemata with massage, under chloroform, had absolutely no effect, and operation was thought imperative by the consultants, but objected to by the father, a physician. Another consultant advised the following treatment, which was carried out: A quantity each of tinctura opii deodorata and tinctura belladonnæ was procured, and two drops of the tinctura opii was given on the tongue with a medicine-dropper every half-hour. This was kept up until there was complete coma with stertorous breathing. This condition was maintained for two hours, during which there were contracted pupil, insensible conjunctiva, threatened paralysis of the muscles controlling the tongue, etc. At the expiration of the two hours the patient was allowed to recover from the effects of the drug, taking about four more hours, with the aid of small quantities of tinctura belladonnæ, which had been held as an antidote to the effects of the opium if needed. His first words upon regaining consciousness were to ask for "his chair," when there was a free stool. A knuckle-shaped mass was found, which proved to be cheese. The patient made an uninterrupted recovery. The cathartic action of the opium was rather the complete muscular relaxation which chloroform had not succeeded in bringing about, extending to the muscular coat of the intestines, thus allowing the mass to pass through the ileocæcal valve by gravitation.

The Psychic Factor in Disease.—Robert W. Greenleaf by means of cases elaborates the following propositions: (1) That some cases of illness are simply neuroses without appreciable pathological lesions; (2) that causes capable of producing such neuroses may act while disease is present and should be guarded against; (3) purely psychic causes, as shock, grief, and the like, may pave the way for, if not directly cause, profound pathological disturbance; (4) attention to the psychic is capable, under some conditions, of so turning the scale to health that it may arrest, even perhaps cure, otherwise fatal pathological conditions; (5) attention to the psychic should be considered a routine measure in the treatment of delirium from toxic causes, as alcohol, belladonna, ether, and the like; (6) it should also be considered a routine measure in the treatment and in the prevention of delirium in febrile states, as of typhoid; (7) nurses should be able to enter into psychic relation with their patients; otherwise the value of their services is much lessened and may be harmful.

Surgical Pain.—G. Ryder says that simple, uninfected trauma of the viscera causes comparatively little pain, and this soon subsides. Contractile pain, of which examples are afforded by any abdominal viscus, is typical in its recurrence, and is rhythmical in character. At times it is intense, paroxysmal, and colicky. Inflammatory pain is most severe when due to the colon communis and streptococcus bacilli. Neuralgic pain is paroxysmal, with intermissions, lightning-like and lancinating. Hysterical pain is usually burning and may occupy any part of the abdomen and its contents. Charcot's stigmata will differentiate it from other pains. Obstruction pains of the abdomen come with a sudden onset, are colicky and constant, and cause vomiting. In peritonitis the pain is localized at first, but soon becomes diffused and constant. All abdominal emergencies characterized by inflammation have one common and timely feature, that pain is increased by pressure.

A Brief Report of a Case of Cerebral Abscess of Otitic Origin; Operation; Death.—By George L. Richards.

A Case of Volvulus Complicated by Peritonitis; Operation; Recovery.—By W. P. Giddings.

Journal of the American Medical Ass'n, Aug. 18, 1900.

Therapeutics of Travel and Change of Scene in Nervous and Mental Diseases.—Richard Dewey finds that the dangers of travel predominate over the benefits in the case of neurotic and insane patients, citing cases from practice in support of this view. Travel and change of scene for mental and nervous maladies cannot be judiciously prescribed except by careful consideration of the individual case. Travel may be good in one stage and bad in another of the same disease. If the patient grows worse by travel, this does not prove the treatment bad, for some cases will grow worse whatever is done. It may even be necessary to make a careful experiment before the question can be settled. Another fact regarding travel is that a great deal depends upon the manner of its regulation. Patients who can command every facility for comfort and safety and an experienced medical escort could travel when such a course would be injurious and dangerous for one of moderate means.

Medico-Legal Relations of Opium Inebriety and the Necessity for Legal Recognition.—T. D. Crothers discusses the character of crime committed by the morphinist, showing petty, stealthy criminal acts to predominate. He finds need for the medico-legal study of morphinism. All statements of the opium inebriate should be open to doubt and regarded as worthless so far as the witness-stand is concerned, unless confirmed by other facts and strong circumstantial evidence. Crime is often purposeless. There should be no question of the incapacity of opium-takers to execute bills and contracts. Further study must be made above all theories and based solely on facts and conditions present.

Interstitial Gingivitis from Indigestion Auto-intoxication.—E. S. Talbot discusses the phase of auto-intoxication due to indigestion or disturbance of the gastro-intestinal tract. A factor in auto-intoxication is non-performance of the process of elimination. Another is the formation of toxic products in such quantities as to prevent their destruction by organs like the liver and consequent elimination. People of sedentary habits do not require excessive nitrogenous or starchy diet, and if they receive it auto-intoxication with inflammation of the gum and alveolar process occurs and absorption takes place.

Syphilitic Locolosis Alveolaris.—G. Lenox Curtis discusses under this title pyorrhœa alveolaris, which, he says, is generally regarded as incurable. It is a disease of the peridental membrane aggravated by calcareous deposits with resulting decalcification of the alveolar tissue. The cause of the disease is discussed, and syphilis is found to be a prevalent condition, but one often overlooked. When specific treatment is pushed these patients get well and recurrences are not noted.

Morphinism from the Standpoint of the General Practitioner.—T. J. Happel points out, first, the increase in the consumption of opium, and goes on to discuss how the habit is acquired by patients and physicians. The effects produced upon the child in utero and upon fertility are considered. This vice will have to be faced and fought in the twentieth century as never before. The question of heredity in relation to morphinism is considered.

Neurotic Affections of Interstitial Gingivitis.—J. G. Kiernan says falling of the teeth and similar affections may occur not only from constitutional neuroses, but from disturbances of the cranial and spinal nerves, and after injury to these nerves, epilepsy, neurasthenia, and hysteria.

Treatment of Morphinism.—A. J. Pressey points to the necessity for a more universal knowledge of morphinism, and reports a case. It is not a mere habit, to be broken by the will, and still it is not incurable. The patient is as grateful for relief as are the friends.

The Treatment of Keratoconus with Galvano-Cautery.—By Herman Knapp.

The Surgical Treatment of Conical Cornea.—By Robert Sattler.

The Therapeutic Uses of the Thymus Gland.—By S. Solis-Cohen.

The New York Medical Journal, August, 18, 1900.

Congenital Dislocation of the Shoulder.—John Lincoln Porter relates a case of this condition occurring in a boy. The birth was normal, in head presention, but labor was terminated with the aid of forceps after four hours, because of the haste of the physician to go to another case. The author finds sixteen cases reported in the literature in addition to twelve noted by Scudder in 1890, making with the present one a total of twenty-nine cases. The conclusions at which the author arrives from his study of congenital luxation of the shoulder are: (1) It is of fundamental importance to discriminate between traumatic and developmental cases. (2) The pathology of the congenital cases is not sufficiently known to indicate the most promising line of treatment. (3) Sufficient operations have not been done to establish a successful method of operative treatment or add much to our pathological knowledge. (4) In cases determined to be developmental by the history and measurements, remembering the probable deficiency of development of one or both articular surfaces, an early

operation, before the humeral head has formed a new articular facet under the spine and has itself become deformed, offers the best results.

The Treatment of the Morphine Habit—Can it be Cured?—James H. McBride believes that few people addicted to the use of morphine or opium are permanently cured of the habit. They may be apparently cured, but this is as a rule temporary only. The habit, he says, is but half cured when the use of the drug is stopped, and in order that the cure may be lasting the patient should be under control for months or a year before he is allowed to return to his occupation. The craving for morphine is often strong for a long time after its use has been stopped, and the patient should be under control as long as the desire for the drug continues or until he is strong enough to resist the desire. To treat the morphinist successfully means not only to help him to get rid of the drug habit, but it means to restore if possible a shattered nervous system to a normal condition, and this involves prolonged seclusion and absence of temptation. He advocates institutional treatment under legal restraint.

A Study of the Action of Gelsemium upon the Nuclei of the Motor Cerebral Nerves.—By R. H. Whitehead.

Some Observations upon the Ocular Symptoms in Locomotor Ataxia.—By Paul Turner Vaughan.

On the Use of Suprarenal Extract in Diseases of the Nose and Throat.—By Seymour Oppenheimer.

A New Hypnotic.—By Warren B. Hill.

Enterocolitis.—By William E. Fitch.

The Lancet, August 11, 1900.

The Remote Results of Structural Lesions ("Interventions Sanglantes") in Urethrostenosis.—Reginald Harrison sums up as follows a paper read at the thirteenth international congress on August 8th: (1) There is evidence to show that in peri-urethral strictures of the deep urethra the effects of divulsion as practised in Perrève's and Holt's operations may be limited to rupturing the dense stricture bands in the submucosa of the urethra, while the mucous membrane itself escapes any serious injury or laceration and is merely restored by stretching to its original dimensions. Here a permanent cure may result. On the other hand, when the mucous membrane is in itself the seat of stricture and forms part of the latter structurally, it is necessarily torn or lacerated by the process of a sudden divulsion, and the pathological condition consequently becomes assimilated with that of traumatisms of the urethra from external violence accidentally applied which are followed by strictures of the most contractile and recurrent form. (2) There is evidence to indicate that when the entire thickness of a stricture can be included within an incision of moderate dimensions made by an internal urethrotome the normal calibre of the urethra may be completely and permanently restored. When this happens it may be concluded that all the fibres of contraction constituting the stricture were divided at the time of operation; and further, that the converse is equally true. There is also evidence to show that the absence of recurrence under such circumstances is not necessarily dependent on the use of a bougie, though the latter is a precautionary measure which should invariably be advised. (3) In the case of multiple strictures or strictures of the deep urethra of considerable dimensions either in their length or thickness treated by an internal incision of corresponding proportions, apart from other considerations, the tendency to recontraction and recurrence, with an additional amount of cicatricial material, is frequent; the latter being probably due to the circumstances under which healing takes place in wounds of these dimensions so situated. (4) Lesions of the urethra demonstrate in various ways the poisonous effects that unprotected and confined urine is capable of exercising both on the body generally and on the tissues in contact with it, and the liability to such effects is greatly diminished when drainage and irrigation render these conditions of the urine unlikely. (5) In the case of recurring strictures previously treated by incision and in primary strictures of such length or extent as to require an internal section of a corresponding size, or as to which there might be doubt as to whether it would be safely possible so to include them, for the purposes of the operation and its results such wounds should be made with due regard to other surgical principles in addition to the one pertaining to the division of the contraction. (6) There is direct evidence to show that the tendency to recontraction and recurrence of stricture after internal urethrotomy is largely diminished by the concurrent employment of systematic and efficient urine and wound drainage such as the combination of external urethrotomy or perineal puncture affords.

The Indications of Thyrotomy.—Sir Felix Semon says that while in the nature of things thyrotomy can never be an everyday operation, it has in the past been anything but a popular one. The time has now fully come when everybody should be capable of forming an opinion on this question, and if the results obtained be scrutinized with an unbiassed mind he has no doubt that the chief indication for the employment of thyrotomy will in future be found in early intrinsic malignant disease of the larynx.

A New Disease with a Specific Urinary Reaction.—N. F. Surveyor describes a vesicular eruption of the face, in the region of the eye, ear, etc., coming on after a wound of the thumb, some vesicles subsequently appearing near the seat of injury. The urine assumed a bright pinkish-purple color on adding a drop of strong caustic-soda solution to the centrifugalized deposit. This was not due to any drugs taken, as shown by tests. In a record of one hundred and ninety-five urine analyses no such reaction had been previously seen.

The Sympathetic Origin of Post-Enteric Tachycardia.—P. C. Fenwick advances a theory of sympathetic origin of the cardiac phenomena in military convalescents. Cardiac irritability may be due to sympathetic disturbance arising in the superior mesenteric plexus and thence transmitted to the cardiac ganglia and plexus.

A Case of Puerperal Septicæmia Treated by Anti-streptococcic Serum, and Complicated by Phlegmasia; Recovery.—By A. Hamilton Wood.

Eczema and the Allied Diseases: an Outline of their Etiology, Pathology, and Treatment.—By W. T. Freeman.

The Maternal Mortality in Childbed.—By William J. Smyly.

On the Prevention of Insanity.—By R. Percy Smith.

Münchener medicinische Wochenschrift, July 31, 1900.

Some Clinical Aspects of the Plague as Observed in Oporto in 1899.—Reiche says that the typical invasion of plague is accompanied by headache, chills, great prostration, and, in many cases, diarrhœa and vomiting. The temperature is high and fluctuating, the abdomen tender, and the spleen enlarged; the bubo is most frequently found in the inguinal region, the axilla being the second site of election. Both sexes are affected with equal frequency; the fever presents nothing characteristic, being either continuous or remittent, and terminating by lysis or crisis. The cerebral symptoms also are of all degrees of severity, varying from the normal to well-marked delirium. The buboes are in nearly all cases the most typical symptom and are usually present from the earliest days of the disease. Sometimes but a single group of glands is affected, but more often secondary involvement in other regions is observed. The size and number of the buboes are very variable, but no conclusions as to the probable clinical course are to be deduced from these factors. In pronounced cases the diagnosis offers no difficulty and may always be confirmed by aspiration and bacteriological examination of the contents of the bubonic abscesses; in mild cases, however, and those in which the glandular manifestations are late in appearing, the true nature of the disease is often long in doubt. It is to be hoped that some serum reaction will be devised to make positive diagnosis possible in the early stages. The therapy includes isolation in clean, well-ventilated rooms and internally tonics and intestinal antiseptics. The value of Calmette's method of injection with Yersin's serum is still *sub judice*.

Experimental Observations on Disinfection of the Hands (Conclusion).—The results of Paul and Sarwey's series of articles may be summed up as follows: (1) Neither of the three mechanical methods of hand sterilization, viz., washing with green soap and brush in hot water, with Schleich's marble soap or Sänger's sand soap is sufficient to effect a satisfactory freedom from germs. On the contrary, even when the cleansing process is continued for some time, the disinfection is still very imperfect, and even hands that have been artificially infected are not to be purified with certainty by these means. (2) It is not possible by purely mechanical means to secure as high a degree of sterilization as is possible by the use of chemicals. (3) Green soap (sapo kalinus vernalis) on account of its high percentage of free alkali is damaging to the skin and not to be recommended for cleansing the hands. (4) From a cosmetic standpoint Schleich's marble soap is very suitable for constant use but it is not yet certain whether it makes an advantageous precursor to chemical disinfection. (5) Sänger's sand-soap is well adapted for habitual use and leaves the skin in good condition for the subsequent action of chemical disinfectants.

The Treatment of Infected Perforating Wounds of the Eyeball.—Glauning recommends highly Eversbusch's procedure of performing paracentesis of the anterior chamber by means of the galvano-cautery. The advantages of this method, as corroborated by the clinical histories of a number of cases cited, are that (1) the infected aqueous humor is allowed to drain away, a continuous flow being possible

much longer through an opening made by the galvano-cautery than through a simple incision the edges of which quickly agglutinate; (2) this is replaced by freshly secreted and not at all or only slightly infectious fluid; (3) through the diminished tension the vascular supply of the organ is greatly favored, and a larger amount of blood rich in the properties needed to combat infection gains access to the damaged area.

A Case of Congenital Hernia Cerebri.—Behm reports the successful cure by operation of a congenital hernia of brain substance. The tumor was situated between the posterior fontanelle and the occipital tuberosity, and was connected with the cranial cavity by its pedicle through a palpable opening in the bony skull. It was of the size of a hen's egg, was fluctuating, non-pulsating, and did not increase in volume when the infant cried. On the tenth day the mass was tied off by multiple ligature and amputated without narcosis. Recovery was uneventful, and six months later the patient was apparently perfectly well and presented only a fluctuating mass of the size of a cherry at the site of the former tumor.

A Case of Spontaneous Intraocular Hemorrhage followed by Rupture of the Globe.—Hauenschild describes an unusual termination for the not uncommon intraocular bleeding. The patient was a woman aged twenty-eight years, whose past history presented nothing of importance except a slight neurotic tendency. On the day of the hemorrhage she experienced only a feeling of lassitude and a slight headache. Suddenly there was a spasm of pain and blood spurted from between the lids of the right eye. Examination of the urine and blood gave negative results.

Butyric-Acid Bacilli and their Relationship to Gaseous Inflammation (Conclusion). — By Schattenfroh and Grassberger.

Therapeutic Results with "Unguentum Argenti Colloidalis Credé."—By Strohmayer.

A Forgotten (?) Heroic Poison Plant of Madagascar.—By Model.

Deutsche medicinische Wochenschrift, August 2, 1900.

Metatraumatic Alimentary Glycosuria.—Haedke took twenty-five patients who had suffered severe traumatism of some sort, either accompanied by injury to the head or involving severe concussion of the entire body such as is produced by falls from a height, and endeavored to establish a causative relationship between the injury and the production of temporary glycosuria. This was done by giving each patient on the day after the accident 100 gm. of pure grape-sugar in watery solution, previous examination having shown the absence of sugar or albumin in the urine. In cases in which chloroform had been given a day was allowed to elapse before the experiment was made. Alcoholism, lead poisoning, etc., were also carefully excluded. The result was that in sixty per cent. of the cases an alimentary glycosuria lasting in some instances as long as a week was produced, and although this observation brings nothing of distinct value in regard to the etiology or therapy of diabetes, still the author considers that it in some sense bridges the gap between simple trauma and post-traumatic diabetes.

The Quantitative Proportions of the Carbohydrates in Diabetic Urine.—Rosin has made a series of observations on the carbohydrates other than glucose present in the urine of diabetics and their quantitative relation to the amount of the latter found. These bodies are mostly hexoses, belonging to the same group as the grape-sugar, and one other, viz., a pentose. By fermentation with yeast it is possible completely to eliminate the glucose and leave the other members of the group behind, and by a further treatment with benzoyl chloride there may be formed from these a series of benzoic-acid esters which possess a definite relationship to the amount of the carbohydrates. By means of this method the author was able to determine that diabetic urine in addition to its charge of grape-sugar contains other carbohydrates in proportions varying from five to thirty times the normal, and, furthermore, that there is no constant ratio between the relative amounts of glucose and the other carbohydrates.

A "Cured" Case of Diabetes Mellitus.—Zaudy reports the case of a diabetic whose sugar excretion at times went as high as 274 gm. to 4,570 c.c. of urine. He was put upon the usual diet and given 1 gm. of salol four times a day. Under this treatment the sugar gradually diminished until after about a month and a half Fehling's reaction gave a constantly negative result, which state of affairs continued even on the patient's return to carbohydrate diet. The general condition was in every way improved and various secondary troubles were greatly relieved. A year after his discharge the patient returned suffering from joint pains. He had been on every-day diet during this time, and it was found that his urine was free from sugar, albumin, and acetone, and was even slightly below normal in quantity. While the author does not deny the possibility of a relapse, he considers the effect of the salol sufficiently remarkable to justify further experiment with its use.

The Utility of the Newer Saccharometers in the Quantitative Estimation of Glucose in Urine.—By Spaethe.

Benzoyl Esters and Carbohydrates in Normal and Diabetic Urine.—By Alfthan.

French Journals.

Parasitic Origin of Eczemas.—L. Brocq presented the first paper in the skin section at the Paris congress, followed by reports by Unna, Jadassohn, and Galloway, and discussed by Kaposi, Sabourand, Neisser, Hallopeau, and others. Inoculations in the dog produced an eruption analogous to that of man and presenting the five histobacteriological symptoms which, according to Unna, are pathognomonic—parakeratosis, formation of serous vesicles with spongy transformation of the Malpighian layer, acanthosis, proliferation of connective-tissue cells of the superior layer of the derma, and the presence of masses of cocci in the serous crusts. A *résumé* of the experiments is presented. Unna finds that among the numerous micro-organisms which have been found in eczema, there are several which when inoculated reproduce eczema. Eczema is contagious, and under certain circumstances epidemic. Galloway says the morococcus described by Unna belongs to the class of organisms giving white cultures but not yet capable of separation from the staphylococcus pyogenes albus. The local infectivity and the chronicity of eczema are chiefly due to the presence of micro-organisms. Kaposi says experimentation shows that eczema may be caused by chemical and physical external agencies. Clinical experience repudiates absolutely the conception of an eczema of parasitic origin.—*La Presse Médicale*, August 7, 1900.

Gastric Ulcerations.—Dieulafoy concludes his paper read in the section of pathology of the Paris congress with a description of the various forms of ulceration of the stomach, from the simple erosion which is the smallest to losses of substance of greater or lesser extent; the simple ulcer being the type of ulcer of chronic evolution with tendency to perforation. Specific ulceration in tuberculosis and syphilis and cancer engrafted upon previous ulcer are conditions discussed. Treatment is, according to the case, medical, specific, or surgical.—*La Presse Médicale*, August 4, 1900.

Hot Air in the Treatment of Affections of the Upper Air Passages.—Lermoyez and Mahu review the question of superheated air as a remedial measure, and give the theory of their procedure with description of apparatus and method of producing and applying the air. It is found useful in congestive spasmodic, vasomotor, and simple chronic coryzas; in subacute tubal catarrhs, otalgia, etc. Contraindications are also given.—*La Presse Médicale*, July 25, 1900.

Chronic Sciatica Cured by a Viper's Bite.—Pommerol relates the curious result of a viper bite upon the heel of a woman who had suffered for five or six years from sciatica. There were shrinking of the tissues of the leg and a limping gait. From the time of the injury all pain disappeared and by degrees a permanent cure of the disability and deformity, etc., took place.—*Gazette des Hôpitaux*, August 2, 1900.

Two Cases of Contusion of the Liver.—A. Gosset relates the history of two injuries from the kick of a horse in which the liver was injured and in which immediate laparotomy was performed, in one instance with success.

Archives of Pediatrics, August, 1900.

Naso-Pharyngeal Disease in Pediatric Practice.—Francis Huber discusses the subject from the side of the specialist as well as from that of the general practitioner. The main functions of the nose are respiratory, olfactory, to give resonance to the voice, and to act as a regulator of the aeration of the middle-ear and of the accessory air chambers in the ethmoidal and sphenoidal bones. Patency and healthy mucous membranes are essential to proper performance of the work. In summing up, the writer says: (1) The removal of the lymphoid hypertrophies in the naso- and oropharynx, with the cure of the associated naso-pharyngeal catarrh, will restore the patency and permeability of the nose. If done early, many local pathological changes may be avoided. (2) The general health will be more or less improved. (3) The mental faculties and general intelligence will be improved. (4) Defects in speech and in hearing due to nasal troubles will disappear. (5) Deafmutism may be relieved. (6) The functions of taste and smell will be restored. (7) Reflex neuroses of various kinds will be modified or cured. (8) Nasal and supposed pulmonary hemorrhages will disappear. (9) Thoracic deformities will be relieved or cured. (10) The tendency to acute rhinitis, pharyngitis, laryngitis, bronchitis, and pneumonia becomes less and less with the restoration of normal respiration. (11) The dangers attending the presence of enlarged cervical lymph nodes will be avoided.

(12) The invasion of various infectious diseases is less likely when the nasal mucous membrane is in a healthy state. (13) The danger of meningeal infection from the naso-pharynx will be lessened. (14) Ear complications in general, and particularly those incidental to the infectious diseases, will be avoided or rendered less dangerous.

Intussusception in an Infant Four Months Old, Relieved by Injection.—Alfred Hand, Jr., relates an instance of intussusception showing the value of opium, which prevented an increase of the intussusception and possibly showed a reducing effect at the start of recurrence. The case illustrated the fact that with reduction the patient is by no means cured, but that the secondary and very likely also the causal primary enteritis is capable of giving rise to many anxious moments.

Three Cases of Head-Nodding and Head-Rotation in Rachitic Infants.—By D. J. Milton Miller.

Perforation of a Tuberculous Lymph Node into the Trachea —Sudden Death.—By A. Caillé.

The Practitioner, August, 1900.

Recent Experimental Contributions to the Pathology of Diabetes.—J. R. Bradford says the fundamental fact in the pathology of diabetes is unquestionably that the blood contains an excess of sugar. Theoretically this may be due to a number of causes: too great ingestion of sugar, excessive formation of sugar, lack of oxidation by the tissues of the amounts of sugar normally ingested or produced. There might, too, be a primary disintegration of the tissues with the formation of sugar. The great bulk of cases at the present time are considered to be either of hepatic or of pancreatic origin. Biedl's experiments are quoted as confirmatory evidence that the pancreas secretes some substance into the lymph stream and so into the circulation, the absence of which is followed by glycosuria. Tuckett's observations are quoted showing that lymph from the thoracic duct when injected into the portal vein will cause glycosuria of varying intensity.

Glycosuria and Diabetes in Relation to Life Assurance.—Hector Mackenzie finds in the growing mortality from diabetes, and the fact that victims are largely from the upper and middle strata of society, a cause for rigid examination for sugar in insurance risks. A case is quoted to illustrate the importance of testing for minute quantities of sugar. Fehling's test with boiling is considered the best. Trustworthy results are obtained from Williamson's modification of Hoffmann and Ultzmann's method. When doubt remains the fermentation test may be applied. True diabetes should always be declined by the company even on short-term policies.

Some Points in the Present-Day Treatment of Diabetes.—The standard diet of von Noorden's clinic, lævulose, phosphate of lime, thyroid extract, uranium nitrate, hepatic extract, antipyrin, boracic acid, spermin, etc., are remedies discussed pro and con.

Clinical Tests for Sugar in the Urine.—By R. T. Williamson.

Heredity and Immunity.—By G. A. Reid.

Norsk Magazin for Lægevidenskaben, July, 1900.

Iodo-Parotiditis.—K. Gron reports the case of a syphilitic patient, who after the administration of potassium iodide had parotiditis eight times out of sixteen. A small dose affected him in some cases, and a large dose in others, but sometimes he took as much as 240 gm. without effect. No other symptoms of iodism were observable, except on one occasion, when he had headache and catarrh of the nasal, pharyngeal, and ocular mucous membranes. The author is unable to explain the phenomena except by the term idiosyncrasy.

The Actual Condition of the Question of Acetone.—H. Chr. Geelmuyden holds that the necessary condition for the production of acetonuria is an insufficient decomposition of hydrocarbons, either from their absence in the diet, or from impaired powers of decomposition on the part of the organism (diabetes). In advanced diabetes acetonuria is a grave symptom, threatening coma. This coma may be delayed by the administration of large doses of sodium bicarbonate. The author discusses the theories which have been advanced in regard to the physiology of the bodies of the acetone series, their origin, seat of formation, etc. It is probable that they are formed in considerable quantity in the organism, to disappear completely later. They doubtless represent links in a continuous series of transformations in which oxybutyric acid-β is the primordial term.

A Case of Spontaneous Development.—By Dr. Drejer.

Diet in Gastric Disorders.—By Olaf Frich.

Oil Stoves.—By Edward Kaurin.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

IPSWICH—WAR HOSPITALS INQUIRY—HOSPITAL FOR PARALYSIS AND EPILEPSY SCANDAL—SCHOOLS OF TROPICAL MEDICINE—COLLEGE CENTENARY—EMBALMING—POISONOUS "HEADACHE POWDERS"—WEATHER—NATIONAL HOSPITAL SCANDAL—IPSWICH ECHOES—PLAGUE—SALE OF POISONS—WAR HOSPITAL COMMISSION.

London, August 3, 1900.

A goodly number of doctors have put in an appearance at Ipswich, and a considerable proportion have returned already, while more are expected to-morrow. Not a few will make the meeting the starting-point for their holiday. Some went late and left early, others ran down to be ready to read a paper in their section or join in a discussion, and returned the same day. Those of us who remain take a languid interest in the proceedings. All seem elated that the *attentat* of the Council at Exeter Hall was rejected with ignominy, and a few are nervous lest some trick may be played on this last day of the meeting. Of the actual doings you will be fully informed by your own reporters.

The War Hospitals Commission has had some more exciting evidence this week than last, when it was very dull. On Tuesday Mr. Burdett-Coutts was examined, and explained that in using the word "inhumanity" he did not mean to reflect on the medical corps, but on the deficiencies of the supplies. He said no special effort was made to get fresh milk. He said the Royal Army Medical Corps ought to get rid of their rooted objection to female nurses. Perhaps this remark gives the key to his own conduct. We have heard of the "plague of women" in the South African hospitals—not trained and capable nurses, but society-seekers after new excitements. The doctors were hampered in many ways by these meddlesome women who knew nothing of nursing, and when they were excluded they started a campaign of misrepresentation, pretending that the doctors dared not let them see the state of the hospitals. Poor Mr. Coutts seems to have been made a cat's-paw by some of these spiteful society women.

After him, Sir William MacCormac was examined, and repeated what he has already stated as to the hospitals he visited. Lady C. de Crespigny said she saw soldiers lying about outside the tents of the military hospital at Kimberley, and at the Victoria at Bloemfontein food was short.

But on Wednesday more interest was excited, for Rudyard Kipling told the commission that he had got into some hospitals by the back door, pajamas, drugs, etc., at the request of nurses, just to save time and circumvent red-tape. He said that he was told there were drugs in the hospital, but when a man is ill you cannot wait for routine. This seems very well as to pajamas and flannels, but surely it was not for nurses to say what drugs were wanted. Perhaps they were not properly trained nurses.

The distribution of £50,000 of the Hospital Sunday Fund was arranged at the meeting of the Council this week. In consequence of the scandal in connection with the Hospital for the Paralyzed or Epileptic that institution receives no award. The manager, who is dubbed "the secretary-director," appeared before the committee, which invited the board and the staff also to be present. The result of what passed is 'no award," and the public will accept the decision as a condemnation of the board of management. Last year there was ample warning given that the hospital would not receive further award until harmony with the medical staff was restored. This would seem impossible with the present board in office guided by the "secretary-director," and the sooner the governor dismisses the board and appoints men of common sense to manage the hospital, the better it will be for the reputation of the institution and the welfare of the patients. On Saturday *The Times* published a letter signed by the medical staff, demanding an independent inquiry into the administration of the hospital. The revelations that have already been made fully justify this course, and unless the governors take it the scandal will spread, for I hear there is much more to come out, and that of a kind which the public can appreciate, for the welfare and comfort of the patients are involved in the mismanagement alleged to be going on.

Dr. Nocht, port medical officer of Hamburg, and director of the School of Tropical Diseases about to be opened there, has come over to study the methods of the London and Liverpool schools of this department of medicine. Major Ronald Ross, in an interview, said the three schools would work together in the effort to lower the death rate of tropical climates, concerning which England has been too lax. The west coast of Africa may be cited. The great problem there, said Major Ross, is not the Ashantis, but malaria. Do away with that and you have a second India, a

fact recognized by the Liverpool merchants and by Mr. Chamberlain. Malaria germs were discovered twenty years ago, but the discovery has been practically ignored. Germs which may cause dysentery have not been properly studied, and the disease has caused much havoc in South Africa. Major Ross seemed to indorse Professor Wright's discovery of anti-typhoid inoculation, and held that much might have been done to avert the disease in Africa had the method been fully followed. Naturally enough he felt deeply the neglect to follow up the revelations about the mosquito. That malaria is propagated by it, he said, has been proved in India, in Italy, and elsewhere, and the French Academy has recognized the discovery; while England only sends out a couple of expeditions to inquire, instead of taking practical measures on the lines suggested by the discovery.

Continuing the account of the College of Surgeons' centenary celebrations, I may say that some three hundred and fifty persons sat down to the festival dinner on Thursday evening. The Prince of Wales was present, and in returning thanks for the toast of the royal family expressed thanks also that his diploma of honorary fellow would not permit him to practise surgery. Lords Salisbury and Rosebery were equally amazed to find themselves made a part of a College of Surgeons. They might add their influence as honorary fellows to the demands of members for the franchise. On Friday the official reception by the lord mayor and lady mayoress at the Mansion House was followed by a conversazione, which some go so far as to pronounce the pleasantest function of the centenary celebration.

I am told that Professor Renouard is coming over from your side to instruct undertakers and others in the art of embalming. In Europe this is usually done by medical men. But the practice is not general, as I understand it is with you.

A child has been poisoned by a "headache powder" bought at a grocer's. It contained a heavy adult dose of acetanilid. And our legislators permit such poisons to be sold by grocers and stores as freely as carbolic acid and others! Verdict—accident. But what if a doctor accidentally poisoned a patient?

London, August 10, 1900.

The "heat-wave" you sent us was succeeded by cold, rain, thunder storms, and cyclones. Day after day the papers were filled with accounts of floods and other catastrophes caused by the storms, to say nothing of the deaths of men and cattle. The sudden fall of some 30° in the thermometer set men talking about arctic severity, which, of course, was mere exaggeration, for the instrument persistently pointed at temperate. Nevertheless, many were glad to light fires again, although in August. Then came cables saying you were having another heat-wave, and as our clerk of the weather often takes his cue from yours we began to feel that we should yet have some more summer. But here we are still waiting for a share of your heat-wave which does not come, and I write by a fire!

The long-standing dispute at the National Hospital should soon be settled. The staff have signed a letter for publication exposing the breach of faith of the committee and the autocratic conduct of the director. They have further shown the administrative evils of committing all power to one man, and the absurd position of a board which has become the tool of its paid servant. The condemnation by the Sunday Fund committee, which withholds its award this year, should be enough to settle the matter, but the director does not seem disposed to resign. The staff declare they "are unanimous in their resolve to put an end to the evils of the present system." On the appearance of this protest the board called a meeting of the governors for to-morrow. This looks as if they deliberately chose a time when very few are in town, and the staff decline to be a party to anything of the kind and repeat their demand for a full and independent inquiry.

Echoes from Ipswich are loud and persistent. They are jubilant in tone, too, for though the atmosphere of debate was as changeable and stormy as the weather outside, the association scored a triumph over the Council respecting the disgraceful attempt to cheat the members out of their slender rights and grasp the control of the funds. The Council should have understood their position under their "articles of association" when these were framed and the society was incorporated under the Limited Liability Acts. Finding, however, that the apathy of members could be generally counted on, they attempted their *coup d'état* at Exeter Hall, intending to have it ratified at Ipswich. But the scheme was defeated at the outset. No one who looked at it could help seeing that it was an attempt to condone illegality in the past and to hand over every authority to the Council with all the funds, and so erect these would-be despoilers into another petty medical oligarchy. We have too many such "authorities" not to see how they are likely to act, and the Council have only themselves to thank for this disgrace they have reaped from their barefaced attempt.

Dr. Pye-Smith's address seems to have given much satisfaction, judging by the pithy examples brought away and handed round here. Take a sample or two: "To say a man died of apoplexy or paraplegia is to state a fact within the practitioner's knowledge; to say he died of cerebral hemorrhage or of myelitis is only a doubtful inference unless a post-mortem has shown it. A man who believes everything about the action of remedies in Garrod or Wood or in the assertions of advertising druggists is apt to end in unbelief in opium and is sure to be unsuccessful. Is it not a pity to prescribe made-up pills and mixtures of manufacturers, and so lead patients to ascribe their recovery to the special cure instead of our skill? How can statistics be useful when made up of the cases of one disease under curious names? I see many patients suffering from idleness, few from hard work. Worry or nerve prostration is generally only a veil for drink and gambling. Steady work is the best cure for a thousand nervous ailments."

During the discussions warm words were sometimes exchanged, as when the president of the Council said to Mr. Horsley, "Your amendment comes to the same," and was promptly told, "No, it doesn't, and you know it," thus provoking, "Don't question our *bona fides*," and extracting the retort, "The proposal has been shelved the same way before."

When Professor Byers suggested that there was too much centralization in the bestowal of scientific grants, Dr. Saundby was up in a moment, and a lively bit of dialogue ensued. Dr. Haddon joined in and declared much money allowed for grants was really frittered away. He proceeded to remark that he had previously spoken on this subject, and was shouted down with cries of "You have—you have."

Now and then two or three gentlemen were speaking at once with considerable excitement, and that at times they seemed to be passing doubtful compliments, but it was hardly possible to be sure of the words. Nor were these amenities confined to the general meetings. Even the sections were occasionally lively. In one a gentleman disclaimed responsibility for a paper he read for an absent member, when the speaker he had interrupted remarked, "I didn't say anything of you in particular," and was answered, "No, sir; but you shook your fist at me," to the intense amusement of the audience.

The dinner went off successfully—at least those who were present say so, though some who stayed away affect to think nothing of it. The president presided, and here as throughout seems to have given great satisfaction. The toast of the army, navy, and volunteers naturally drew out applause. In responding, Surgeon-General Hamilton referred to the "hysterical allegations of Mr. Burdett-Coutts," and knowing the difficulties of the country declared that it was impossible to imagine more could have been done than was done for the sick and wounded. There was nothing, he said, the field-marshal would not have done to have saved a single man an hour of suffering. When he remarked that the medical service had been for years impressing on the War Office the importance of understanding, some one interrupted with a cry of "They can't," and the remainder of the sentence was drowned in laughter.

Sir John Moore proposed "The Mayor and Town of Ipswich," and the mayor responded in a witty speech provoking much laughter and applause.

Sir C. Dalrymple, in proposing the Association, was not much behind when he admitted he had not heard one of the addresses, but the rapidity of communication in these days was such that he read it in his newspaper in the train before it was delivered.

The president's toast elicited enthusiasm, and was replied to with hearty thanks.

While the dinner was proceeding there was a smoking concert at another place, and in the museum a soirée was given by the ladies of the locality, which was attended by some eight hundred people.

I hear that the garden parties and other out-door entertainments were as successful as the weather permitted. The museums offered shelter in heavy rain to those who fled the sections. The Pathological Museum had some interesting specimens from the Norfolk and Cambridge hospitals, and a series of slides from the London Tropical School illustrating malaria, etc. The drug and apparatus museum was of the usual character—a few novelties attracting attention.

The landing of four cases of plague at the docks caused some trouble to our health department. They were quickly isolated, and the medical officers of health profess to be quite ready to deal with any other cases that may be landed on our coasts.

Another death from headache powders is reported. At last carbolic acid is to be scheduled as a poison. Why not other poisons too?

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-eighth Annual Meeting, Held at Ipswich, July 31, and August 1, 2, and 3, 1900.

(Special Report for the MEDICAL RECORD.)

GENERAL SESSIONS.

(*Continued from page 278.*)

Third Day—Thursday, August 2d.

THE third general session, held in the central hall of the Higher Grade School, was called to order by the president at 2:30 P.M.

Address in Surgery.—MR. FREDERICK TREVES, of London, then delivered the annual address on surgery, taking as his title "The Surgeon in the Nineteenth Century." He began by drawing a picture of England as it was one hundred years ago—the life mostly spent in little villages, when travelling was a luxury limited to the few. London was not one-fourth of its present size; no railway terminus flaunted its structures in the city's midst; there were no telegraph and no telephone. The postal system was without form and void. Education among the mass of the people was a matter of little account, and was to a great extent actually non-existing. As to the surgeon, he was but a sorry element in social life. In the great towns and cities there were esteemed practitioners of surgery who were eminent by reason of their scientific work and their successful practice, but their numbers were few. In the country the surgeon or common practitioner was usually ignorant, illiterate, sordid, not without a suspicion of dishonesty and of a leaning toward the bottle. He was to a large extent a mere retailer of physic, and in the public eye he ranked with the quacks and nostrum sellers with whom he competed. In noting the advances made by the surgeon during the century, the first matter to be dealt with concerned his position as an adviser to his patient. Sick men demanded knowledge from their physicians. In the past the surgeon had to make up by fiction what he lacked in fact. The surgeon of the present day, as an adviser, was in a position which is so greatly improved that it could hardly have been imagined by his forebears of a hundred years ago. He had in the first place to deal with a more enlightened public, and in the second place the additions made to surgical lore had been so substantial that in many departments surgery had reached to the status of an exact science. There was no longer need to call upon invention to fill up the gaps of the unknown. One said that at present nothing was known of the nature and causes of cancer, and the patient was satisfied, whereas at the beginning of the century he should have been told that it was "a diseased hardness" or a "scirrhous degeneration." Doctors still, to be sure, talked of the constitution, of supporting the system, of poverty of blood, diminished vitality, sympathetic inflammation, tonics, galactagogues, alteratives, strengthening the lungs, giving tone to the stomach, etc., but the modern surgeon could dispense with these empty forms. As a man of learning, the surgeon of a century ago knew nothing of the causes of inflammation and of the dangers to open wounds. He had no glimmer of the possibilities of asepsis; he had no anæsthetic, no hypodermic syringe, no clinical thermometer, no practical means of investigation in clinical chemistry. The very name bacteriology did not exist, and the treatment of disease by prepared serums would have seemed to him a wild dream. The microscope played no part in his equipment; he had no laryngoscope nor ophthalmoscope, and his acquaintance with otology, skin affections, and diseases of women was but rudimentary. Conservative surgery and plastic operations were unknown. There was no systematized medical education; the training of the surgeon was paltry, casual, and inefficient. During the nineteenth century, the surgeon, as an operator, passed through a rapid metamorphosis, and had now reached the level of the unexpected. He possessed some qualities which were now falling into abeyance, and which could not pass away quite unregretted. The success of his craft depended largely upon his daring, upon the alertness of his eye, the steadiness of his nerve, and the rapidity of his movements. In spite of moans for mercy the knife had to move on its way steadily, and, undeterred by struggles and bursts of hemorrhage, the blade must needs pass without faltering or sign of hesitancy. At present the surgeon's hand could move with leisurely precision, and the operating theatre had changed from a shambles to a chamber of sleep. The operator had less need for dashing qualities, but he had gained much in the sympathetic handling of his patient. Beyond these general changes in the attitude of the operator there had been special advances in the surgeon's art. Prominent among these might be mentioned: (1) an improved knowledge of anatomy; (2) a readier method of arresting hemorrhage; (3) the employment of anæsthetics; (4) the introduction of antiseptic measures. The science of anatomy was well advanced at the beginning of the century, but it was not taught to the common student. Hemorrhage was expected in operations, tourniquets were employed freely and with harshness, raw surfaces were bathed with styptic solutions which were destructive, or at least opposed, to primary healing. The *écraseur* was employed for the removal of growths of various kinds. At the present day the surgeon had little dread of hemorrhage; bleeding was often anticipated by applying a temporary or permanent ligature to a main artery before a part supplied by that vessel was excised. With an anæsthetized patient, a surgeon could proceed with slowness. Pressure forceps, moreover, had brought a great assurance of security and had done much to extend the area of safe operation. The value of anæsthesia was too well understood to call for comment. It had not only extended surgery, but had engendered surgeons. Antiseptic measures, and the changes wrought by them, were also well known. The surgeon had learned to be clean, and had become aware of the potency of little things. As to the surgeon of the future, the days of the great operator, of the one man to whom all came who could, were rapidly passing away. The practice of pure surgery was now becoming common to the many. The man who excelled conspicuously as an operator would always attain such eminence as his ability deserved, but the exclusiveness of the practice of surgery was quietly vanishing with the century. The change was well. Some undesirable developments there were; men who were not qualified might occasionally perform major operations. We were also in danger of passing from the policy of doing too little to the policy of doing too much. So many were the artificial aids to clinical investigation that it was a question whether the natural acumen of the surgeon would not deteriorate in proportion as he failed to encourage that particular learning which clung to the finger-tips of all great diagnosticians. The skiagraph embodied a substantial gain, but it was to be discounted by the loss of the great element in education which it was slowly replacing. An abdominal swelling was brought under notice. Its features were obscure, but much of the uncertainty of outline could be dissipated by a cultured hand which, with infinite patience and repetition, had learned to construct a reality out of a shadow. It might be said that it was

needless to persist in bringing this much-elaborated means of inquiry to further perfection, since the problem was at once to be solved by an exploratory laparotomy. By such little operation a great advantage was gained, but an opportunity to add to one of the most refined forms of learning was lost. The value of the exploratory incision was beyond question, but among the signs of the times it was impossible not to notice a tendency to resort too readily to this means of solution. There were cases which presented symptoms hard to interpret at any superficial inquiry. Was it worth while in such to undertake an exhaustive critical research and to submit the whole to a trained judgment? The quest would, no doubt, develop habits of observation and powers of weighing evidence; but the process was slow, and an inquiry carried out in a bacteriological laboratory would clear up all doubts, and at the same time dispense with the efforts of a cultured sense. Those, therefore, who were concerned with the education of the surgeon of the future would do well to cherish still this ancient power, and to foster a memory of the fact that surgery was, in its very essence, a handicraft, and that in all that he did the surgeon's great endeavor should be to make his own hands self-sufficing. It was sad to think that this hardly acquired faculty died with the possessor of it. An individual loss did not, however, hinder the general tide of progress. Advance in such a work as ours depended upon the uneventful work of the whole body and was only accentuated by the achievements of the prominent few. The movement was the movement of a multitude in which individuality was, at a distance of time, little to be distinguished, and in which personal eminence contributed a smaller factor than the present was willing to acknowledge. Those who stood forth as the leaders of the advance were merely the elect of the common body and the representatives of a wide intellectual franchise. Even he who startled the world as a discoverer had often done little more than give expression to what was already nascent in the multitude. So as one great surgeon after another dropped out of the ranks his place was rapidly and imperceptibly filled, and the advancing line moved on with still the same solid and unbroken front.

After the usual vote of thanks to the orator the subject of reorganization was resumed. The president of the Council presented one list, and Mr. Horsley presented the other, as had been arranged. The meeting accepted the two lists and appointed the gentlemen named in them the committee, as follows: Nominated by the Council: Surgeon-General Hamilton, South Africa; Mr. J. Cantlie, India and Eastern Archipelago; Sir John William Moore, Ireland; Dr. J. C. McVail, Scotland; Dr. J. Roberts-Thomson, Mr. T. Jenner-Verrall, Dr. S. Woodcock, Dr. R. Saundby, Mr. Andrew Clark, Dr. J. Ward Cousins, Dr. H. Radcliffe Crocker, Mr. H. T. Butlin, England. By Mr. Horsley: Dr. Buist, Dundee; Dr. Byers, North of Ireland; Dr. Gooding, West Indies; Dr. Morier, Australasia; Dr. Bateman, Dr. A. Cox, Dr. Gordon, Dr. Milburn, Dr. Browne-Ritchie, Dr. Whitaker, Mr. Victor Horsley, England; Mr. Edmund Owen, Canada.

Dr. O'Connor said that in accordance with the rules observed in royal commissions the meeting should appoint the chairman, and he therefore proposed Mr. Horsley.

Dr. A. Cox supported this, amid cries of "No, no!" and the president said he must rule the motion out of order, whereupon Dr. O'Connor declared, amid laughter, that the ruling was unconstitutional, and the president provoked renewed laughter by saying, "It is my ruling."

Dr. Sarat Mullick brought forward a motion, of which he had given due notice, on the system of filling professorial chairs in India. These appointments, he said, were given more by virtue of grade rank in the Indian medical service than by special ability of candidates, and he proposed a sub-committee to inquire and report to the council on the subject.

Mr. Horsley seconded. Colonel McLeod and others opposed.

Eventually it was agreed to refer the subject to the parliamentary bills committee.

Mr. R. B. Anderson brought forward a motion of which he had given due notice, condemning the Council for repudiating its subordination to the general meetings, contrary to the articles of association, and, further, his resolutions embodied a plan for securing a change.

The President of the Council rose to order, and said Mr. Horsley's motion was placed in the forefront of the business, by arrangement, for the purpose of dealing with and covering all questions relating to the constitution of the association.

Mr. Anderson said he was not a party to such arrangement, and claimed the right to move his resolution.

The President interposed, and said such had been the general understanding, and he should rule the motion out of order.

Mr. Anderson thereupon gave formal notice of protest against this ruling, and that he reserved all his rights on the question.

A member warmly supported Mr. Anderson, but the president was firm.

It was agreed to pay the expenses of the constitutional committee, and that the provincial members should be allowed a guinea a day for hotel expenses.

Fourth Day—Friday, August 3d.

The closing meeting was called to order by the president at the usual hour.

Address in Obstetrics.—This was delivered by Dr. William J. Smyly, who took for his subject "The Maternal Mortality in Childbirth." He said that the improvement in the death rate did not take place gradually as the light of science slowly dawned upon our art, but occurred suddenly in the seventh decade of the present century. In the Paris Maternity, for example, the mortality dropped in one year from eight per cent. to four per cent. and in 1881 to one per cent., and has since improved, and in all the hospitals of Europe a similar change occurred. As to private practice it was impossible to give any facts founded upon reliable statistics. The statistics of the Rotunda Hospital from 1870–1876 (the period immediately preceding the introduction of antiseptics) gave 8,092 women delivered, of whom 169 died, or 1 in 45.5. During the time from 1890–1896 there were 9,085, with 50 deaths, or 1 in 181.7, a saving of about 200 maternal lives in every 10,000 deliveries. Similar results were shown by hospitals generally. The greatest improvement was noticed in puerperal fever, or septic infection. In the beginning of the century obstetricians were ignorant of the nature of this chief cause of childbed mortality, and were helpless to prevent or to cure it. Epidemics became more frequent and more virulent, and obstetricians endeavored by clinical observation and post-mortem examination to discover its nature; but unfortunately both these roads to knowledge were pursued by the same individuals, and with disastrous results. In 1872 Dr. Churchill reflected the general ignorance when he published in the sixth edition of his well-known work his opinion that puerperal fever was due to mental emotion, cold, putrefaction of portions of retained placenta, gastro-enteric irritation, the state of the atmosphere, epidemic influences, and contagion. With regard to the latter, he felt compelled by the evidence

to admit the possibility of its being conveyed and communicated or excited by those who had attended midwifery cases after being employed in dissection or post-mortem examination, or who were much in contact with fever patients; but in all other cases he attributed its occurrence to epidemic influence. Toward the end of the last century Dr. White, of Manchester, published a remarkable work in which he attributed puerperal fever to the absorption of putrid matter by the lymphatics and vessels of the womb. At this conclusion he arrived by observing the similarity in causation and symptoms in putrefactions occurring in other parts of the body. He further observed that when a putrid wound was cleansed, the symptoms abated. His treatment was therefore directed toward the prevention of putrefaction, and elimination of putrid matter should it have already formed. To these ends he advocated thorough ventilation, cleanliness, and drainage. Free and even cold air should pervade the apartment, and clean linen be supplied every day. The lochia, if permitted to stagnate in the vagina, would soon become putrid, for, he said, it was well known that the mildest humors in the human body, if suffered to stagnate, became acrid as soon as the air had access to them. He therefore encouraged his patients to sit up several times a day, or even to leave their beds so as to prevent a lodging of offending matter in the vagina, uterus, intestines, or bladder. "I must not omit to mention," he said, "the good effects I have experienced from emollient or antiseptic injections into the uterus by means of a large ivory syringe or elastic vegetable bottle in those cases in which the lochia have become acrid or putrid. . . . I have by this means known the fever to be much assuaged and in many cases wholly extinguished." One could not but wonder at White's independence of opinion and the general correctness of his views. Ignorance, prejudice, obstinacy, were the forces against which he combated in vain, and not until fifty years later did another champion take the field against them, to perish in the attempt. This champion was Ignatz Philipp Semmelweis. In 1846 he, a young man of twenty-eight years, was appointed assistant to Professor Klein in the maternity department of the Vienna Hospital. His observant mind was struck by the fact that the mortality in childbed was immensely greater in the department attended by students who also attended post-mortems, than in the department reserved for pupil midwives. He concluded that the cause of puerperal fever must be an infection from without, due to the transportation of poison by the fingers and instruments of attendants, and by ordering disinfection of hands, instruments, and air, he reduced the mortality from 5.3 per cent. to 1.27 per cent. Jealousy and unbelief thwarted him in Vienna and in Buda-Pesth, and he retired from practice to write a work on "The Nature and Prophylaxis of Puerperal Infection." In his endeavors to impress upon others the importance of his life-saving truths he fretted and fumed his life away, and finally died in an insane asylum, of septic infection. Had he had more patience he might have observed that the seed he was sowing had taken root. His views were adopted by Michaelis, Lange, and Simpson, and Pasteur's wonderful discoveries set them upon a firm scientific footing. Lister in 1864 astonished the world by the wonders of antiseptic surgery. Stadfeld, Bischoff, Fritsch, Schroeder, Breisky, and Lucas Championnière were the pioneers in the movement for applying antiseptic principles to obstetric practice. Soon the spray was replaced by the douche, and the vagina was douched with antiseptic fluids before and after every labor; the uterus was soon included in the process. Accidents and deaths occurred, however, due to the injection of air and fluids into the veins. Leopold showed that by thoroughly disinfecting the external parts and avoiding unnecessary examinations better results were obtainable than by prophylactic douching. The whole question of the value of prophylactic douching resolved itself into the probability or even possibility of auto-infection. That the vaginal discharges often contained germs, many of which were apparently aseptic or saprophytic, was undeniable, but were these germs really dangerous to the patient, and could they be removed by antiseptic measures? These were the two important questions. Krönig injected cultures of various bacilli into the vagina, and found that they were all eliminated within twenty-four hours. In cases in which, after injecting the micro-organisms, he at once thoroughly scrubbed out the vagina with a one-per-cent. solution of corrosive sublimate or lysol, they had not entirely disappeared at the end of thirty-six hours. The douche, therefore, not only failed to dislodge them, but so altered or removed the natural discharges that for at least twelve hours the normal bactericidal action of the vagina was annihilated. The speaker believed that unless nurses could be trusted to preserve perfect asepsis, vaginal prophylactic douching was productive of more harm than good The teaching of Semmelweis and Sir James Simpson, that infection was carried chiefly by the hands of attendants, was now the generally accepted opinion. Experience proved that an absolutely aseptic condition of the hands could not be insured by any known process, and from this is learned: (1) to avoid as far as possible septic contamination; (2) to spare no pains to render the hands as innocuous as possible; (3) to restrict local interference within the narrowest bounds. The last of these rules included not only unnecessary operative interference, but also needless vaginal examinations. Next to antiseptics, the author considered the substitution of external for internal examinations the most important advance in modern midwifery. By whom it was introduced he did not know, but its systematization and popularity were owed to Pinard, Credé, and Leopold. By its means it can be ascertained whether the woman is pregnant, the period of pregnancy, the position and presentation of the fœtus, whether it was living, dying, or dead, and whether there was one child or more in the uterus. The presence, course, and progress of labor could be told; and pelvic deformity and many other conditions could be diagnosed. External examination was safer, gave more information to the examiner, and was easier and more reliable. In the Rotunda Hospital, students made more mistakes with the vaginal than with the abdominal method. Two things could be made out only by vaginal examination—the condition of the os uteri, and a prolapse of the umbilical cord. A fat or rigid abdomen on the part of the patient also necessitated an internal examination. The speaker seldom examined more than once in the course of a normal labor, and then as soon as possible after full dilatation of the os, as indicated by a rupture of the membranes or a change in the character of the labor pains. Disinfection of the hands should be thorough. In the treatment of the disease when once established, local disinfection by antiseptic douching, the curette, abdominal section, and ablation of the infected organs had all been employed with success. The general treatment with which he had met most success was that introduced by Runge in 1886, and consisted in cool bathing, nourishing diet, avoidance of internal antipyretics, and free administration of alcohol.

A vote of thanks was moved by Professor Byers, who particularly alluded to the address as one full of information, and full of another quality which he regretted was so rare, viz., the effacement of self.

The motion was seconded by Dr. Griffith and carried unanimously.

Afterward votes of thanks were unanimously passed to the mayor of Ipswich and a number of others who had contributed to the success of the meeting, concluding with one to Dr. Elliston, the president, which was suitably acknowledged, and thus the annual meeting came to an end.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

First Day—Wednesday, August 1st.

President's Address.—Dr. W. S. A. Griffith, of London, in the course of a brief introduction, said that the subject chosen to-day for discussion had never been discussed before, and that there was no subject more thorny; the subject chosen for the second discussion, viz., uterine fibroids, was one about which there were very different opinions held, and the reason that the subject of the treatment of post-partum hemorrhage was chosen for the third discussion was that, although it was so well worn, yet letters frequently appeared in the medical papers asking for guidance as to the best method, and it was felt that some authoritative pronouncement would do good.

Puerperal Fever in Relation to Notification.—Dr. Berry Hart, of Edinburgh, opened the discussion on this subject. He said that notification of scarlet fever and typhoid was accepted as desirable by all, but that there were difficulties in the way of the general acceptance of the notification of puerperal fever. Statistics showed that the mortality of puerperal fever was not diminishing. The evident objections to notification were: First, the difficulty of defining what was puerperal fever; second, the risk of misleading statistics; third, the reluctance of the practitioner to notify. With regard to the first, he would define puerperal fever as any form of puerperal septicæmia. By septicæmia he understood an acute disease from the entrance of organisms through the genital tract; these pathogenic organisms spread along the lymphatics to the body, and it was this spread which marked the disease as notifiable. The case had usually to be diagnosed on clinical conditions. He recognized (1) an acute rapid form; (2) the ordinary lymphatic form; (3) the rare venous form. The second form was the usual one, and under this head would be included cases of sapræmia. The third variety taxed the practitioner's skill most. It originated in the infection of a uterine clot inside the uterus, and the infection passed along the blood channels. These cases were the most tedious, trying, and difficult to diagnose. Serum reaction now eliminated typhoid. He considered that the origin of puerperal fever from drain poison was not proven. Some of the rashes of septicæmia closely resembled scarlet fever, and before the diagnosis of the latter disease was accepted its source should be clearly proven. Notification was not necessary in localized pelvic inflammation, nor in gonorrhœal cases, nor cases of that rare disease, puerperal tetanus. Gonorrhœal inflammation may come on late in the puerperium, and gonococci will be found in the discharge. With reference to the unwillingness to notify, he found that it was not so general as would be supposed. He found on examining the statistics of many large towns that the notifications considerably exceeded the deaths. In regard to prevention, he thought that the most important point was the correct management of the third stage. The advantages of notification were: (1) that it showed the frequency of occurrence—this was not diminishing; (2) that it would help in prevention by putting the medical officer of health on the track of dangerous midwives. The municipality should provide hospital accommodation for these cases, as they required special local treatment and most careful nursing. He was not optimistic with regard to the treatment of bad cases. Notification would also improve our knowledge of the disease. The literature of the subject was principally represented by Boxall, Allingworth, Olshausen, and Naumann.

Dr. Smyly, of Dublin, spoke of the great importance of obtaining statistics of the mortality in private practice. It was impossible to obtain that until a record was got of all the deaths occurring after childbirth, whatever the cause. The returns of the registrar-general divided deaths after childbirth into three classes: (1) Cases of metria; (2) deaths due to causes directly dependent on the labor; (3) deaths due to causes not connected with labor. Under the latter head were many cases certified as pneumonia, scarlet fever, etc., which were really puerperal. He deplored the perpetuation of the term puerperal fever. He referred to the difficulty of determining what should be notifiable. Dr. Berry Hart said: "Notify systemic infection but not local inflammations." The speaker would ask, why not? For scientific purposes notification would not be of much use, but it would be useful for saving life. It damaged a man's practice to use the word puerperal fever, and he would like to see some other name adopted.

Dr. Campbell, of Belfast, said that there were two great sources of puerperal fever: (1) the midwife; (2) the patient. He believed in auto-infection as from gonorrhœa. A great advantage of notification would be that there would then be supervision of midwives. It would increase public interest in the training of midwives, and improve the quality of monthly nurses, raising them more to the level of surgical nurses.

Dr. Boxall, of London, had investigated the statistics of the mortality from childbirth up to the end of 1898, and found that since the publication of his previous investigations in 1894 the returns showed no improvement. In 1880 the registrar-general instituted a system of inquiry into all cases returned under doubtful headings such as peritonitis, and the proceeding had raised the mortality of puerperal fever by one-twelfth. Statistics showed a serious state of affairs. We now knew that puerperal fever is a preventable disease. In lying-in hospitals the mortality was formerly fearful. Now puerperal fever was practically abolished; even when septic cases had been brought in from outside the spread of the disease could be absolutely prevented. Mere tabulation could do no good, and he did not think that it was necessary to remove these patients to an isolation hospital. He doubted previous auto-infection of the patient as a cause, giving as his reason that if that were so there would be more cases in strictly conducted lying-in hospitals than did arise, and he agreed with Dr. Smyly that all serious cases of illness should be notified. He would not attempt a definition of what was puerperal fever.

Dr. Macan, of Dublin, was entirely opposed to notification. He advised that a practitioner should refuse to attend cases unless a nurse was employed of whose knowledge of asepsis he felt assured.

Professor Byers, of Belfast, approved of notification. It would enable the physician to see where the disease was, and to find its cause, and in the end would lead to prevention. We must not oppose it because it might injure the practitioner; that was an unscientific and selfish position to take up. There was great difficulty in definition. We must accept fever after delivery, face the facts, and boldly say that it must be notified. He advocated bacteriological examination of the discharges, and disbelieved in auto-infection. He would teach students and midwives to make as few vaginal examinations as possible.

Dr. Brummet, of South Australia, said that the law in that country provided for the notification not only

of puerperal fever but also of phlegmasia dolens, cellulitis, etc. He pointed out the difficulty in notifying when there was a rise of temperature which might turn out to be temporary.

Dr. Targett, of London, said that recently at Guy's Hospital three beds in an isolation ward had been set apart for cases of puerperal fever which might arise in the out-door maternity. The cases admitted had done so remarkably well as to show that there would be an advantage in isolation hospitals.

Dr. Helme, of Manchester, strongly opposed the teaching that the doctor was always responsible. The public were already too much disposed to take that view, and this constituted one of the chief difficulties in notification.

The President drew attention to the absolute difference between the notification of puerperal fever and that of other infectious diseases. No one blamed the doctor for the occurrence of smallpox or scarlet fever, but in connection with puerperal fever the man, be he consultant or general practitioner, always suffered. That, however, should not stand in the way of his telling the plain truth, as the alternative of deliberate concealment entailed far worse results. In the speaker's opinion, when a regular temperature record was kept it was shown that all severe cases began within twenty-four hours.

Dr. Berry Hart, in reply, said that some seemed to think that if they kept their hands clean that was all that was required, but he thought the management of the third stage of labor was equally important, and was of opinion that the Credé method had done much harm through leading to premature and hasty interference with the normal mechanism.

On the motion of Dr. Boxall the following resolution was carried *nem. con.*: "That it be a recommendation to the council of the association, that in the opinion of this meeting it is desirable that the notification of puerperal fever (septicæmia) should be adopted generally."

Cephalotripsy for the After-coming Head.—Dr. Targett, of London, read a paper with this title. In the case recorded the conjugate diameter was two and three-fourths inches. Cæsarean section was refused. The head was perforated behind the ear. One blade of the cephalotribe was passed through the hole made by the perforator and the other blade applied over the face, and the head was easily delivered. Attention was particularly drawn to this method of applying the instrument.

A Human Placentation in its Second Stage.—Dr. Catharine von Tussenbrock, of Amsterdam, read this paper. This embodied a series of prolonged microscopical examinations of the placental structures, which were illustrated by diagrams, and among other things she proved that at the sixth month the reflexa had perished by simple necrosis due to pressure of the growing ovum.

Second Day—Thursday, August 2d.

Natural History of Fibroids and Recent Improvements in their Treatment.—Mr. Alban Doran, of London, opened the discussion, saying that we did not know the pathological relation of fibroids to the ovaries nor were we certain of the precise significance of menorrhagia in certain cases. The growth of these tumors was very variable and the prognosis as to growth extremely uncertain. As a rule, they got smaller at the menopause, but there were many exceptions. As regarded treatment, most of them required no operative treatment. He would put aside broad-ligament fibroids in an entirely separate class. They always tended to grow to a large size, and should always be removed. They seldom caused enlargement of the uterus, but the uterus was thin and flattened out over the growth, and the operation for their removal differed from any form of hysterectomy, and these tumors should not be included in statistics of hysterectomy. In the operation for fibroid of the broad ligament the risk of hemorrhage was greater, that of septicæmia less. Fibroids of the uterus were really myomata composed of plain muscular fibre, and ergot acted on the latter, but he thought that the action of the ergot depended rather on the fact that the tumor was uterine than on the fact that it consisted of muscular fibre. Heart disease was a contraindication to the use of ergot. No definite change was ever detected in the ovaries connected with fibroids, that would account for the growth of the fibroid. Removal of the ovaries in uncertain cases checked bleeding. On the whole, oöphorectomy was not followed by satisfactory results, and when failure occurred one could never be certain that the entire ovary had been removed, as ovarian tissue was sometimes found extending along the ovarian ligament right up to the uterine wall. Oöphorectomy was practically discarded. It was difficult to be clear as to the nature of the hemorrhage observed in fibroids; in subserous ones there was no hemorrhage whatever. The distinction between menorrhagia and metrorrhagia was not easily determined. There was no rule as to prognosis of rate of growth. Slow spontaneous disappearance might occur; rapid disappearance was doubtful, and he thought cases recorded under the latter had been instances of error in diagnosis. Abdominal measurements were useless for determining the growth of the tumor unless the skin was stretched by the growth, and the sound fallacious. The menopause was deferred. It was very difficult to be assured that hemorrhage was not menstrual. The majority of fibroids ceased to trouble after the menopause. The usual indication for operation was bleeding. He drew attention to the close connection which had been shown to exist between fibroids and heart disease. An improvement in expectant treatment had been the introduction of chloride of calcium and salines. Simple fibroids producing no symptoms could often be extirpated easily, but this was not surgery. If operation was decided on, then the following were the latest methods: (1) The serre-nœud was still allowed to be used in cases of fibroids complicating labor or pregnancy, when speed in the operation was desirable. (2) Myomectomy. (3) Pan-hysterectomy. (4) Retroperitoneal hysterectomy. This latter was the more popular method in the country; there was, however, a danger in the sutures which were left in the cervix. As regarded the removal of the ovaries, it had been shown that removal of the uterus led to atrophy of the ovaries, and his own experience was that removal of the ovaries was not essential. He thought retroperitoneal hysterectomy was the best operation.

Dr. Berry Hart, of Edinburgh, thought that if conservative opinion was founded on experience of the clamp operation, it was not to be relied on. The effect of the menopause was not always so favorable as was generally stated. The two great improvements in operation were: (1) The arrest of hemorrhage by ligature of arteries, not on the tissue of the cervix; (2) the Trendelenburg position.

Dr. Smyly, of Dublin, thought it very difficult to advise. For himself in the past he thought that he had operated too little rather than too much. There was now very little difference between pan-hysterectomy and the subperitoneal method. Personally he adopted Doyen's method of operation and found it best.

Mr. Harrison Cripps, of London, said the question of operation depended on (1) What is the fatality if left alone? (2) What is the fatality of operation?

It was very difficult to make a statement as to the first question. Champneys had shown from the post-mortem records of St. Bartholomew's that in eighteen hundred cases of women at the fibroid age one hundred and forty had fibroids, and that among the number death was directly attributable to the fibroid in three cases. In his opinion the three greatest improvements in operation were: (1) Improved antiseptic methods; (2) intraperitoneal treatment of the pedicle; (3) the Trendelenburg position. As regarded antisepsi a noticeable improvement at "Barts" had followed the introduction of the use of a solution of biniodide of mercury in spirit, 1:500, for the sterilization of the hands.

Dr. Macan, of Dublin, pointed out that a very large number of fibroid tumors were never suspected, and consequently did not enter into any statistics.

Dr. Cameron, of Toronto, estimated that fifty per cent. of negro women had fibroids. He agreed that it was impossible to prognose the course of a fibroid. He adopted Kelly's method. One could avoid ligature by using forcipressure. A pressure of two thousand pounds could be obtained.

Dr. Roger Williams, of Bristol, said that statistics showed that not more than one in two thousand women died from fibroid. There were no statistics available on which to estimate the frequency of fibroids. Some foreign observers had said that twenty per cent. of women had them. He calculated that there were one million women in the United Kingdom suffering from fibroids.

Dr. Stanmore Bishop, of Manchester, thought medical treatment of fibroids absolutely useless, but did not think that any surgeon would recommend removal of every fibroid. He thought that the two great improvements in their removal were the abandonment of the extraperitoneal clamp operation and of the drainage tube.

Dr. Campbell, of Belfast, had regretted advising non-interference. He had found that chloride of calcium and hydrastis had a good effect in checking hemorrhage. He had a good opinion of vaginal hysterectomy for small multiple fibroids giving rise to serious hemorrhage. He favored pan-hysterectomy in preference to retroperitoneal, as the latter left the cervix with its blood supply partially cut off.

Dr. Macnaughton Jones, of London, had seen women with fibroids become lunatics, and also die from uræmia, sloughing, or heart disease. In all cases in which fibroids were producing any symptoms he advised hysterectomy.

Dr. Stanley Boyd, of London, asked what was the effect of the salpingitis which so frequently accompanied fibroids on the production of hemorrhage. She said that the only way of estimating the growth of fibroids was by careful bimanual examination both per vaginam and per rectum. She asked if atrophy of the ovaries which followed hysterectomy had the same effect on the woman as removal of the ovaries by operation. It was sometimes difficult, when the fibroid grew low down in the uterus, to avoid leaving some of the uterus in doing the retro-peritoneal operation.

Dr. Scharlieb, of London, pointed out that in cases in which a fibroid became frequently incarcerated in the pelvis, of which she gave an instance, removal was needed; and in these and similar cases the question of operation should be fairly put before the patient. Since the serre-nœud was abolished Champneys' seventeen per cent. mortality, which was based on that operation, was fallacious. She thought it important not to introduce any chemical antiseptic into the peritoneal cavity. She had removed a fibroid tumor by myomectomy from a girl fifteen years of age. She thought that the results, both immediate and remote, were better if the ovaries were left in doing hysterectomy. She never used the elastic ligature or transfixed the stump with a ligature.

Dr. Giles, of London, said he had no faith in drugs or electricity. He agreed that it was better to leave the ovaries.

Dr. Briggs, of Liverpool, would add to the indications for operation injury to the fibroid from mechanical violence, of which he gave an instance.

Dr. Skene Keith, of London, had known only one case in which a fibroid had grown after the menopause. He would put the date of the latter in bleeding fibroids at the age of fifty-two to fifty-four. He believed in, and practised, Apostoli's method.

The President said that all were agreed that in serious conditions one should operate. Cases on the borderland were the difficult ones in which to decide. No means existed of estimating the mortality of fibroids, but hospital records showed that it was not high. The question of operative interference could not be settled by discussion, but must be left to individual discretion. He agreed with the general tendency of the discussion. It was exceptional for a fibroid not to cause menorrhagia, and very rare for it to be associated with amenorrhœa. The large majority of fibroids ceased to cause any trouble after the menopause. To say that medical treatment did no good was gross exaggeration. He would ask how many women were kept in comfort for years by rest at the periods and drugs. He believed in chloride of calcium, combined with iron, in anæmic cases.

Mr. Doran, in reply, protested against the idea that operation should be advised because complications might ensue which would kill the patient later. In some of the older cases in which diseased appendages were removed by oöphorectomy, the good result which followed was due to the fact that the symptoms depended on the salpingitis and not on the fibroid. He had used the Trendelenburg position, but twice with stout patients he had had difficulty with the anæsthetic with the patient in that position.

Vaginal Hysterectomy, its Immediate and Remote Results.—Dr. Scharlieb, of London, read a paper with this title. She gave details of forty-six cases; in thirty-five of these the operation was done for malignant growth. In these thirty-five cases four patients died within a month, one from kidney disease, one from shock, and two from sepsis. These were all the deaths in the whole forty-six cases. Of the thirty-five cases of cancer seventeen patients were now alive and free from recurrence. The known recurrence had been seven per cent. The average age of the patients was forty-seven years.

Vaginal Enucleation versus Vaginal Hysterectomy in the Treatment of Some Fibroids of the Uterus, with Notes of Cases.—Dr. Briggs, of Liverpool, read this paper. The largest fibroid removed by this method weighed four pounds ten ounces. He pointed out how much better vaginal operations were borne than abdominal operations.

Third Day—Friday, August 3d.

Post-Partum Hemorrhage, its Prevention and Treatment.—Dr. Byers, of Belfast, opened the discussion in the unavoidable absence of Dr. Dakin, of London. He said that with respect to the definition of post-partum hemorrhage one could not fix the amount of blood lost. Some had said one pound of blood and upward should be considered to be post-partum hemorrhage, but patients varied, and one must judge by the constitutional effect produced and by the presence of relaxation of the uterus. One of two pathological conditions was present in cases of hemorrhage: (1) open vessels in the placental area—uterine atony; (2) a wound of the parturient tract. He would

discuss to-day particularly the first. One of the predisposing causes was hemorrhage in previous labors; this was important especially in the poor, when pregnancy had occurred too frequently. In the well-to-do, want of exercise, too much food, and alcohol were predisposing causes. Other clearer causes were over-distention of the uterus, albuminuria, and extreme mental depression. He had seen some severe cases in which the patient had been depressed owing to death of the husband during the pregnancy. During delivery predisposing conditions were any condition of high vascular excitement attended with a pulse of over 100, and sharp, quick, inefficient pains in the second stage. With regard to chloroform he did not believe that it caused hemorrhage except through the hurry and inefficient attention to the third stage, which were frequently associated with its use. As to prophylaxis, in every case one should never deliver in the absence of pains. Forceps were very dangerous in cases of secondary uterine inertia. In the management of the third stage the conditions must be understood; the nature of the natural separation of the placenta must be studied. It was bad management to squeeze it off the uterine wall, but the uterus must be followed down as the child is born and the hands kept on the uterus, never letting it go. The woman should be turned on her back as soon as the child was born, and then one should wait until the placenta was separated, twenty minutes or longer. One could tell when the placenta was separated by the fundus uteri rising and the lower segment appearing distended on abdominal inspection, and resembling the distended bladder. He made a practice of tying the second ligature on the cord just at the vulva, and then one would readily see when the cord descended still farther. As soon as it was clear that the placenta was separated, with the next pain one should gently squeeze out the placenta. He did not believe in pads, saucers, or books on the abdomen. In cases in which there had been previous post-partum hemorrhage he advised slow extraction, and rupture of the membranes early in labor. For the treatment of actual hemorrhage he advised (1) uterine massage; (2) the injection of hot water. He spoke strongly against putting any mercurial preparation in the water. It was not good practice to introduce the hand unless one felt sure from an examination of the placenta and membranes that a portion was left behind. He discountenanced iron, but spoke strongly in favor of plugging the uterus by Dührssen's method, which he regarded as very useful. The bimanual method he considered to be tedious and, as it involved the introduction of the hand, dangerous, and he would rather pack. If packing failed it should be withdrawn, followed by douching and repacking. If that failed Schauta had advised forcible inversion of the uterus and the tying of a piece of gauze round its neck, leaving it on for six hours. In one case he had arrested the hemorrhage by forcibly drawing down the uterus with a vulsellum. Hemorrhage from wounds in the parturient canal had been described as hemorrhage from a contracted uterus. The diagnosis was made, in the case of wound of the vulva, by inspection; if the wound was in the cervix the bleeding would go on in spite of contraction of the uterus, and if a Bozeman's catheter was used to wash out, blood would be seen in the uterine stream. The treatment of the wound was, in the vulva, ligature; in the vagina or cervix, ligature or packing. The treatment of the anæmia following hemorrhage consisted in: (1) Keeping quiet; (2) saline injections, which were of the greatest advantage (he infused underneath the breast); (3) strychnine injections hypodermically; (4) feeding.

Dr. Boxall, of London, said that he would consider the amount of blood to be lost to make a case one of post-partum hemorrhage as upward of twenty ounces, but of course much depended on the individual, and a better standard would be the weight of the blood lost compared with the weight of the patient's body. Some cases of hemorrhage were due to the retention of a clot the result of an ante-partum hemorrhage. In the General Lying-in Hospital, London, out of ten hundred and fifty-eight cases there was a loss of twenty ounces or more in ninety-four patients, and in twenty of these there was undue retention of placenta or membranes; in eight an ante-partum clot had formed. Auvard had described what he called the "collarette" placenta as a cause of hemorrhage; this consisted in a circular reduplication of the chorion, usually at the edge of the placenta, and at this reduplication the chorion was rotten and easily gave way; in the Lying-in Hospital this year out of two hundred and ninety patients twenty-two lost twenty ounces of blood or more, and of these fifteen were found to have a collarette placenta. He found that women addicted to alcohol were very prone to have post-partum hemorrhage. He believed in early rupture of the membranes as a preventive. The forceps would ward off hemorrhage if judiciously applied so as to save the uterus from becoming tired, but in many cases the forceps, from being used injudiciously and to save the time of the practitioner, produced hemorrhage.

Mr. Stanmore Bishop, of Manchester, advocated compression of the abdominal aorta so as to stop the hemorrhage while the uterus was resting and recovering contractile power.

Dr. Scharlieb, of London, had worked for some time in India, and had found post-partum hemorrhage frequent among European women there and found that the administration of quinine during pregnancy was in those cases a prophylactic.

Dr. Campbell, of Belfast, had found drawing down the uterus with a vulsellum useful, and used hot water through a flushing curette.

Dr. Smyly, of Dublin, said the uterus might be relaxed and no hemorrhage take place; in that case it should be left alone. He had found this especially the case after using chloroform.

Dr. Briggs, of Liverpool, also approved of pulling down the uterus with a vulsellum. This proceeding gave aid in plugging, and by its means the use of a very large amount of gauze was avoided.

The President said that the uterus must be emptied. It was a difficult thing in practice to be sure that all membrane was removed. He disapproved of the introduction of the hand into the uterus. He always managed the third stage with the patient on her back, and found it easier to detect lacerations of the perineum in this position. As regarded anæsthetics, he believed that chloroform interfered with uterine contraction; ergot had an opposite effect, and he had made a practice of giving a dose of ergot before administering chloroform. For plugging the uterus when no gauze was at hand he advised clean linen rags soaked in some spirits.

Dr. Byers made a brief reply, in which he said that he was glad to find that there was so general an agreement with the lines of treatment that he had laid down.

Conservative Surgery of the Tubes and Ovaries. — Dr. Stanley Boyd, of London, read a paper on this subject. She gave an account of twenty-two cases with one death; in ten there was recurrence of inflammatory symptoms, and in three further operation became necessary: in six there was a good result, and in three pregnancy followed the operation. She found that a better result was obtained from this kind of operation on the ovary than on the tube.

Dr. Scharlieb found that operating in gonorrhœal cases was of very little good while active inflammation was still going on.

The President would emphasize the danger of

gonorrhœa in women, especially with reference to the marriage of men who were suffering from that disease in a latent form. If part of an ovary was removed when pus was present there was always a danger of further trouble.

An Account of a Case of Complete Inversion of the Uterus of Three Years' Duration.—Dr. Parslow, of Birmingham, read this paper. The case resisted all efforts at reduction, and amputation was performed. The uterus was split from front to back, opening the peritoneal cavity, and the broad ligaments were transfixed and tied before amputation of the uterus. The author believed that this method of transfixing and tying the broad ligaments had not been described before.

This concluded the business of the section.

SECTION OF SURGERY.

Second Day—Thursday, August 2d.

Discussion on Fractures.—Mr. W. H. Bennett, of London, read a paper on the methods at present in use in the treatment of simple fractures. In order to obtain information on the methods of treatment usually adopted by surgeons who were in the habit of seeing a large number of simple fractures, Mr. Bennett had sent out to some three hundred hospital, infirmary, and colliery surgeons in Great Britain a list of questions as follows: (1) What is the method you usually adopt in the treatment of fractures of the bones of the extremities? (2) Do you use massage or passive movements; if so, at what period after the receipt of the injury do you adopt either or both of these? (3) What is about the average time which elapses in your practice after the occurrence of the injury before the patient is allowed to resume his ordinary calling, in simple fracture? (4) Have you had experience of the immediate treatment of simple fractures by wiring, screwing, etc.? If so, what is your opinion of the method, especially with regard to the scope of its application and to the risks entailed by its use, and its results? (5) Assuming that you treat the majority, or at all events some, of your cases of fracture of the patella or olecranon by wiring, screwing, etc., what treatment do you use in cases which you do not treat by operation? (6) In cases of fracture of the patella treated by wiring, when do you commence passive movement at the knee, and how long is it, as a rule, before the patients can return to their ordinary callings with free movement at the joints? (7) In cases of fracture of the patella treated by immediate suture, have you any experience of results which are defective, as partial stiffness of the knee, complete stiffness, or suppuration? (8) Have you had experience of the treatment of fractures by the immediate use of massage and passive movement? If so, what is your opinion?

The answers received respectively may be briefly summarized as follows:

(1) The treatment adopted by nearly half the surgeons in question (forty-seven per cent.) was the application of removable splints, and plaster of Paris was not used at any period throughout. Several practitioners stated that they had given up plaster of Paris on account of the slow recovery following its use. Plaster of Paris or other fixed arrangements were more used in the Provinces and in Scotland than in London. Twenty-six per cent. used removable splints first and plaster of Paris later. Twenty-two per cent. advocated the use of plaster of Paris from the first.

(2) Sixty-three per cent. used passive movement without massage; twenty-five per cent. used both; twelve per cent. neither. In London sixty per cent. of those who used passive movement at all reserved passive movement with or without massage to those cases in which joints were involved in the injury. Out of London eighty per cent. of the surgeons followed this course. The periods at which passive movement was started varied largely. Thus in London thirty-five per cent. used it from the first, twenty-six per cent. after firm union; while in the country only thirteen per cent. used it from the first, and, speaking generally, the time at which it was started was later than in London. But in Edinburgh and Glasgow, like London, the practice of early passive movement seemed followed.

(3) From a comparison in detail of the answers given to question No. 2, and the returns given to this question, it followed that the quickest recoveries occurred in cases in which movements active and passive were earliest used. Thus in fracture of the femur, in London fifty per cent. returned to their calling in less than twelve weeks; in the provinces only twenty-five per cent. In London six weeks was the usual time lost by a patient for simple fracture of both leg bones, in the country eight.

(4) In answer to question No. 4, half those who replied had had experience of the operative treatment, and half had not. Of those who had, only five per cent. expressed unqualified approval; thirty per cent. operated in a few special cases, as spiral and oblique fractures of the tibia; sixty-five per cent. entirely disapproved unless the case was absolutely unmanageable without.

(5) In answer to question No. 5, when wiring of the patella was not done owing to the fragments being in apposition or nearly so, the age or health of the patient, or because the surgeon was opposed to the operation, twenty-five per cent. used fixation by splints with arrangements of strapping; seventeen per cent. used removable splints of wood, leather, poroplastic felt, etc., giving facilities for early passive movement; sixteen per cent. fixation by splints plus elastic traction, fifteen per cent. immediate use of plaster of Paris, eight per cent. the inclined plane, five per cent. Malgaigne's hooks, two per cent. Thomas' knee splints. Of the total number sending returns six per cent. aspirated effused blood. The majority of those who operated did not do so at once, but in from three to twenty-one days. In the case of the olecranon the majority were adverse to operation, and the favorite treatment was splinting in the extended position.

(6) After wiring the patella, in London twelve per cent. commenced passive movement at once, fifteen per cent. in seven days, fifteen per cent. in fourteen days, twenty per cent. in twenty-one days; the average time before patients were ready to resume work was eight weeks. In the provinces the figures indicated that passive movement was begun later, and the average time before patients were ready to resume work was nine weeks.

(7) As to the adverse results in operations on fractured patellæ, one hundred and eleven surgeons sent replies. Twenty-eight had experienced suppuration; in eight cases amputation had been necessary. Three others had had fatal results. Twelve had experienced stiffness with material disability. In five the wire had cut through the bone during attempts at restoring movement.

(8) In answer to question No. 8, only forty replies were received. Of these thirty-three surgeons had had personal experience of it, and thirty-one were in favor of the treatment.

Mr. Bennett's own experience was against screws or ivory pegs as a means of fixing fragments. He preferred wire, but even wire sometimes acted as an irritating foreign body. Of course operations were open to the general objection that they were not suited to the general body of practitioners unless great care was taken in maintaining asepsis. He thought that the

disability following fracture was rather due to the matting of parts, and not to the bad union. It was astonishing how often sailors with very badly united fractures were seen in whom no serious incapacity followed. He, therefore, advocated early and methodical passive movements to prevent matting and fixation. The sooner the joints above and below the fracture moved, the sooner would the patient recover. Of course the bones should be kept in position as much as possible, but moderate displacement, if not rotatory, need not necessarily impair the use of the part. No one method could be insisted on for all cases. The value of the operative treatment must be restricted to certain cases, and operations on the patella were not so free from risk as had been thought.

Mr. Margle thought systematic investigation as to the exact time at which union did take place was needed. He felt sure he had seen a humerus firmly united in three weeks. He had wired the patella as a routine practice and never saw any harm come of it. That surgeons had neglected the value of manipulations in the past, the records of the successes of bone-setters clearly showed.

Mr. Keetley thought the paper had a slight tendency to make one underestimate the value of getting the bones back into their exact position. Care must be taken in drawing inferences as to the times given. Patients were notoriously given to prolonging the period of convalescence for "compensation" reasons. The three points that interested him were pinning, wiring, and massage. Pinning he considered most valuable for fracture of a diaphysis not easily kept in position. He used rectangular or L-shaped pins, inserted some distance from the fracture (otherwise they would not hold). The one arm of the pin being inserted into the one fragment, and the corresponding arm of the other pin into the other fragment—the fracture having first been carefully reduced—the free arms of the pins were made to overlap and were lashed together (so that two L's became a U). Wood-wool pads and bandages were all that was needful. He believed he had seen a femur unite in two weeks. For fractures near joints, *e.g.*, a condyle, or the head of the fibula no mode of treatment other than wiring would answer at all. A distinction should be definitely made between active movement and massage. What harm could result from two weeks' rest? And he could see no advantage in disturbance earlier.

Mr. Robert Jones disagreed with both Mr. Keetley and the president, Mr. Marsh. He believed union took much longer than either of them stated, in fact longer than the text-books stated. He believed the so-called "ambulatory" treatment, *i.e.*, keeping the parts in place by apparatus and letting the patient get about before union was firm, must result in shortening. Some years ago he had been in the habit of measuring all fractured femurs when the patients were discharged from the infirmary as cured, and then measuring them again after the patients had been about some time. He generally found some further shortening on the second measurement. This he took to mean that the bones, although united, were not firmly enough knit to stand the constant thud of walking, but were driven in together in some degree. If there was one place he would not operate, it would be in fractures of the condyles into the elbow-joint. It was a very serious matter to make a compound fracture of the elbow-joint. And these cases, if put up in the flexed position to make sure that flexion would not be lost, did remarkably well. In Colles' fracture the want of thorough reduction was the trouble, not the length of time the bones were kept fixed. As to wiring the patella he had been unfortunate. He had done twelve cases, and one of these patients, in whose case the joint was supposed not to have been opened, died. Another came back at a later date with abscess from the wire causing irritation.

Mr. Eve said that he had operated on four cases of fractured leg bones for various reasons since October last. He thought wiring the patella was an operation which rested with the conscience of the surgeon. If he could be sure of asepsis the procedure was ideal, and could be pressed on the patient because the functional results were better. Passive movement should be commenced in about two weeks. He agreed with other speakers that screws were useless, and very liable to break away. In many cases of Pott's fracture the malposition of the bones was the cause of the trouble, and adhesions were not. He had recently operated on one such case, and found a fragment of bone displaced between the tibia and fibula, which explained the difficulty experienced in keeping the foot in position. He did not approve of early passive movement, because adhesions were not likely to be formed under seven to ten days.

Mr. Jonathan Hutchinson, Jr., advocated wiring the patella plus open operation because any blood clot present in the joint could be removed. It was most important to get absolute bony union, and only wiring could obtain that. He doubted if massage and galvanism could prevent wasting of the quadriceps, and was sceptical as to the value of early and immediate massage. In injuries around the elbow joint fixation should be adopted for three weeks, after accurate replacement had been made; then slight active movements should follow. Massage used early for fracture of the surgical neck of the humerus would probably cause non-union. Too much must not be claimed for it; it might even cause compound fracture.

Mr. F. F. Burghard advocated immediate operation in every case of fractured patella, and used no splint from the first, only cotton wool and a bandage. In three weeks' time a splint was put on, and the patient allowed to get up. In Pott's and Colles' fractures he thought massage was useful. The less splinting was used the better. If any fracture could not be reduced, or kept reduced, it should be cut down on and wired. He believed matting of muscles had a lot to do with the ill results met with. Screws held only for a few hours, and speedily caused softening. He used wire whenever possible.

Mr. Bennett, in reply, denied being an enthusiast for massage. He said his object was rather to elicit information than to lay down any views of his own.

Removal of Large Vesical Calculi.—Mr. H. S. Burton read a paper on the removal of large stones from the bladder. He gave the notes of a case in which he removed by suprapubic lithotomy a stone weighing ten ounces five drachms. The patient lived for four months and then died from pyelitis. The operations at one's disposal for dealing with large stones were reviewed, and the main points of the suprapubic operation, litholapaxy, and median and lateral perineal lithotrity were discussed. He himself advocated the suprapubic operation, because the bladder could be opened freely and thoroughly explored, and stones of any size removed. The only disadvantage he saw was that the wound left might be long in healing.

Mr. P. Freyer had done a large number of operations for stone, chiefly in India, and strongly advocated Bigelow's method in all possible cases. Whenever that operation could be done, it was immensely superior to any other. In his last four hundred cases he had adopted cutting operations only thirteen times. The difficulty was, what to do with large stones. What was a large stone? He should say one of two ounces or over in an adult. The mortality of the suprapubic operation was very high, probably fifty per cent. He should say a cutting operation should be selected if

stricture was present and the stone large, in some cases of enlarged prostate if the bladder was so contracted that sufficient antiseptic solution could not be introduced to enable litholapaxy to be safely done, or if the stone was so hard that the instrument failed to crush it. He showed his specially-made giant lithotrites for dealing with large stones, and maintained that in proportion as he had abandoned cutting operations so had his results improved.

Mr. Cadge believed that if general surgeons ventured to deal with such large stones as the specimens shown by Mr. Freyer, by Bigelow's method, disaster was sure to follow. He thought Mr. Freyer had had too much success. He meant that litholapaxy was an operation requiring much practice, especially in dealing with large stones, and that because one surgeon had acquired great dexterity in doing these cases, all must not be encouraged thereby to expect such good results. He could remember Sir Henry Thomson's advocacy of the suprapubic operation as the cutting method against any other. But in these days perineal lithotrity had not been introduced. He took it that the question was narrowed to a comparison between the suprapubic operation and the various forms of perineal lithotrity. Experts would do just the operation they felt competent to do, but it did not follow that such operation was most suitable for the average surgeon. The suprapubic method was easy of execution, although too much stress must not be laid on the ease with which it could be done. No vessels of any size could be cut, or hemorrhage would follow; the parts could be easily seen, and the bladder digitally exposed in every part. The advantage was manifest if the stone was encysted or fixed. What could be said against it? The mortality, and the fact that ready and complete healing did not always follow. But the technique and details had not yet been altogether settled, and as time went on much improvement in the mortality and general results might be expected. As far as he could see, there was no one particular danger to which it was liable. The alternatives were perineal lithotrity, median or lateral, and combined with the use of giant lithotrites as in India, and by Mr. Milton, of Cairo, or Mr. Harrison's method. In the first place no comparison was to be made between Indian, and he presumed Egyptian, practice and English. Eastern natives were notoriously tolerant of major operations, and the stones met with were much softer. He did not believe that even one of Mr. Freyer's giant lithotrites would crush a six- or eight-ounce East Anglian pure uric-acid stone. Many of theirs in Norfolk were uric acid, not friable urates. He had warped instruments made by the best London makers in cases which the stones were only one and a half ounces in weight. He thought Milton's and Harrison's methods liable to give rise to much laceration. His conclusion was that for the generality of surgeons the suprapubic method was safer for large stones.

Professor Nicolaygow, of Christiania, said he had failed in attempting to crush a hard stone by the lateral perineal method, and had had to do a suprapubic. He thought it was easy of execution, and very safe if done "*à deux temps*," the bladder being opened after adhesion had taken place.

Mr. Reginald Harrison's experience of perineal lithotrity was not large, but it had been successful. The reasons for its adoption had been large stones or complications. Milton and himself had done fifty cases with only one death. He had no objection to the suprapubic method *per se*; but he had seen recurrent stone fixed to the hard cicatrix left after that operation.

Mr. Keegan confined his remarks to cases of very large stones. In these he would select perineal lithotrity, because the mortality of the suprapubic was fifty per cent. In India the natives died of the suprapubic operation the same as here. Their mortality had been 42.17 per cent. That of the median and lateral perineal methods was much less.

Mr. Chicken referred to a case in which, although symptoms of stone were present in a lady, no stone could be felt by sounding. He dilated the urethra and digitally examined the bladder, felt a stone encysted, and extracted it per urethram. It weighed 810 grams. No incontinence of urine followed.

Mr. Freyer pointed out, in reply, that it was interesting to hear from Mr. Keegan's statistics that natives of India did sometimes die after operations. Some people seemed to believe that in India operations were so pleasant and free from risk that the natives underwent them merely to while away the monotony of existence. Did these people believe that the genito-urinary tract of the Indian had been rendered so aseptic by the constant imbibition of the pure water from the Himalayas or the sacred fluid from the Ganges that operations could be undertaken on his bladder with impunity? Anyhow, that had not been his happy experience.

Third Day—Friday, August 3d.

Roentgen-Ray Methods.—Dr. J. Mackenzie Davidson read a paper and gave a demonstration on recent progress in the use of the Roentgen-ray methods in surgery. He illustrated how misleading the use of the rays might be as ordinarily used, if proper precaution was not taken, since the picture was a shadow picture and liable as all shadows to distortion. To obviate this he devised the method of taking two photographs, with the tubes 6 cm. apart, and then viewing the two photographs in a Wheatstone's stereoscope. The distance thus chosen was about the distance between the centres of the two pupils. Thus, suppose an observer wished to locate a bullet in a leg, and suppose him looking at the leg from a distance of two feet. If he were gifted with Roentgen-ray vision, he would see the bullet in three different positions with regard to the leg bones, accordingly as he looked with the right eye, left eye, or both together. But binocular vision would give him the most accurate information. Dr. Davidson then would take a point two feet away, representing the observer's nose, move the tube 3 cm. to one side, then 3 cm. to the other, and take an *x*-ray photograph in each case. By combining the two thus obtained in Wheatstone's stereoscope very accurate localization could be obtained.

Open Incision for Club-Foot.—Dr. A. M. Phelps, of New York, read a paper on "The Open Incision for Club-Foot; its Indications and Abuses." He said that in 1878 he did his first operation by open incision on a case of relapsed club-foot. From then until 1897 he operated in five hundred and thirty-eight cases. Altogether up to the presen the had operated in some sixteen hundred and fifty cases. He maintained that the mortality was *nil;* that any foot at any age could be straightened; that the results were better than by other methods of operation, and that relapses were rare. These good effects were obtained in a few weeks, and the weight of the body kept the foot in good position afterward. In America tenotomies and the use of retention apparatus were being largely abandoned. The means at the surgeon's disposal in dealing with club-foot (varus) were, according to the severity of the case: (1) Manual manipulation; (2) subcutaneous tenotomy; (3) open incision (Phelps' operation); (4) open incision plus linear osteotomy of the neck of the astragalus; (5) same as the preceding (4) plus removal of a V-shaped piece of os calcis; (6) amputation. In the infant, aged from three to

four months, mature experience enabled him to present a method which should cover all operative procedures for club-foot. The soft parts caused the chief trouble, and, that being so, were we justified in such an operation as osteotomy or tarsectomy with a mortality of five per cent.? No. On the other hand, Dr. Phelps spoke vigorously and emphatically against the prolonged use of orthopedic instruments and appliances and traction. His plan was, excluding all those cases in which manual reposition was possible, to cut all the contracted parts that offered resistance to replacement, beginning with the tendo Achillis, and going as deep and as far as the peroneus longus tendon. The cut must be at right angles to the long axis of the foot. The operator should not cease his efforts until the foot was over-corrected, going on if needful to linear osteotomy of the neck of the astragalus and wedge osteotomy of the os calcis. Of course the operation should be antiseptically performed, and perhaps Esmarch's bandage should be used. Older patients should be treated in the same way, age itself being no bar to the operation. The only exceptions should be those cases in which the foot could be manually replaced, or those curable by tenotomy only. In dressing, the organization of the blood clot in the wound, or filling with chipped catgut, helped to abridge the healing-process. Plaster of Paris was the only retention apparatus he used, with in some cases hooks in the bandage and lacing to keep the foot in position. The cases would need looking after for months and years. Of his first one hundred and sixty-one cases six per cent. relapsed; since then relapses had been rare. His conclusions were that all feet at any age after four months, with shortened skin and ligament, should be operated on by the open method, and that club-foot shoes of every name and nature should be discarded.

Mr. Jackson Clarke, while thanking Dr. Phelps for his paper, felt that he must dissent from him from every point of view. What were the results of his early cases? Unless these patients were seen in adult life, no idea at all could be formed as to the value of the proceeding, and unless they had been thus watched figures as to relapses were valueless. He himself years ago had gone in for this type of procedure, and very thoroughly, but had now entirely given it up. He mentioned cases of double varus in which one foot had been operated on by Dr. Phelps' method, the other by tenotomies as in the older method. That done by the open incision failed, the tenotomized foot, however, being satisfactory. Young club-feet should be guided in growth, not mutilated. If it went abroad to the medical world that a big operation was needed in these cases, many thousands of feet would be ruined. He had no fault at all to find with the older methods. He was quite satisfied with Mr. Adams' results, and his treatment was based on the least possible surgical interference. Most cases required nothing more than division of the tendo Achillis, and then the wearing of a simple inside upright and guiding strap. As to Dr. Phelps' denunciation of apparatus, did he not himself explain his method of hooks and lacing and plaster of Paris? And this was quite right too. A judicious surgeon ought to use all the possible means at his disposal for his patient's benefit. He believed much of the present unfortunate state of affairs, that is, the resorting to large operations on these feet, was due to the much too general ignorance of orthopedics and of the results of orthopedic methods of treatment.

Mr. A. H. Tubby was especially pleased to have heard from Dr. Phelps exactly his method of procedure. Mr. Tubby had thought the operation consisted in the division of the soft parts only on the inner side of the foot—at all events, that was the description accepted up to now. But now he heard from Dr. Phelps that he went on to bony operations as well. He quite agreed with the remarks of the last speaker, and he believed the operation to be a bad surgical procedure. The result looked well on the table, but did not stand the test of time. It stood to reason that in a large gap, like that formed in this operation, a scar must develop. That scar would contract and an incurable varus result. His own feeling was that he preferred to be driven into such open operations, and not to take them up voluntarily. Dr. Phelps' operation of open division of soft tissues he condemned from his own experience. As to the modification of that operation by bone division also he had no personal knowledge. Dr. Phelps had said the operation was often indicated at four months of age. He had never yet seen a foot at this age which required any operation of the kind. On the other hand, he had seen many bad results of such procedure. He should say that no open operation was ever needed before the fourth or, more often, sixth year. All these methods were designed to shorten the time taken in treatment. Did they do so in the end? If they did, which was doubtful, the results by the older, slower methods conscientiously carried out were far superior. Then after the open operation one has burnt one's boats, and if the result was not satisfactory nothing further could be undertaken. But in fairness to Dr. Phelps it must be acknowledged that the originator of any operative procedure in all probability had a better idea of the nature, scope, and limitations of his method than had his copiers; and therefore he would do the operation better than they. So that instead of finally and absolutely condemning the open method from the results seen in England, he would rather hold judgment in suspense until he had paid a visit to America and seen Dr. Phelps' own cases.

Mr. Noble Smith thought that the points in discussion so far resolved themselves into matters of degree rather than divergence of principle. Dr. Phelps himself says he would exclude all cases curable by manipulation and tenotomy. If that were so few would be left for open methods. Of course we had not seen Dr. Phelps' cases, but we had seen many done by excellent surgeons, and many relapses among those. And the successful cases, or those exhibited as such at the various societies, certainly showed much want of elasticity. He showed casts taken of a bad case of varus in early infancy, and at intervals up to adult life, and maintained that the case showed that bad cases of varus were perfectly curable by tenotomies and the usual orthopedic methods.

A member said that at the City Orthopedic Hospital they were most anxious to do Phelps' operation, and that for the last seven years he had been looking for cases suitable for it. Unfortunately he had been unable to find them, the cases they saw there being perfectly curable by less heroic measures. Dr. Phelps' method was certainly fascinating in its simplicity, and in the description of its results. The older methods were prolonged in carrying out, and liable to relapse. But was the open operation not liable to relapse? Perhaps it would be maintained that the very many undoubted relapses they saw after Dr. Phelps' method had not been properly done. But could it be believed for a moment that the many good surgeons who did these cases undertook operations for which they were incompetent, and about which they were ignorant? He did not for a moment believe so. The operation, not the surgeon, was at fault. Then if it became generally accepted in the profession that such treatment, apparently so simple, as Dr. Phelps described was the proper course to follow, they would certainly see many feet hopelessly ruined by surgeons attempting the operation who were quite ignorant of

the harm that might result. For example they recently had had a case brought in of a foot irrevocably spoiled, in which the house surgeon of one of the general hospitals in London had on his own responsibility done a Phelps operation, badly perhaps, but certainly needlessly. He believed that everything possible should be tried before resorting to the operation.

Dr. Phelps, in reply, did not agree about want of elasticity in feet after his operation. He maintained that the very cases on which his paper was based were those which had been treated for years by the older methods, and treated unsuccessfully. As to Mr. Smith's casts he did not consider the result perfect; the tarsal arch was not normal. He believed the relapses seen so often in London were due to the surgeon's not going on far enough, but stopping before over-correction was obtained. The failure to divide the deltoid ligament led to relapses in many cases. How could a contracted skin or the deep ligaments be dealt with except by his method? As to the scar contracting, experience had shown that such did not occur. Rather than many thousand feet being ruined by the adoption of his teachings, he believed that if his method was not adopted many thousand more patients would go to their graves uncured. As to the older methods he had come to the conclusion that they were unsatisfactory, after years of careful study. For fifteen consecutive years he had visited Europe. He had seen Mr. Adams' work and cases, and also the result of continental surgeons; and it was on their failures that his views as to the inefficiency of the older orthopedic methods were based.

(To be Continued.)

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 18, 1900:

	Cases.	Deaths.
Tuberculosis	181	154
Typhoid fever	50	12
Scarlet fever	47	2
Measles	51	6
Diphtheria	172	33
Laryngeal diphtheria (croup)	3	
Cerebro-spinal meningitis	0	6
Chicken-pox	5	
Smallpox	1	

Treatment of Malaria in the Roman Campagna.—A campaign against malaria in the Agro Romano was undertaken at the beginning of this summer by the bureau of hygiene of Rome. Instructions were issued to the resident physicians and special medical officers were despatched by the bureau to patrol the Campagna, distributing quinine tablets and impressing upon the farm laborers and superintendents the urgent necessity of observing certain simple prophylactic measures. From a translation of the official instructions issued by the bureau (published in *The Lancet* of July 7, 1900) we take the following directions for treatment in developed cases:

"*Primary Attacks.*—The administration of quinine in tablets, each containing ½ gm. (gr. viiss.) of the sulphate should be recommended during the subsidence or at the end of the febrile attack. The quantity administered should be 2 gm. daily for three successive days and 1 gm. daily for other four days. Tabloids sufficient for a week's treatment are to be given in a small box with appropriate directions to each patient. After the remedy has been suspended for five days, it will be well to follow the directions for relapsing cases, even although there be no return of the fever. Hypodermic injections are to be employed only in exceptional cases. The medical officer is recommended to supervise the treatment of primary æstival infections in which the fever of the first attacks should be suppressed as far as possible, experience having proved the importance of prophylaxis of early treatment.

"*Relapsing Fevers.*—The administration of sulphate of quinine should be carried out as follows: After the last febrile attack, or during its decline, 2 gm. of the quinine in four tabloids are to be given. The following day, the same doses are repeated. During the next five days 1 gm. of sulphate of quinine in two tabloids is administered, after which the treatment is to be suspended for a week. The following week the administration is to be resumed, the patient being supplied with the same quantity of quinine as in the first week, and the quantity taken regulated as before. When the fever no longer returns, the daily dose should be reduced by one-half. The administration is then to be again suspended for a week. In the fifth week the same amount is to be given in the same way as in the third week, and so also during the seventh week. As a rule, it is not necessary to continue the administration beyond the seventh week. During the weeks in which the quinine is suspended, he may, if he thinks proper, administer 'Bacelli's mixture'[1] or capsules and tabloids containing iron. For convenience of reference the above rules may be stated in the following tabular form:

Tables for the Administration of Quinine.

A—In Primary Malarial Fevers.

(Tabloids of 50 cgm.)

	Tabloids.	Total.
First day (near end of febrile attack)	4	2 gm.
Second day	4	2 "
Third day	4	2 "
Fourth day	2	1* "
Fifth day	2	1 "
Sixth day	2	1 "
Seventh day	2	1 "

"Suspend the administration for five days, then continue as in Table B.

B—In Relapsing Malarial Fevers.

	Tabloids.	Total.
First day (at end of febrile attack)	4	2 gm.
Second day	4	2 "
Third day	4	2 "
Fourth day	2	1* "
Fifth day	2	1 "
Sixth day	2	1 "
Seventh day	2	1 "

Second week.—Suspend quinine; daily observations, etc. (in anæmic persons five tablespoonfuls of "Bacelli's mixture").

Third week.—Repeat treatment as in first week, but if no return of fever reduce dose by one-half.

Fourth week.—Suspend quinine; daily observations (in anæmic cases four tablespoonfuls of "Bacelli's mixture").

Fifth week.—Repeat treatment as in third week, with the same precaution.

Sixth week.—Suspend quinine; observations (in anæmic cases four tablespoonfuls of "Bacelli's mixture").

Seventh week.—Repeat treatment as in fifth week. End of treatment if no return of fever.

* If on the fourth day after commencing treatment the fever does not disappear continue with doses of 2 gm. In exceptional cases use hypodermic injections.

"The treatment of the fever, whether primary or secondary, should be commenced according to the scheme laid down, even when the last attack has occurred some days previously. Whenever the fever asserts itself it is best to recommence the treatment as for the first day and to continue according to the rules prescribed. The

[1] "Bacelli's mixture" contains the following ingredients: sulphate of quinine, 3 gm.; tartaric acid, 3 gm.; arseniate of sodium, 5 cgm.; distilled water, 300 gm. The dose for an adult is one tablespoonful.

total dose of quinine should be given within two hours, *i.e.*, at intervals of half-hour, three-quarters of an hour, or one hour, according to the fractions. A glass of water should, if possible, be drunk after every tabloid, acidulated by preference with lemon or vinegar. In children the doses should be reduced in proportion to age.

"*Hypodermic and Intravenous Injections.*—Hypodermic injections are reserved for cases of intolerance of quinine by the stomach and for cases of pernicious fever. In these cases two hypodermic injections are made, each of 1 gm. of the bi-hydrochlorate of quinine dissolved in 5 gm. of distilled and sterilized water. A large syringe is employed, the lateral regions of the abdomen being chosen and the skin washed with gauze and absolute alcohol. The needle should also be sterilized with absolute alcohol or by boiling in a test tube. The hypodermic solution in sterilized vials, each containing 1 gm. of bi-hydrochlorate, will be supplied to the medical officer. The patient must then be conveyed to the temporary hospital or to the city. In the hospital injections of camphorated oil and caffeine will be made. During the two subsequent days 2 gm. of quinine must be given daily either by injection or by the mouth (one tabloid of ½ gm. every hour). The intravenous injections according to Bacelli's method will be made in extreme cases in the sanitary station hospital. For these injections boiled solutions of neutral hydrochlorate of quinine at a temperature of 40° C. should be employed exclusively in doses of 1 gm. in 10 c.c. of chloride of sodium solution (0.75 per cent.)."

Psychology of Crazes.—Professor Patrick, writing on this subject in *Appleton's Magazine*, says: "If we turn to the behavior of the normal adult man in mental epidemics and crazes of all kinds, from the crusades to the massacre of St. Bartholomew, from the tulip mania in Holland to the Dewey welcome in New York City, we observe that his behavior is to some extent similar to that of the hypnotic subject and the child and the primitive man. The general character of mental action in epidemics is as follows: Men become imitative beings, and their actions are determined by suggestion from the action of others. Memory and the association of ideas are inactive, and there is an inability to reason and an indisposition toward deliberation and calm reflection. Past experiences are disregarded, remote consequences are not seen, and behavior is repulsive and spasmodic. Feeling is very strong, and every kind of emotion is apt to be exaggerated. Calm observation is also lacking, and mental images may be mistaken for objective reality, as in the case of the hallucinations that are frequent in these phenomena."

Mr. Watson Cheyne on Nursing at the Front in South Africa.—In the course of a long letter to the London *Times*, describing his experiences as consulting surgeon to the army in South Africa, Mr. Watson Cheyne alludes to the question of nursing. He "strongly agrees" that female nurses are better, "especially for cases of typhoid fever," than males. Admitting that women could not go forward with an advancing army, and deprecating their employment in field hospitals, he holds that female nurses must be limited to base hospitals. Mr. Cheyne proceeds: "As a matter of fact in this campaign a much larger number of female nurses than is arranged for in the army regulations was employed. My belief is that a still larger number might have been used with advantage, but even if the authorities had taken the same view, any attempt to substitute female nurses for the orderlies to such an extent as is the case in a civil hospital would have dislocated arrangements most seriously, and would have meant practically the reorganization of the base hospital system in the middle of the campaign, when the officials were already very much overworked. This is, however, I think, a point which should be kept in view when the numerous lessons taught by the war are taken into consideration."

Drs. Sambon and Low's Experiments.—The hut in which Drs. Sambon and Low are making their experiments to see whether malaria is prevented by excluding mosquitos is placed on a site about two miles from Ostia, on the edge of a swamp formerly part of the royal hunting domain of Castel Fusano, and left undrained to preserve the wild animals. It is one of the most fever-stricken centres of the Roman Campagna, and is infested with innumerable mosquitos of the malarial variety.—*Science.*

The Centenary of the Royal College of Surgeons of England.—It is one hundred years since George III. gave to the surgeons of England the right to incorporate themselves into a Royal College, and on Thursday, July 26th, the centenary of this incorporation was fittingly celebrated. Sir William MacCormac, the president of the college, delivered for the occasion an eloquent address, in which, after welcoming the surgeons from other countries who had been adjudged worthy of receiving the honorary fellowship of the college, he proceeded to give a short but interesting review of the development and progress of surgery in general, and of British surgery in particular. Sir William MacCormac's speech has been published in book form, and appended to it is a brief biographical sketch of each master and president of the college since its incorporation.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 17, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Kansas, Wichita	August 4th to 11th	1	
Louisiana, New Orleans	August 4th to 11th	10	2
Minnesota, Minneapolis	July 14th to August 4th	22	
Winona	July 20th to August 4th	2	
New York, New York	August 4th to 11th	1	1
Ohio, Cleveland	August 4th to 11th	1	
Portsmouth	August 4th to 11th	4	
Utah, Salt Lake City	July 28th to August 11th	11	2
Smallpox—Foreign.			
Belgium, Antwerp	July 21st to 28th	2	
Brazil, Rio de Janeiro	June 22d to 29th	..	7
England, Liverpool	July 21st to 28th	1	
London	July 21st to 28th	11	
Germany, Frankfort on the Main	July 14th to 21st	..	2
Mexico, City of Mexico	June 17th to August 5th	62	51
Vera Cruz	July 28th to August 4th	..	6
Netherlands, Rotterdam	July 21st to 28th	1	
Russia, Moscow	July 14th to 21st	3	
Odessa	July 21st to 28th	1	1
St Petersburg	July 14th to 21st	69	15
Warsaw	July 14th to 21st	..	4
Straits Settlements, Singapore	June 23d to 30th	..	2
Switzerland, Geneva	July 7th to 14th	1	
Yellow Fever.			
Brazil, Rio de Janeiro	June 22d to 29th	..	4
Colombia, Barranquilla	June 22d to 29th	2	
Bocas del Toro	July 26th	2	
Panama	July 30th to August 6th	5	2
Cuba, Cienfuegos	August 14th	1*	
Havana	July 2d to 23d	..	9
Matanzas	July 23d to 29th	..	1†
Mexico, Merida	July 14th to 21st	5	2
Vera Cruz	July 28th to August 4th	19	6
Cholera.			
India, Madras	June 21st to 29th	..	1
Japan, Yokohama	July 12th	1 suspect.	
Plague.			
Brazil, Rio de Janeiro	June 2d to 29th	40	24
Egypt, Port Said	April 20th to July 12th	22	38
Japan, Osaka	July 5th to 16th	1	
Shidzuoka Ken	July 5th to 16th	1	
Philippines, Manila	June 23d to July 7th	7	5
Syria, Beirut	July 14th to 21st	4	
Turkey, Trebizonde	July 27th	1 suspect.	

* American from Matanzas. † Case reported July 5th.

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Original Articles.

THE RELATIVE BEARING OF THE CONJOINED TENDON AND THE INTERNAL OBLIQUE MUSCLE UPON THE RADICAL CURE OF INGUINAL HERNIA.[1]

BY JOSEPH A. BLAKE, M.D.,

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My chief reason for presenting this subject is that we are in danger of becoming confused in our descriptions of the operations for the radical cure of inguinal hernia. The danger arises from the misapplication of the term "conjoined tendon." It is not my purpose to enter into a long dissertation upon the anatomy of this region, but only to give enough to elucidate the points in question. It may seem superfluous to review these anatomical details, yet if they were understood by all the present ambiguity would not have arisen.

The conjoined tendon is usually understood to be the insertion of the lower fibres of the internal oblique and transversalis muscles, extending along the ilio-pectineal line laterally for a variable distance from the rectus insertion. A careful dissection of this region, especially if the internal oblique be well developed, reveals that as a rule the lowermost fibres of the internal oblique do not enter into the formation of the conjoined tendon, but, arising from Poupart's ligament, in front of the cord, pass parallel with the ligament to be inserted in front of the rectus (Fig. 1).[1] If the internal oblique be reflected the conjoined tendon is found to be chiefly derived from the deeper aspect of the internal oblique, and slightly from the transversalis where these muscles are inseparably connected at their origin. It consists mainly of a few scattered muscular fasciculi arching over the cord, to be inserted to the ilio-pectineal line (Fig. 2).

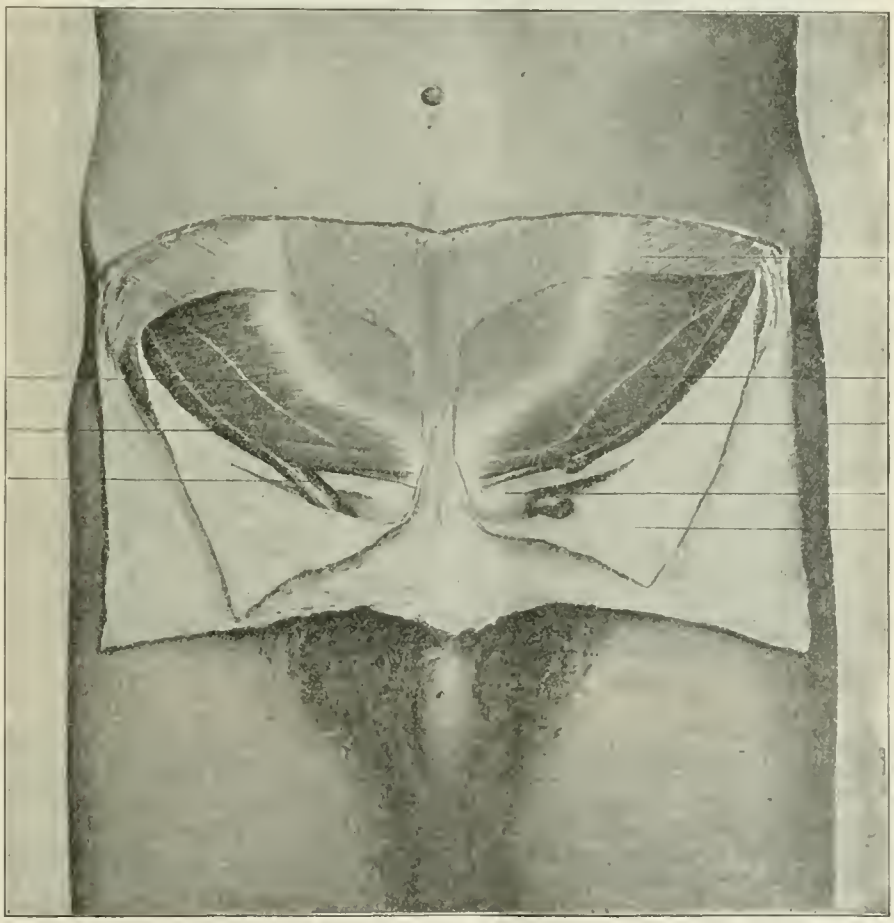

FIG. 1.

The conjoined tendon is thus covered by the lower part of the internal oblique muscle, and also it lies in front of the main aponeurosis of the transversalis, for the fibres of the latter are easily demonstrated as passing behind the conjoined tendon to unite with the internal oblique in front of the rectus (Figs. 2 and 3). This relation is usually overlooked on account of the tenuity of the transversalis aponeurosis in this region.

[1] Read before the Surgical Section of the Academy of Medicine, New York, April 9, 1900.

[1] The illustrations were drawn from consecutive dissections made on the same subject, a man thirty years of age, of moderate muscular development.

In May, 1898, Bloodgood published a preliminary report upon an operation he had devised and practised for the radical cure of hernia. The operation was especially designed for a condition which he calls "obliteration" of the conjoined tendon, and is based upon the suture of the lateral border of the rectus abdominis to Poupart's ligament. Bloodgood explains the use of the term "obliteration" "in that the extreme condition is more likely to be acquired than congenital." He further states that, in cases of obliteration of the conjoined tendon, the whole hand can be introduced into the abdomen after division of the aponeurosis of the external oblique. Obliteration was found by him to occur in seven per cent. of herniæ. He also mentioned the variable development of the conjoined tendon, and refers to the statement in Quain's "Anatomy" that it usually extends over the inner two-thirds of Hesselbach's triangle, but may extend laterally as far as the internal abdominal ring, on reading Quain's description, and after reading Halsted's discussion of Turck's paper on "The Surgical Anatomy of Hernia,"[1] I found it to be the case.

How this error arose can be better appreciated by reviewing the structure of this fascia as well as the literature on the subject. The aponeurosis of the transversalis muscle passes horizontally across the lower part of the abdomen, and in this region is inserted with that of the internal oblique in front of the rectus muscle. For a short distance above Poupart's ligament in the region of the inguinal canal it is deficient, and the structure already referred to as the transversalis fascia is the sole protection to this part of the abdominal wall after removal of the external and internal oblique muscles (Figs. 2 and 3). This fascia presents aponeurotic fibres, which near the rectus muscle have in general a vertical direction, while in the region of the internal ring they have a curved direction, passing from above downward and curving

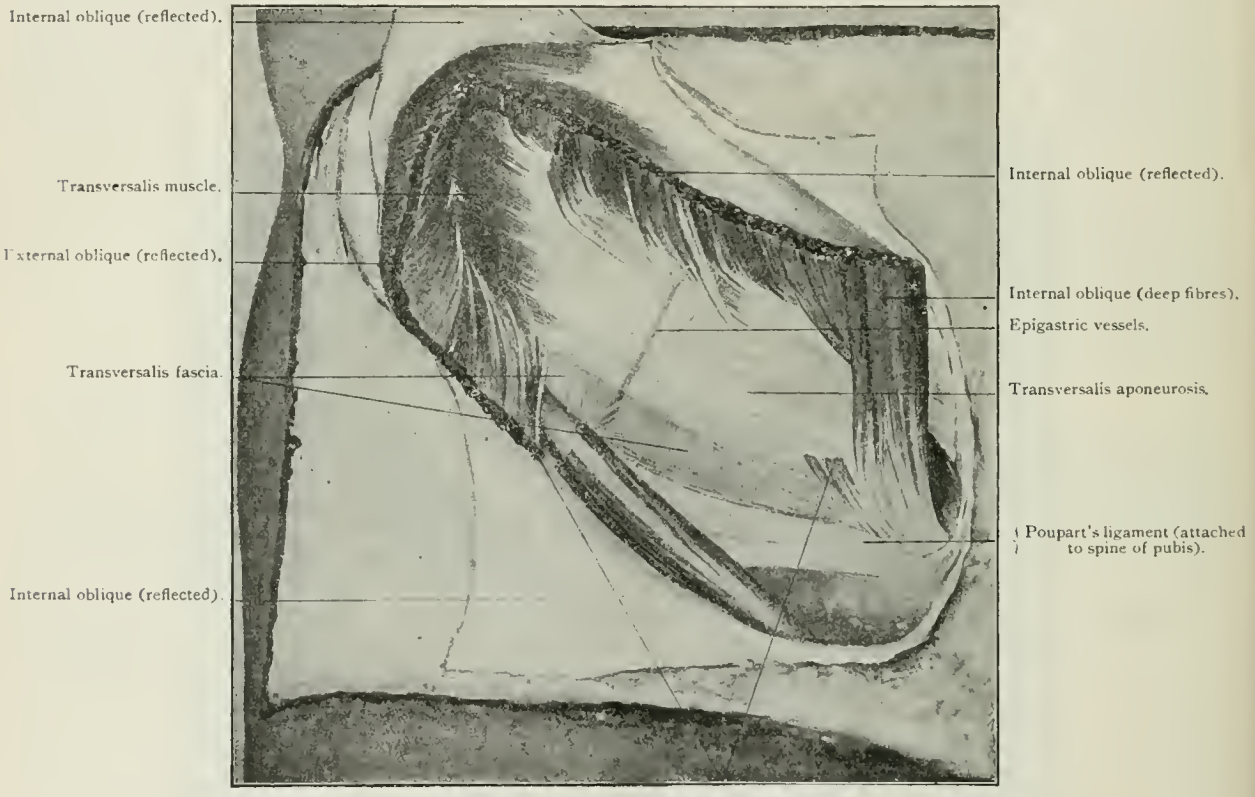

Fig. 2.

which would be a distance of about an inch and a half or two inches.

My impression from casual observation in numerous dissections had been that the conjoined tendon was more or less of a myth, and it seemed to me to be erroneous to attribute so much importance to it. In order to determine this point, I made during the past fall and winter a series of observations in the dissecting-rooms of the College of Physicians and Surgeons, Columbia University. In observations made on both sides in twenty-five selected muscular subjects, in which the parts were normal, I found that in no case did the conjoined tendon extend for more than five-eighths of an inch laterally from the insertion of the rectus. In the majority the extent was less than half an inch, and in some subjects its extent was inappreciable. In all cases it consisted of only scattered muscular or tendinous fibres. There was uniformly, however, a distinct dorsal wall to the inguinal canal formed by the thickened transversalis fascia. It had not occurred to me at first that the Baltimore surgeons referred to this fascia as the conjoined tendon. But sharply around the cord to pass laterally below that structure with a direction in general parallel to Poupart's ligament. These latter fibres form the pillars of the internal ring, and suspend the cord above Poupart's ligament. Between the vertical inner and curved outer portions is a thinner portion through which direct herniæ are said to occur (Fig. 3). This fascia including the aponeurotic fibres lies on the dorsal aspect of the transversalis aponeurosis, being easily separable from it at its lower portion, but above it is closely connected with the transversalis and a separation becomes artificial (Fig. 3). The structure is best viewed from the dorsal surface of the abdominal wall, after the removal of the peritoneum. Often in muscular subjects muscular fasciculi from the transversalis and sometimes the internal oblique may be seen passing into it. It is closely connected above with the extremities of the fold of Douglas.

Henle[2] described the structure as fascia transversalis, and named the portion consisting of the fibres curving

[1] Journal of the American Medical Association, April 15, 1899.
[2] Henle: "Anatomie des Menschen—Muskellehre."

downward to form the inner margin of the internal ring the "ligamentum inguinale mediale," while to the portion below and lateral to the ring he gave the name "ligamentum inguinale laterale" (Fig. 3). The curved margin is also known as the "plica semilunaris fasciæ transversalis."[1] The curved portion internal to the ring is generally known as the ligament of Henle; the outer portion, lying below the inguinal ring or fossa and so above the femoral, is often called the "ligamentum interfoveolare," or ligament of Hesselbach.

Douglass[2] describes the whole fascia as properly an aponeurosis, inasmuch as it is closely combined with the transversalis aponeurosis above and also is connected to both internal oblique and transversalis muscle by muscle fibres. He also states that a fascia that lies between it and the peritoneum is the true transversalis fascia. No doubt the supposition that it is conjoined tendon has arisen on account of his description of the insertion to it of muscle fibres from both

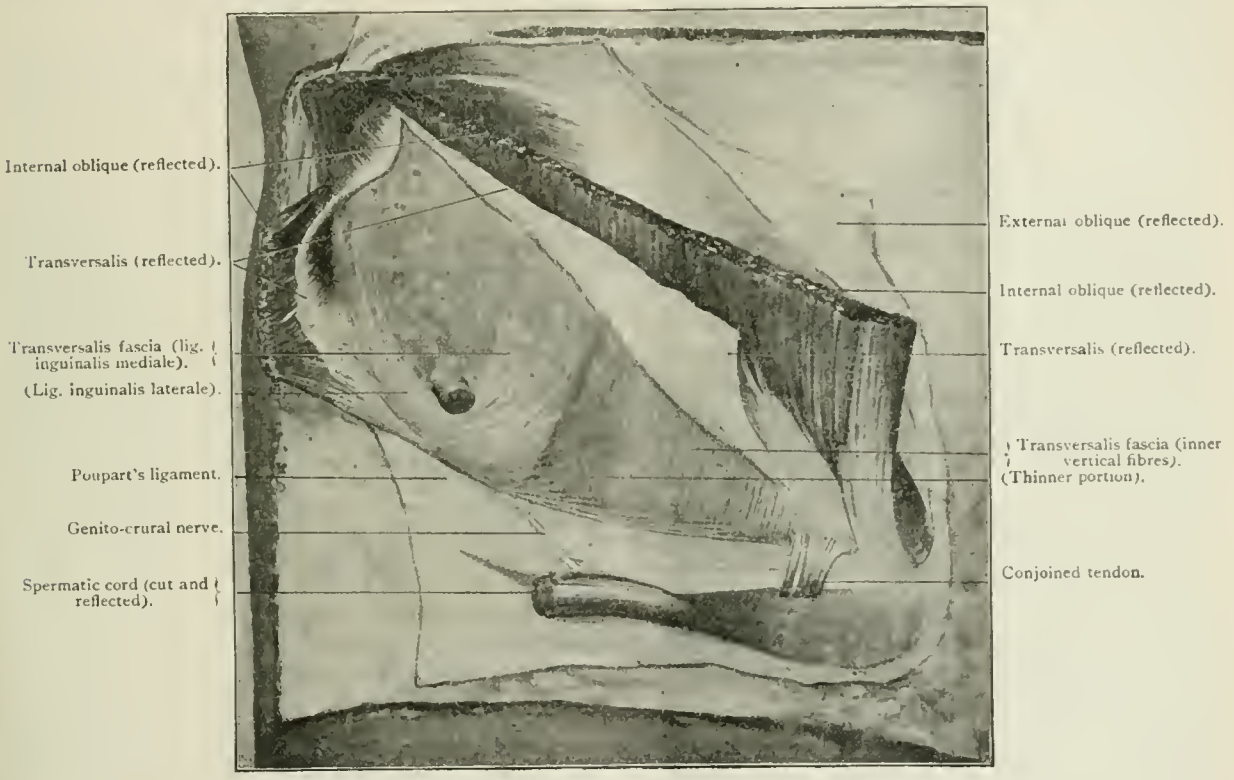

Fig. 3.

transversalis and internal oblique. However, I cannot gather from his article that he calls it conjoined tendon. The description in Quain is based upon Douglass' article, and refers to this fascia or aponeurosis as a part of the conjoined tendon. Bloodgood's position is evidently taken from Quain.

Quain's words are:[3] "The conjoined tendon varies greatly in its development. In many cases it is very slight and scarcely to be distinguished, while in others its deeper portion, derived from the transversalis muscle, covers the whole breadth of the triangle, reaching outward along the deep femoral arch as far as the internal abdominal ring. Sometimes the outer part is detached from the rest, and forms a band which has been designated ligamentum interfoveolare or ligament of Hesselbach, while to the remaining inner portion the name of falx inguinalis or ligament of Henle has been given."

Unless we call this fascia conjoined tendon we cannot accept Bloodgood's term "obliteration of the conjoined tendon." It is entirely distinct from the historic conjoined tendon, being separated from it by the main aponeurosis of the transversalis. Although forming the main support of this region it has nothing to do with the operation for radical cure, except in so far as to determine an operative method, inasmuch as only structures that lie in front of it are sutured. The true conjoined tendon is ordinarily such a weak affair that it is negligible in operative procedures. It is only exceptionally that either it or the transversalis are included in the sutures in the Bassini operation, excepting that the sutures placed in the neighborhood of the internal ring may include the transversalis. Our main reliance in radical cure is the internal oblique, and our efforts should be to restore the normal parallelism of its fibres to Poupart's ligament. This may be done in nearly all cases by separating the internal oblique for a short distance upward from the transversalis fascia and the transversalis aponeurosis, and then, thus having loosened it, it may be drawn down by the sutures to Poupart's ligament. As a rule it is futile to attempt to draw down the transversalis aponeurosis, since this structure is normally deficient for a considerable distance above the ligament (Fig. 2). The normal arrangement of the lower fibres of the internal oblique is well shown in Fig. 1. It shows that they form a considerable part of the anterior wall of the inguinal canal, the lowermost fibres arising, as a rule, from Poupart's ligament for a considerable distance to the inner side of the internal ring. Turck[1] has confirmed this relation in a number of observations.

The method of inserting the suture as employed by Coley[2] restores in a great measure this normal arrangement. Coley employs the Bassini method with the

[1] Joessel: "Topographisch-chirurgische Anatomie," zweiter Theil.
[2] M. Douglass: "The Anatomy of the Transversalis Muscle and its Relation to Inguinal Hernia." Journal of Anatomy and Physiology, vol. xxiv., 1890.
[3] Quain's "Anatomy," Appendix, p. 56.

[1] R. C. Turck: "Surgical Anatomy of Hernia." Journal of the American Medical Association, April 15, 1899.
[2] W. B. Coley: "The Radical Cure of Hernia." Montreal Medical Journal, September, 1899.

exception that the first suture is placed outside of the cord. Bassini's and Coley's results are ample proof, it seems to me, that this method is the best we have. Bassini's statistics give less than three per cent. of relapses and Coley's only five relapses in five hundred and forty-nine cases. Methods which are based upon the division of the muscle and the transplantation of the cord between the cut fibres do not give such brilliant results. Although the cord is transplanted to a place where the muscle fibres are more abundant, yet relapses occur chiefly along the cord. According to the statistics at the Johns Hopkins Hospital, over six per cent. of the cases had relapses at this point.[1] It seems to me that there are two reasons for this—first, that the cut ends of the muscle fibres retract away from the cord, and secondly, that the incised transversalis aponeurosis and fascia are not properly repaired. Thus arises a muscular dimple which is a more important etiological factor in the occurrence of hernia than a mere peritoneal dimple. In order to obviate the relapses along the cord, the operators have diminished the size of the cord by either excising the veins, which sometimes causes atrophy of the testicle, or by transplanting only the vas deferens to the intra-muscular position, which it seems to me is simply trying to make the anatomical structure fit the operation instead of vice versa.

In regard to the suturing of the border of the rectus muscle to Poupart's ligament, the procedure cannot be said to be a new one, inasmuch as Bassini[2] in his original article recommended it in some cases. It was also advocated by Wöfler in 1892,[3] who incised its sheath, and Slajmer,[4] in 1898, reported one hundred and fifty cases treated by Wöfler's method.

Incision of the sheath of the rectus on its anterior aspect, as practised by Wöfler, severs the insertion of the internal oblique and transversalis and thus weakens the abdominal wall. Bloodgood overcomes this by opening the sheath behind and then transplanting the muscle.

Bloodgood at first employed the transplantation of the rectus only in those cases in which the transversalis fascia (conjoined tendon?) was obliterated. In fourteen such cases operated upon by this method there were no relapses at the lower angle of the wound, while sixty-two per cent. of similar cases treated by the Halsted method without this modification relapsed. When the transversalis fascia is obliterated, scarcely any additional traumatism is caused by Bloodgood's procedure, but it necessitates the sacrifice of this fascia if it be well developed. For this reason it does not seem to be indicated as a routine procedure.

Tumor of the Soft Palate.—Noquet reports the case of a boy three months old who was troubled with attacks of suffocation becoming more frequent and often occurring when he was asleep. Nursing was interfered with, but between the attacks the cry was perfectly normal. Examination showed a pedicled growth attached to the left free border of the palate and reaching to the base of the tongue. Excision was easily done with traction forceps and scissors, and while there was no bleeding, the fibrous character of the pedicle led Noquet to pass a ligature around it as a matter of precaution. All symptoms quickly disappeared. The mass removed was found to be a fibromyxoma.—*Revue Hebdomadaire de Laryngologie*, July 21, 1900.

[1] Joseph C. Bloodgood: Johns Hopkins Hospital Reports, vol. vii.

[2] Bassini: Archiv für klinische Chirurgie, Bd. xl., p. 429, 1890.

[3] Wöfler: Beiträge zur Chirurgie, 1892.

[4] D. Slajmer: Archiv für klinische Chirurgie, Bd. lvi., 1898, p. 893.

THE SIGNIFICANCE OF THE BACILLUS COLI COMMUNIS IN DRINKING-WATER.[1]

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AND

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The bacteriological examination of water has in the last few years undergone something of an evolution. With the first flash of knowledge of micro-organisms as etiological factors in disease, and the wave of scientific enthusiasm which followed, it seemed that in this discovery lay a direct method for the prevention or cure of all disease. This branch of water analysis assumed perhaps an exaggerated importance to the slighting of the older chemical methods. Great significance was attached to the number of micro-organisms, and it was asserted by some that a water which contained over three hundred bacteria to the cubic centimetre was to be condemned. Gradually a reaction has come, and the pendulum has swung back to more nearly its true resting-place, we may assume.

Now much less significance is attached to the number of organisms per cubic centimetre, and the efforts of the bacteriologist are centred on a determination of the kind of germs present.

The presence of certain species is accepted as a proof that the water has been exposed to conditions of the greatest importance in connection with its fitness for drinking-purposes. The object of the present system is to bring into accord the chemical and bacterial examination. With the chemical is compared the biological, which seeks to ascertain the facts required for a just conception of the general bacterial history of the water, and by a careful balancing of the two results it seems possible to form a just judgment of the sanitary value of the water supply, and to learn whether it contains, or is liable in the future to contain, poisonous substances or the contagia of disease.

The important questions to be answered are: (1) Whether the water has been polluted with sewage, and (2) in case there are many bacteria present, whence they are probably derived.

In water which has been freely exposed to the atmosphere, there are often a large number of organisms present, but these are derived from the air, are not as a rule pathogenic, and consequently are of little importance. The numerical determination is of value if it can be carried on systematically, a daily or weekly record of the numbers being kept as a standard. Any sudden and great variation from this standing will then suggest some contamination.

In the search for the pathogenic, the germ most often isolated is the bacillus coli communis. Before gaining any idea of the significance of the presence of this germ we must have a clear view of what we mean by the bacillus coli communis. But here unfortunately we meet with much confusion. As its name indicates, this bacillus is a common inhabitant of the colon, and is present in the fecal discharges of man and many, if not all, of the animals. It is commonly described as answering to a certain number of constant features in regard to motility, size, and growth upon artificial media. It is sluggishly motile or, according to some observers, motionless; 2–3 microns in length; and its most important cultural characteristics are the production of gas in glucose solutions, the power of curdling milk, and of producing indol by its growth in peptone solution. These growth traits serve to distinguish it from the typhoid bacillus, which it resembles in many other points. But unfortunately for our classification we find in water often, and in excre-

[1] Paper read at School of Instruction for Health Officers, Burlington, Vt., May 24, 1900.

tions sometimes, a number of bacilli which apparently lie between these two groups. Our classification of bacteria is at best an artificial one, and there are undoubtedly a number of undiscovered, unnamed species shading into each other and filling in the spaces between known varieties.

In a series of 509 specimens of water examined at our laboratory, varieties of colon bacilli have been found as follows: 56 which give every typical reaction; 3 which ferment lactose and glucose but do not give indol; 1 which ferments lactose and glucose, does not coagulate milk but does give indol; 3 which ferment glucose and lactose, but do not coagulate milk or give indol; 1 which does not ferment lactose or glucose, coagulates milk, but does not give indol; 1 which does not ferment lactose or glucose, and does not coagulate milk. These varieties, it will be seen, approach nearer to the typhoid bacillus in their characteristics, and the question has been seriously discussed whether the colon bacillus may not under certain conditions become altered so as to assume all the properties of the typhoid, and these pseudo-coli or typhoid varieties be transitional forms. Roux and Rodet came to the conclusion that this was the case, and that the bacillus coli communis when grown in sewage, etc., might become extremely pathogenic and give rise to typhoid fever. Laboratory experiments upon this organism have, however, failed to demonstrate this.

But granting that the two varieties, typhoid and colon bacilli, are entirely distinct, the significance of the bacillus coli communis in water is still of the utmost importance: First, as an undeniable evidence of sewage pollution. Here it is ten times more delicate than any chemical tests, for a mere trace of sewage contamination, so small that there is no appreciable increase in the ammonia or chlorine, will infect such a water with a germ which will increase to an extent that any careful bacterial examination will disclose its presence.

In our examination of five hundred and nine specimens, the bacillus coli communis was found in seventy-eight, and only thirty-one of these were condemned by the chemical findings. In a report on this subject in the *British Medical Journal*, Drs. Klein and Houston emphasize the failure of chemistry to detect pollution of water with minimum quantities of sewage. Sterilized distilled water was infected with sewage in varying degrees representing dilutions ranging between 1:100 to 1:20,000. Chemically these waters would have been classed as at least organically safe for drinking-purposes, but in every one the bacillus coli communis was detected. Moreover, the detection of this organism tells something about the contamination. The colon bacillus will not live indefinitely in water which does not contain so high a per cent. of organic matter as would readily be detected chemically. (In experiments carried on at the laboratory this germ has been found to live two months in distilled water, three months in tap water, and four to six months[1] in sewage-polluted water.) Hence it follows that the presence of a colon bacillus indicates that the contamination is of comparatively recent date, and it also shows that it came probably from the surface.

If at Lawrence five feet of sand can remove disease germs, it probably can do the same in Vermont. It is an old idea that if there is a cesspool up here and a well a little lower down, a figure can easily be traced on the blackboard showing how the filth from the cesspool finds its way to the bottom of the well, perhaps twenty or fifty feet away. The chemical evidence of sewage, chlorine, and ammonia may reach the water, but whenever an infected well is found, the source of the trouble should be first looked for at the top. The large number of waters showing the chemical evidence of sewage alone are probably cases of old pollution or pollution from remote ground filtration, and are comparatively harmless.

So much for the presence of colon bacillus as an indicator; and now (second) what danger does it carry in itself?

Much too little significance has been attached to the pathogenicity of this germ. Because it is found normally in some parts of the intestinal tract and is generally harmless when found there, it has been ignored more or less as a dangerous element. The bacillus coli communis may be, and often is, the etiological factor in many diseases, as cystitis, nephritis, pyonephrosis, meningitis, abscess, sepsis, pyæmia, and septicæmia. In fact it is one of the most obstinate pus producers we know, and is usually the infective agent in appendicitis and peritonitis.

It is generally conceded that there are two great classes of dysentery: one due to faulty digestion, and one, epidemic dysentery, caused by infection. Aside from the rare amœbic form, what is the cause of epidemic dysentery? Filthy conditions, infected water are the usual explanations. Epidemic dysentery is, like typhoid fever, a filth disease: this fact has been recognized since the time of Hippocrates, who wrote a lengthy discussion upon the subject. We in northern climes hardly realize what this means until we stop to think that this is one of the four great epidemic diseases of the world in regard to its mortality. And we can in this age hardly doubt that the trouble comes from micro-organisms in the sewage-polluted water; and the germ concerned is undoubtedly the bacillus coli communis. This is too generally admitted to need much argument. Sternberg in his description of the etiology of diarrhœa says: "Probably the bacilli of the colon and proteus group are more frequently than any others responsible for these gastro-intestinal troubles. They are widely distributed and multiply with great rapidity in favorable conditions." Jensen has investigated a fatal infectious disease of calves characterized by diarrhœa, and concludes that it is due to a bacillus which corresponds to the bacillus coli communis in all respects except in its increase in virulence. In the contents of the intestine of calves which have recently succumbed to the malady, the bacillus is found in almost pure culture; also in inflamed mucous membrane, in hyperæmic mesenteric glands, in blood and various organs. Calves fed with a culture of the bacillus invariably died within two or three days, and the bacilli were found in almost pure culture in the contents of the intestines and in great numbers in the blood and organs. Subcutaneous injection of 4 c.c. of bouillon culture caused fatal septicæmia. Drefus finds a decided difference in the pathogenic virulence of colon bacilli from healthy individuals and those suffering from intestinal disorders. Is it not entirely possible also that some of the groups of colon bacilli set up a case of enteritis in some susceptible person who has, let us say, recently moved into the community; and that these germs, increased in virulence by passing through a susceptible individual and again into the sewage-polluted water, infect others, and thus produce some of the cases of pseudo-typhoid enteritis which do not give the Widal reaction with the laboratory standard typhoid culture? It would seem that such might be the case; and if so theoretically, the blood from such a person should give Widal's reaction with the germ if it can be isolated.

And at this point let us digress to explain this serum, or so-called Widal, reaction. The principle of this phenomenon as used in laboratory diagnosis is, we presume, more or less familiar to most of those present, yet as it is the method constantly employed in the identification of bacteria, and will be referred to frequently in this paper, it is essential that it be clearly understood.

[1] Experiments not yet completed

It was noted a few years ago that the fluid serum of an animal immunized against the bacillus pyocyaneus caused the diffuse turbidity of a culture of this germ in a fluid medium to assume a clotted appearance, the lumps or clots gradually settling to the bottom of the tube, leaving the fluid above clear. Microscopically the germs, instead of swimming about actively as they did normally, showed a great tendency to group themselves together in large bunches and to cease their motions. Later it was discovered that the principle held true with the serum of animals immunized with typhoid, plague bacillus, and the bacillus coli communis —in short any pathogenic motile organism. Finally it was proven that not only the body fluids of animals rendered immune, but the same fluids from patients suffering from any infectious disease, possessed the same property, and further that the reaction occurred only between the serum of the patient suffering from or rendered immune to the disease and the germ of that particular disease. The principle is simple enough, viz., that the germ in its growth produces a toxin which is disseminated through the blood and when sufficiently concentrated is fatal to the organism itself. It was the same reason which caused the soldier boys when confined at Chickamauga Park for a long time to sicken and die, poisoned by their own excretions. The same principle is made use of in a practical way in the production of diphtheria antitoxin.

The phenomenon above described is used for two purposes: (1) the diagnosis of disease; (2) the identification of micro-organisms.

To return to these cases of enteritis resembling typhoid but failing to give Widal's reaction with the typhoid bacillus. It was our good fortune to be able to investigate the etiology of several such cases a short time ago. A gentleman came to the laboratory in the hope of finding the source of infection of several cases of enteric fever which had occurred in his household. The cases, which were at that time three in number, were of a mild character, lacking the delirium of typhoid. The family had recently moved from New York City to this place, their summer home on the lake shore. At our suggestion samples of water, milk, butter, and vegetables were furnished and subjected to bacteriological examination. Nothing which could possibly be considered pathogenic was found in any of these specimens with the exception of the milk, but from this was isolated an exceedingly motile bacillus, apparently belonging to the colon family, but differing from the ordinary bacillus coli communis in its extreme motility, its failure to coagulate milk, and its tendency to produce a diffuse growth in Hiss' medium. These variations from the normal bacillus of the colon seem to place it between this and Eberth's bacillus.

The question arose as to whether this might not be the cause of the trouble, and if so how infection reached the milk. With a view to investigate the former suggestion, specimens of blood from the cases were procured and gave Widal's reaction with this germ and also with the laboratory culture of typhoid, though only slightly. Later the temperature charts with an explanation from the attending physician gave evidence along this same line. These showed that when the milk was not used for some time the symptoms were ameliorated, but upon its re-use the temperature again went up, suggesting a re-infection. When the suspected cause was removed no more cases occurred. These facts seemed sufficiently good ground for deeming the milk the source of infection. The next question was, Whence did the infection gain entrance to the milk? Milk was delivered directly from the cow into the sterilized bottles and found sterile upon examination, excluding this source.

Further inquiry showed that the milk pails, cans, etc., were rinsed, after being washed and scalded, in water from an old well which had not been used for some time, and an examination of the water from this well disclosed the identical bacillus which was found in the milk. The well was situated where it could receive the drainage of the barnyard, and had not been used by the family of the farmer for drinking-purposes for some time. No ill effects had been produced upon the people who had been drinking this milk for months, but when a family unaccustomed to the surroundings commenced using it, the trouble began.

Table Showing Comparative Reactions of Bacillus Typhosus, Bacillus Coli Communis, and the Germ Found in the Milk and Well-Water.

Morphology and Growth Reactions.	Bacillus Typhosus.	Pacillus X.	Bacillus Coli Communis.
Morphology in broth	Well-marked rods five or six times as long as broad, with longer individuals and thread forms.	Ditto with bacillus typhosus.	Short rods two or three times as long as broad, often nearly ovoid; longer individuals occur much more rarely than with bacillus typhosus.
Motility	Actively motile	Actively motile.	Sluggishly motile.
Growth in reference to air.	Aerobic and facultative anaerobic.	Aerobic and facultative anaerobic.	Aerobic and facultative anaerobic.
Stain by Gram's method.	Decolorized	Decolorized	Decolorized.
Growth at 37° C. in:			
(1) Smith's glucose solution 24 hours.	Turbidity in closed arm; no gas.	30 per cent. gas.	20 to 30 per cent. gas.
(2) Litmus milk 24 hours.	Reddened, not coagulated.	Ditto with bacillus typhosus.	Reddened and coagulated.
(3) Dunham's peptone solution 48 hours.	Indol rarely produced.	Indol produced.	Indol produced.
(4) Plain bouillon 24 hours.	General turbidity, slight increase in acidity.	Ditto with bacillus typhosus	Ditto with bacillus typhosus.
(5) Agar-agar 24 hours.	Slight whitish film.	More luxuriant than bacillus typhosus.	Luxuriant yellowish-white growth.
(6) Acid potato 24 hours.	Luxuriant but invisible growth, sometimes slightly yellow.	More luxuriant than bacillus typhosus.	Luxuriant yellowish-white.
(7) Loeffler's blood serum.	Yellowish-white, fairly luxuriant.	Ditto with bacillus typhosus	More luxuriant than bacillus typhosus.
Widal's reaction with:			
(1) Blood from these cases.	Slight	Positive	Negative.
(2) Blood from a known typhoid case.	Positive	Slight	Negative.

In this case you will notice the infection came directly from the milk to the individual. And in my mind this is usually the case. The antiseptic property of the stomach secretions is sufficient to dispose of a small invasion of a mildly pathogenic germ, but when this organism gains lodgment in a soil so congenial as milk, it increases with enormous rapidity, and when millions of bacilli are repeatedly poured into the stomach of an individual of lowered vitality the natural resisting-power is overcome and infection occurs.

Another case along this same line has recently come under our observation. A physician in this city brought to the laboratory a specimen of blood from a case of suspected typhoid fever, and also a specimen of milk which the man had been using. The blood gave the Widal reaction, but no typhoid bacilli were found in the milk. It was, however, found infected with the bacilli coli communis. The blood also gave a reaction with this germ. The physician describes the case as characterized by more than the usual tympanites. At about this time the dairy from which the milk came became afflicted with an epidemic characterized by diarrhœa, and a number of cows and calves died of the disease. This was apparently a case of double infection, as the blood reacted to both typhoid and colon cultures.

Some investigations were made along the same lines during the epidemic of typhoid fever in Belfast, with the following conclusions, and though the cases in Belfast were most of them typical typhoid, there was added an element of infection due to the bacillus coli communis. The investigators (Messrs. Smith and

Tennant) discovered that fifty per cent. of these cases which were diagnosed typhoid gave the Widal reaction with the bacillus coli communis, and of these there were a number which reacted in the highest dilution with this germ alone. In these cases it is difficult to believe that this reaction from the first was due simply to the invasion of the typhoid bacillus. The more natural supposition is that the reaction of the bacillus coli communis in such cases is due to some process of infection for which it is itself responsible, and that in those cases in which there is a reaction with both organisms there is a double infection. In fact we must accept this, or be driven to the other horn of the dilemma and concede that the two germs are very closely related.

Furthermore, the occurrence of the bacillus coli communis in the urine in these cases is another argument for this independent infection. The facts that this occurs often when there is no history of catheterization, and that there are a number of cases on record of a pyonephrosis proven to be due to these germs, are evidence that the infection comes by way of the kidneys in the process of elimination.

In investigating the water supply of a certain town in the State, traces of the bacillus coli communis have repeatedly been isolated, but never at any time have typhoid germs been found. In this town during the fall and winter months there have continually been a number of cases of a mild enteritis, some of which have and some of which have not given Widal's reaction with our laboratory culture of typhoid bacilli. Ten of these cases, which never gave a good typhoid reaction, have been examined in reference to evidence of an infection by the colon bacillus. Six of them have been found to give a positive reaction with the bacillus coli communis, using the ordinary dilution and time limits. The urine, in the only one of these cases in which it was examined, was found to be infected with these germs. One of the four cases which failed to respond to the reaction with either organism proved to be pneumonia, another malaria.

Otto Lerch reports in the MEDICAL RECORD what he believes to be a case of enteric fever caused by the colon bacillus. In this case the patient, after an illness somewhat resembling a typical typhoid fever, died suddenly of heart failure.

The search for the typhoid bacillus in water is carried on with much difficulty, and results are very uncertain. This is due to the fact that the germ does not increase to any extent in water, and so the relatively small quantities which are necessarily handled in an examination may easily contain none of them, and to the difficulty encountered in separating this germ, when present, from the more resistant bacillus coli communis. We cannot, therefore, rely on the failure to find the germ in water as a positive proof of its absence, but we can say that the water contains no typhoid if it fails to show colon bacilli. In the laboratory experiments we have not succeeded in keeping the more virulent germ alive in water over four weeks, while the colon bacillus will live a much longer time and is much more easily isolated.

From the consideration of all these facts we are driven to conclude that waters in which the bacilli coli communis are found to exist for any length of time are dangerous to the public health, and that the only safe course is to condemn all such. An example proving this is the recent outbreak of typhoid fever in West Burke. From the first there seemed good reason for suspecting the water as the source of the trouble, and samples were sent to the laboratory and examined. The cases in this town were undoubtedly typhoid, but no typhoid bacilli were found in the water. It was, however, found infected with the bacillus coli communis. If the water had been examined before the outbreak and found contaminated, as it undoubtedly was, the trouble might have been averted.

In reply to the argument which is sure to be advanced, that people have drunk the waters which you condemn, for years, and are still living, we may use Professor Sedgewick's words in answer to a similar argument: "Look here, did you ever see a G. A. R. procession? They look pretty healthy. Well, then, war isn't a bad thing, judging by these people." Now the point is the same in both cases. These are the survivors. We don't see those who are lying in the graveyards hereabout or at Arlington or elsewhere, and because you and I and a half-dozen others have been tough enough to stand all of these things, it does not follow that a lot of people have not died of them or will not if subjected to the same conditions.

In this State, when so large a per cent. of our waters are pure, it is perfectly practical and will be highly profitable, not only hygienically but financially as well, in the long run, to discard all supplies which are permanently infected with the bacillus coli communis.

PATHOLOGICAL PHYSIOLOGY OR EXPERIMENTAL PATHOLOGY, ITS SCOPE AND SIGNIFICANCE IN MEDICINE.

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THE ancient notion, that a disease is a certain independent entity added to the organism, and that it is only the disease, and not the organism itself, which the physician has to deal with, has as yet a strong hold on the profession. The study of pathological physiology, which deals with the abnormal functions of different organs, alone can show that nothing is added to the organism in disease, but that it is only its functions that are changed. The science of pathological physiology has been in existence nearly a century, and its importance in medicine is fully recognized. Still there are very few medical schools in existence in which the subject is systematically taught. I therefore think that it may be of some interest to give a short review of the present state of this science. I hope that my readers, after the perusal of the following pages, may see clearly that medicine is not only an art, but a science in the full meaning of the word, that the logical reasoning on a scientific basis of observation and experiment is of more importance than all the patented and other nostrums, and also that pathological physiology is the real philosophy of medicine. By this I do not mean to say that it is a science which attempts to explain every phenomenon of a disease by mere force of abstract argument, but I do say that pathological physiology is a science which analyzes the observations of the clinic and pathological anatomy and chemistry, and verifies by experiment the conclusions derived from these observations.

The relation between this science and the other branches of pathology will be best understood after the explanation is given of the meaning of the words "diseased or abnormal state of the organism."

An organism is normal and healthy when it receives the greatest possible benefit from the work or functions of every one of its parts or organs. It is only by the aid of the work of these organs that the organism itself, as a unit in the external world, is enabled to perform those life functions which distinguish it from unorganized objects. If the work of its organs ceases, the organism becomes an inert, unorganized body—it dies. But it may also happen that though one or more organs are unable to give the required amount of assistance to the organism, the latter will

be able to compensate the deficiency in one way or another, and continue to live. Such a state of the organism is, however, certainly abnormal, diseased, and, as already stated, the organism will suffer not only through the deficiency of the organs primarily diseased, but also through its consecutive deleterious influence upon the other organs. It should here be added that the function of a certain organ may be abnormal, and still be able to give to the rest of the organism the necessary assistance. Such a state, though abnormal, will not be pathological. A diseased state of an organism is consequently an abnormal state, in which the functions of one or more organs are so changed that they are not only unable to give the organism the full benefit of the work allotted to them, but may even produce a deleterious effect upon the rest of the organism.

It follows that in studying a diseased organism we shall find some or all of these functions changed; in other words, no matter how well normal physiology may explain the functions of the same organism in its healthy state, we shall still have to study the diseased organism anew, *i.e.*, we shall have to develop a morbid or pathological physiology. It is obvious that in disease the structure and chemical nature of an affected organ are also changed, and notwithstanding the perfect knowledge we have of the organism in its normal state, we must make a new and just as complete study of it in every direction in its diseased state.

Pathology in the broadest sense of the word may consequently be considered, in the same way as biology, a group of sciences, studying the structure of a diseased organism (pathological anatomy), its chemical composition (pathological chemistry), and its functions (pathological physiology).

That pathological physiology must be considered a science independent of either pathological anatomy or chemistry hardly needs elucidation. A change of structure of the same character may produce entirely different functional disorders in two different organs, and consequently have an entirely different influence on the entire organism. On the other hand, the same functional disorder may be accompanied in one case by a quite characteristic change of the structure of a certain organ, while in another case we shall hardly be able to discover any change at all.

A great deal nearer are the relations between the pathological and normal physiology. They both deal with functions of the different organs. Pathological physiology avails itself of almost the whole technique of normal physiology. Still the nature of the questions with which these two sciences are concerned are entirely different; many methods which are indispensable in pathological physiology would be superfluous for the purposes of normal physiology.

In the following lines I shall attempt briefly to outline the scope of pathological physiology, and to show that the subject-matter of that science, the questions it has to solve, and its methods of research are different from those of the other medical sciences, and that pathological physiology has a fundamental importance for medicine as well as for biology.

Morphologically an organism consists of a conglomeration of different cells. If we, therefore, undertake to study the pathological changes in the structure of an organism, *i.e.*, the pathological anatomy, we have to consider the cell as the independent unit for investigation. But we must apply a different method when it is our object to study the abnormalities of the functions of an organism. While each of the cells of the body of the very lowest animal can perform the same work as any other of its cells, the cells in the animals of a higher development are greatly differentiated. Not only is every cell restricted to a certain kind of work, but if severed from the rest of the cells of the same group, from the organ of which it is a part, it ultimately dies; consequently a certain kind of work, a certain function can be performed only by a union of like cells, by an organ, and this organ only is the unit for examination in pathological physiology.

An individual thus needs a certain amount of material—food and oxygen, which it receives from the outside, through its lungs and alimentary organs. The food after having undergone certain preliminary changes in those organs is distributed by the aid of the circulatory system all over the body, penetrating into the cells in which it undergoes its final transformation. The cells again discharge into the circulatory channel whatever is eliminated from their body during the process of assimilation of the food, or some other work they have to perform. The substances so eliminated, either having undergone some subsequent changes in the blood or unchanged, leave the organism through the excretory organs (lungs, which consequently do double work, skin, and kidneys). Thus assimilated food is the source of a certain amount of energy existing in the organism, which expresses itself in animal heat, and in the work of the muscular, nervous, and genital systems.

From this enumeration of the functions of the different organs it is easily seen that there is the closest relation and dependence between them, and that an abnormality of one of them must affect all others. Consequently, unlike the study of pathological anatomy, in which even a separate study of a certain part of the body may give us some results, we have to study in pathological physiology not only the abnormality of the function of a certain organ, but also the influence such an abnormality has upon the rest of the organism.

The abnormality of functions may be of two kinds: quantitative, *i.e.*, the function may retain its character, but may increase or decrease in degree; or qualitative, when the character of the function itself is changed.

In the next pages will be given a brief sketch of the scope of pathological physiology. I shall start with the circulatory system, as the influence of this upon the life of the whole organism is most manifest.

Pathology of the Circulation.—The circulatory system practically consists of two parts, the circulatory system proper on one hand and the blood and lymph on the other. The function of the circulatory system consists in propelling the blood from the different parts of the body to the lungs, where it comes into close contact with the inhaled air and gets the necessary amount of oxygen, and from there again to the different organs. The heart is the most important propelling power. Its increased work can hardly be considered a pathological condition, because, no matter how much the quantity of blood coming to a certain organ is increased, the cells do not take from the blood nor return to it any more substances than they would under normal conditions. But a decreased work of the heart, its weakening, is injurious to the organism not only because the supply of blood to the different organs is decreased, but also because an abnormal quantity of blood is gathered in the venous system, which in its turn produces secondary changes in the organs.

But the action of the heart may also undergo qualitative changes, and these are of the gravest consequence to the organism as a whole. The qualitative changes are caused by some morphological lesions in the openings leading from the auricles to the ventricles, or from the latter to the arteries. Those openings are provided with valves, the function of which is to prevent the blood from returning. All those openings may become narrowed, stenotic, or the valves may be unable to close perfectly. Let us consider the case in which one of the auriculo-ventricular apertures

has become stenotic. Only part of the blood normally drawn into the ventricle during the diastole will find its way in; another part will be left in the auricle and consequently in the venous system. Should, on the other hand, the bicuspid or tricuspid valves be insufficiently closed, then part of the blood during the systole will return to the auricle and consequently again overfill the venous system. In a word, whichever of these openings becomes abnormal, the result will be of the same character, *i.e.*, part of the heart's energy will be wasted. The heart hypertrophies and is thus enabled for a certain time by increased energy to do the amount of work necessary for the organism, but like every muscle the heart becomes tired out by overwork —it does not propel a sufficient quantity of blood into the arterial system, and the blood consequently stagnates in the veins. The whole organism suffers, on one hand, from the mechanical and chemical influence of the accumulated venous blood, and on the other hand from an insufficiency in the supply of fresh arterial blood; the different cells of the organs degenerate, the parenchymatous organs become congested by the increased quantity of the venous blood, which also produces a hydrops. It may be here added that formerly when we made an autopsy and found great morphological changes of a certain nature and at the same time a certain lesion in one of the apertures of the heart, it was a very tempting hypothesis that the latter was the cause and all the rest only the sequence, but it was no more than a hypothesis until experiments performed on animals produced on the latter the same lesions in the apertures of the heart, and, as a result, the same functional disorders and the same morphological changes at the autopsy which we met with in a human body.

The arteries are normally assisting the heart's work, and if their walls are changed by some disease process and lose their elasticity, the heart has to perform an increased amount of work, it becomes overworked; this in its turn influences the organism in the manner previously described.

The amount of blood contained in an organism is not sufficient to furnish every organ with the quantity necessary during its activity; as a consequence an active organ receives a larger quantity of blood than an inactive organ. Cl. Bernard has shown experimentally that this constant change between a local physiological hyperæmia and anæmia is due to the influence of the nervous system. If the quantity of blood contained at a certain time in some part of the organism is increased or decreased without regard to the requirements of the normal function of that part, such a hyperæmia or anæmia becomes pathological. A local hyperæmia is called "active" when the quantity of blood is increased through a greater influx of arterial blood. Such a hyperæmia, as already mentioned before, has hardly any deleterious influence upon the functions of the organism. It is true that inflammation, which is also accompanied by an arterial hyperæmia, does change the function of the organ which it affects, but there are other reasons for this. In the first place, in inflammation the stream of blood is not accelerated as in an ordinary arterial hyperæmia, but on the contrary it is even slackened. On the other hand, the causes producing the inflammation show their influence not only upon the circulatory system, but also greatly on the cells of the affected organ itself and thereby only they injure its function.

A stronger influence upon an organ is exerted by a passive or venous hyperæmia, *i.e.*, a condition in which the influx of arterial blood is normal, but for some reason or other the organ cannot be freed from its venous blood. This blood accumulating in increasing quantity injures the organ, first by the mechanical pressure it produces on it, and then by the poisonous action of the venous blood on the cells of the organ (this will be better understood later).

The influence of a local anæmia on an organ is obvious: it produces inanition. The more delicate an organ is in its function (the brain, for instance) the less it is able to sustain anæmia without injury. Not only may the quantity of blood in an artery be decreased but the artery may become entirely impermeable at some point. At first thought we should expect that the part of an organ fed by this artery would die, but it usually does not. The interchange of material between the cells of an organ and the blood begins in the capillaries. Before an artery merges into its terminal capillaries, however, it usually anastomoses at frequent intervals with the arteries of the neighboring regions, and such an anastomosing artery will always exist between the obstructed part of the artery and its capillaries. This anastomosing artery will also supply blood to the capillaries of the obstructed artery. But in some organs (spleen, kidneys, brain, lungs, retina) the arteries do not have an anastomosis on their entire length (such arteries Cohnheim called "terminal arteries"). Consequently if the artery becomes obstructed below such an anastomosis, the corresponding part of the organ becomes necrotic and its function ceases. The fact that an obstruction of an artery by a thrombus or embolus produces a local necrosis in one case and does not in another was known long ago, but its explanation could be found only after the wonderful experiments of Cohnheim, who compressed a minute artery of a frog's tongue (a terminal artery) and studied the results under the microscope.

Blood is the most wonderful organ with the most complicated and manifold functions, some of which we are only commencing to discover now. Like any other organ, blood consists of cells endowed with certain functions and an intercellular tissue, but while in every other organ the latter serves only as a support for the cells, the blood serum has a great many functions to perform, and this not only as transporting cells as well as diluted substances from one place to another, but probably also as an agent producing some chemical changes in these substances.

Of the blood cells we are most familiar with the function of the red corpuscles. Each cell contains a certain amount of a substance called hæmoglobin, which coming into contact with the air in the lungs combines loosely with its oxygen, then turns to the tissues of the body and just as freely distributes it among the cells of the latter. Now, should the number of all the red corpuscles in the body, or the quantity of hæmoglobin in each cell, decrease, the condition of the whole organism will in either case become pathological, as every cell, every organ of the body will suffer from lack of oxygen. Such state of the organism is called anæmia. An increased number of red corpuscles or quantity of hæmoglobin is hardly ever to be met with and is not injurious to the organism, as no cell in the organism consumes more oxygen than it really needs.

We know much less of the functions of the other cellular part of the blood, the so-called leucocytes. This is a chapter in pathological physiology in which we have no normal physiology for a basis, the reason probably being that the most easily observed function of these cells begins only after the organism has become diseased.

Metchnikoff was the first to show that if we introduce into an organism some microbes, we will soon find them inside of the leucocytes (in a degenerated state), and he thereupon developed the theory of phagocytosis.

The leucocytes are consequently for him analogous to an army, which mechanically destroys any parasite

that would otherwise injure the organism. Further research showed that this function of the leucocytes is not a mechanical one only; it seems that, bacterial or any other poison being present in the blood serum, the leucocytes produce certain substances, eliminate them also into the blood serum, and thereby protect the organism against injuries from the poison. It was further shown clinically as well as experimentally, that as soon as a certain poison is introduced into the organism the number of the leucocytes is greatly increased. This increase occurs in so short a time after the influence of a poison on the organism commences, that it can certainly not depend upon a new formation of leucocytes. Facts seem to prove that the increase is due to the so-called chemotactic influence of the poisons, *i.e.*, to the fact that the poison circulating in the blood attracts a number of leucocytes contained as a kind of a reserve force inside of the blood-forming organs (spleen, lymphatic glands, and marrow of the bones). Having entered the blood, these supernumerary leucocytes begin to participate in the work of protecting the organism. Further experimental research in this line throws light on some of the most puzzling questions of pathology. But while the results accomplished are of the greatest importance and benefit to mankind, the field of work opened by these researches is quite unexplored as yet, and will surely lead to innumerable discoveries of the greatest importance.

It has long been known that some species of animals are refractory, immune against certain diseases of other species; further, an organism, after having passed through a certain disease, may remain immune against the same disease for some time or even its whole life. It has also been shown by the wonderful experiments of Pasteur and others that by subjecting an animal to the influence of the attenuated virus of a certain disease, we can make the animal artificially immune against it. The most probable explanation of natural as well as acquired immunity is the following: All cells of the body, and chiefly the lymphocytes and leucocytes as was lately shown, produce, most probably by their nuclei, some substances, alexins, which arrest the growth and kill the invading bacteria. These bacteria are consequently not pathogenic for the organism. On the other hand, if pathogenic bacteria penetrate into the organism, they produce some substances which neutralize the alexins, and the bacteria are enabled to thrive and produce toxins, which serve as a general poison to the organism. If the organism has recovered from the effect of an invasion of pathogenic bacteria, that will show that the organism has produced more alexins than it usually does, and killed the bacteria, or else produced antitoxin and with it neutralized the bacterial toxins, while leaving the bacteria themselves alive. In many instances an organism, after having once recovered from a certain bacterial invasion, is able for some time or even for the whole life to produce such an amount of alexins as to be immune against the same bacterial invasion. Such an immunity is called an acquired active immunity. An artificially acquired active immunity will then simply mean that the organism was trained to produce more alexins, not by having passed through a certain disease, but by an introduction of an attenuated poison of certain bacteria.

If the blood serum of an immunized animal contains an increased amount of alexins it may, if introduced into another animal suffering from the same disease, cure it. This supposition has proved to be true for diphtheria and tetanus, and in time may give us many more therapeutic acquisitions. Such an immunity, when the organism is not trained to produce more alexins but is simply given an extra amount of them, is called passive acquired immunity.

All this protective work is probably not the only function of the leucocytes; at least it does not explain why an increase in the number of the leucocytes, which ought to be beneficial to the organism, is the most conspicuous feature of a grave disease (leukæmia) always leading to death, though here also the leucocytosis may be only a secondary reaction to some poisoning of the organism unknown to us. Neither the normal nor the pathological physiology of the leucocytes can therefore be considered a solved problem.

Blood serum has for its function the transmission to and from every cell of the body of different substances of its metabolism, consequently the abnormalities of its function depend upon and are best studied with the abnormalities of the general metabolism. It need only be stated here, that the function of the blood serum may decrease or cease entirely in a certain part of the body, simply through the change of its density. Blood may coagulate inside of the blood-vessels, obstruct them, and thereby produce a local anæmia.

Pathology of Respiration.—Under respiration we understand a series of functions as a result of which cells of an organism are constantly being supplied with an amount of oxygen necessary for their metabolism and eliminate the produced carbonic oxide. The functions accomplishing this work are the following: The lungs receive from the outside atmosphere the oxygen; the red corpuscles of the blood come in near contact with this oxygen, combine with it, and then carry it to the different cells of the body. These cells receive from the red corpuscles the oxygen and transfer to them their carbonic oxide. The carbonic oxide is being received by the red corpuscles and carried to the lungs, where it is being eliminated. I have already analyzed the functions of the red corpuscles; of the use which the cells of the organism make of the oxygen I will treat under the head of general metabolism. What concerns us now is the work of the lungs themselves, or the so-called external respiration as distinguished from the other respiratory functions which are called internal respiration.

The function of the respiratory organ may be changed in one of the following three ways: Either the air tubes leading to the alveoli may be obstructed (foreign bodies, tumors, bronchitis, and so on), and then, though the respiratory movements are the same, the alveoli do not receive the amount of air necessary for their ventilation; the blood consequently receives less oxygen and is also unable to free itself of the carbonic oxide. Or the alveoli may be filled with some other substance than air (exudate in pneumonia, fluid in œdema, etc.); then the blood does not come in natural relationship to the air and consequently is unable to take in oxygen and eliminate its carbonic oxide. Or, lastly, the air tubes may be free, but the musculo-nervous apparatus (the respiratory muscles, vagus, phrenicus, the respiratory centre in the medulla) and the respiratory movements are changed. Should the obstruction be complete, all the alveoli filled, or the musculo-nervous apparatus cease to work—then the whole organism will be deprived of its necessary supply of oxygen and on the other hand be overfilled with carbonic oxide, which is poisonous, and the organism must consequently die.

On the other hand, should the changes be partial, then if it is the musculo-nervous apparatus which is affected, the function of the respiratory organ will change accordingly. But the result becomes more complicated if the air passages are partly obstructed or some of the alveoli are filled with a foreign substance. In both instances the arterial blood flowing from the lungs will contain less oxygen and more carbonic oxide than normally. This will affect the whole organism, but first of all the respiratory centre, which will become irritated and will increase its work

and as a consequence the respiratory movements. The inspiration becomes deeper and more frequent, the expiration becomes active—*i.e.*, not only is the air forced out by the elasticity of the lungs but also by active muscular work (of the abdominal and some chest muscles). Such an increased respiration is called "dyspnœa." It is easily seen, then, that dyspnœa is a kind of a compensatory action of the organism against a decrease of work by the respiratory apparatus. As a matter of fact it has been proven experimentally that the amount of oxygen used and carbonic oxide eliminated during dyspnœa is nearly the same as that during normal respiration of the same organism. The inference may be made, that an abnormality in the function of the respiratory organ is never injurious to the organism, is never pathological. We know, however, that dyspnœa injures the other organs and is certainly a pathological condition. The reason must be looked for in the fact that dyspnœa increases the gas metabolism by the aid of increased muscular work, and such an increase of work necessitates again an increase in the amount of oxygen used and carbonic oxide eliminated. Dyspnœa, then, though it brings the amount of oxygen and carbonic oxide to a normal level, is unable to increase the amount sufficiently for an animal in such a state. The arterial blood leaves the lungs with a normal amount of oxygen and carbonic oxide, but it goes to organs that do more than a normal amount of work; consequently they take from the blood more oxygen and give it more carbonic oxide than normally. This venous blood, abnormally rich in carbonic oxide and poor in oxygen, cannot, therefore, receive in the lungs the necessary amount of oxygen and eliminate the necessary amount of carbonic oxide to become normal arterial blood, though the work of the lungs is normal. That this is so is proven by the fact that dyspnœa producess cyanosis, a state in which even the arterial blood contains abnormally little oxygen and an excessive amount of carbonic oxide. But in order to prove the above supposition we should have to show experimentally that there really is a difference in the amounts of oxygen and carbonic oxide in the blood of a normal animal and of one in a state of dyspnœa. Such experiments have not been made yet, though the amount of oxygen and carbonic oxide in the blood of a normal animal has been determined.

Pathology of Digestion.—The food which a higher organism gets from outside must contain albumen, fat, carbohydrates, salts, and water. All these substances except salt and water have to undergo certain preliminary changes, chemical as well as physical, before they are fit to be used as food by the cells of the body. This preliminary work is allotted to the digestive apparatus. Beginning with the mouth and ending with the anus, this apparatus consists of a series of organs, each doing its part in the digestive function.

Almost every kind of a pathological state in any of these organs produces the same influence on the organism. On the one hand, it is not all the food taken in that undergoes the necessary preliminary transformation, and the organism suffers from partial inanition. On the other hand, parts of the food transformed and untransformed stagnate in the digestive tract. The micro-organisms that are always swallowed with the food have a better opportunity to act on it and split its chemical substances into different ones, which may prove injurious (poisonous) to the organism.

Pathology of Metabolism.—The assimilation of food or metabolism, as we have seen, consists of three acts—introduction of food, assimilation proper, and the elimination of the remnants of the food. The same three divisions we must follow in studying the abnormalities of the metabolism.

The food may be introduced into the organism in an abnormally increased quantity. The influence of such an increase is hardly of any importance. The quantity of food taken in by the cells of the organism does not depend on the amount of the supply of food on hand, but upon the amount of substance necessary for the cell to cover its expenditure, consequently upon the amount of work produced by the cell. The only injury an organism can receive from overfeeding is the overloading and stagnation of food in the digestive tract, or overexerting of the excretory organs.

A great deal more important is a decrease in the amount of introduced food or a total absence of food. Certain functions have to go on in an organism so that its life may be continued. These functions will then go on even though the supply of food has ceased. At first the cells find in the body a sufficient amount of stored-up material (fat, carbohydrates), by which they can recuperate their loss. But when this is all used up, the cells, while continuing their functions, lose so much of their own substance that they are unable to continue them, and die. In this instance there manifests itself the most wonderful capacity of the whole organism for self-preservation. For those cells which are of the greatest necessity to the whole organism (nerve cells) live longer than the rest, and most probably feed themselves on the substance of less important cells (fat).

Now, the substances introduced into the organism can also differ qualitatively from the ordinary food. *A priori* we have to suppose that such a substance introduced into an organism (I mean by it not only brought in the digestive tract, but also absorbed by the blood) will be eliminated again without being taken in by the cells; and this is really the case with some substances. But there is a large class of substances which, when introduced into the organism, are taken in by the cells, and, though unable to serve as food in rebuilding the cell, these substances influence the latter so that its function is either improved, impaired, or even stopped entirely. To the first class belong the medicative agents, to the latter the so-called poisons.

The study of poisons has now acquired such a predominant place in the whole field of pathology that it would be impossible for me to give here even the merest outline of the matter. We understand a poison to be a substance which, when introduced into the circulation, produces upon some cells of the organism such an influence that the function of these cells is either interfered with or stopped entirely. What the nature of the action of a poison is we are absolutely unable to say. Still there are a great many questions in physiology, normal as well as pathological, which could be answered only through the study of the action of poisons, and a great many more that will probably be answered through such a study in the future. The fact that a great many mineral substances as well as substances produced by or derived from plants or animals are poisonous, if introduced into another organism, was known in medicine from time immemorial. But poison was considered a factor rather subordinate in pathology, while at present we have facts enough to prove that poisoning plays a dominant rôle in the whole field of pathology. The etiology of the most numerous class of diseases, the so-called infectious ones, was absolutely unknown until, beginning with the works of Pasteur and Koch, it was shown conclusively of some of them and made very probable for the rest, that they are produced by the influence on the organism of certain well-defined micro-organisms. It has been further proven, as just stated, that this influence does not consist in a mechanical action of these microbes, as was at first believed, but that the micro-organisms through their own metabolism pro-

duce certain substances, which when absorbed by the blood act as poisons on some cells of the organism.

Even normal food, in case it stagnates in the digestive tract, may become a source of poisoning. Under the influence of some micro-organisms which may exist there, and which by themselves may not be injurious to the organism, the food produces abnormal chemical substances which also act like poisons when absorbed by the blood. The most wonderful biological facts discovered through the study of poisoning are in the first place the inability of the poison after it has been absorbed by the blood to injure all cells of the organism. It seems that certain poisons can penetrate and injure only certain cells of the organism. The other fact is that the same cells which were susceptible to a certain poison, can under certain circumstances be made to withstand the same poison (I have mentioned it in the section on blood). This fact is true in the case of bacterial toxins as well as of different poisonous alkaloids (morphine, cocaine). Though the nature of the action of a poison on a cell is unknown, we are quite familiar with the manner in which a given poison injures a certain function; but, as already stated, it is impossible to go here into any details of the question.

We turn now to the study of the abnormalities of assimilation of food. This question is very complicated. As was mentioned before, a substance which is assimilated by one cell may have been eliminated by another. We are unable to follow the course of metabolism of each cell separately; the only method left to us is, therefore, to follow as best we can each component of food from the time it has been absorbed by the blood or lymph until it is eliminated from the organism. We will begin with the proteids of the food. They leave the body in the form of urea, and other substances of less importance. It has been shown that within the cells the final products of decomposition of proteids are most probably certain organic acids (lactic, oxybutyric, etc.) and alkali (NH_3). Normally these two substances form a salt. This salt is transported to the liver, where it undergoes an oxidation into ammonium carbonate [$(NH_4)_2CO_3$] which is then transformed synthetically by the liver into urea. Should this function of the liver become impaired by some pathological process (acute yellow atrophy, phosphorus poisoning, etc.), experimental elimination of the organ, or even without any apparent morphological change, then some of the organic acids will be eliminated without their preliminary transformation into urea. This fact is likely to become of some importance in pathology, as the state of coma taking place in the course of diabetes, carcinoma, and some other pathological processes seems to be due to intoxication by the organic acids circulating in the body.

The abnormality in the metabolism of proteids may go further yet and the proteids may be eliminated before they split into a nitrogenous and a non-nitrogenous part. This takes place in fevers, carcinoma, phosphorus poisoning, acute yellow atrophy of the liver, and some other conditions, when the proteids are eliminated in the form of albumoses. Such an abnormality in the metabolism is certainly a sign of great depression in the functions of the cells, since the albumoses practically contain the same amount of potential energy as the proteids themselves; consequently the cells of the body are in a state of inanition, though the supply of food may be plentiful.

Uric acid, which in birds is the most important product of elimination of proteids, occupies a subordinate place in mammals. It has been shown lately that in the latter uric acid is a product of elimination of only a certain kind of proteids, the so-called nucleins (a constituent part of the nuclei of cells). Some cells in the organism (leucocytes for instance) are constantly dying off and undergoing the process of decomposition. There is consequently always material for the formation of uric acid. In some pathological processes, when leucocytosis takes place, and also in leukæmia, we find mostly an increased amount of eliminated uric acid. This tends to show that the increased number of leukocytes in leukæmia is due not to a decrease in their decomposition, but to an increase in formation, for the number of dead leucocytes must increase so that the amount of eliminated uric acid may increase.

There is a disease which has some, though not well-defined relations to the uric-acid formation, and this is gout. The most important symptoms of the disease are painful, inflammatory swelling near some joint, with necrosis of the tissue and precipitation in it of uric acid. At first it was thought that the uric acid was the real cause of the disease. There is, it was thought, an increased formation of uric acid, which accumulates in the blood and then precipitates in the tissues. But lately with the help of improved methods it has been shown that in gout there is no increase of uric-acid formation in the whole organism, neither is there decreased elimination. The more plausible theory seems to be, therefore, that some unknown cause gives rise in certain parts of the organism to such an abnormal state of the cells that they produce locally more uric acid than the blood can absorb.

We hardly know anything about assimilation of fat under either normal or abnormal conditions. It has been proven experimentally that the fat absorbed with the food can be not only oxidized, but also deposited as fat in the body. On the other hand, an organism which does not receive any fat with the food can still increase the amount of its fat, through the splitting of albumin. Now, why do some individuals have an abnormally, even pathologically increased amount of fat? It is possible that the cells of such an organism are able to oxidize only an abnormally small amount of fat, and that the rest is deposited. We may suppose, on the other hand, that the cells split off an abnormally great amount of fat from the proteids of the food as well as from those of the cells themselves. We have not sufficient experimental proof to accept either of these possibilities.

The greatest amount of work in metabolism has been done on the question of the assimilation of carbohydrates, thanks to diabetes, a disease which has puzzled and interested physicians of all times. It should also be stated that we have received a clearer insight into the normal metabolism of the carbohydrates mostly through the study of its pathology; still a great many of our conceptions of the matter are as yet hypothetical. Under normal conditions, all the carbohydrates, after being formed in the digestive tract into monosaccharids, are absorbed by the portal venous system, and carried to the liver. The cells of the liver seem to transform them into insoluble glycogen, storing the latter within themselves. The cells further transform the glycogen into sugar and distribute it in small quantities only by way of the general circulation to the other parts of the organism according to their needs. The following fact may serve as proof: If we feed an animal with sugar, we find an increased amount of sugar in the blood of the portal vein, while in the blood of the general circulation the sugar is taken up by the cells and after having undergone some preliminary changes, the nature of which we do not yet know, it is oxidized into carbonic oxide and water. Now when an abnormally increased amount of carbohydrates is introduced into the organism, then the liver will receive more sugar than it is able to transform into glycogen. The excess of this alimentary sugar will be absorbed by the general blood

circulation, and we have a glycæmia. Furthermore, as all the sugar from the blood cannot be taken in by the cells, the rest of it will be eliminated by the urine; we shall have then a glycosuria. Such a glycosuria though abnormal is not pathological, as it does not interfere with any function of the organism. A glycosuria becomes pathological only if it is the result of a decrease in or cessation of the glycogen-forming function of the liver, when all the sugar absorbed from the intestinal tract passes into the general circulation. But only a part of this circulating sugar can be oxidized in a given time; the rest will be eliminated, and the organism will suffer from partial inanition. Now is pathological glycosuria or diabetes simply an abnormality of the glycogen-forming function of the liver? The experimental study of the question has shown it to be a great deal more complicated, and is hardly yet able to give a definite answer to the question. It has been shown that the extirpation of the pancreas produces in an animal a severe form of diabetes. This fact shows that the pancreas has also a certain influence upon the assimilation of carbohydrates. Whether this influence consists of the formation of some substance which is introduced into the liver and assists there in the transformation of sugar into glycogen, or of something else, cannot as yet be definitely stated.

There are also facts which show that sugar can be transformed into glycogen and stored not only in the liver but in the other organs of the body, and first among them in the muscles. The assimilation of carbohydrates takes consequently the following course: The organs receive sugar from the liver, transform it into glycogen, and then according to their needs transform the glycogen again into sugar. Now, should the glycogen-forming capacity of any of the organs become abnormally decreased, then sugar will accumulate in this organ and from there penetrate in abnormal quantities into the blood. We shall get a glycæmia and glycosuria. Another striking experimental fact, which complicates the question still more, is the so-called phloridzin diabetes. Phloridzin is a chemical body, which, when introduced into an animal, produces a glycosuria, but without an increase in the amount of sugar in the blood. Such a glycosuria can be explained only by a certain influence of the phloridzin on the cells of the kidneys. It has been further proven that an injury of a certain place in the brain also produces a glycæmia and glycosuria. It seems, then, that pathological glycosuria or diabetes can be the result of different lesions, and it is, therefore, most likely not a disease *sui generis*, but a symptom showing that the assimilation of carbohydrates is abnormal in some organ of the body.

The mineral substances of the food cannot be oxidized nor in any other way assimilated by the organism. Still they are of vital importance, and an animal which receives all the other constituents of the food except the mineral substances dies sooner than an animal in a state of complete inanition. As yet we are unable to explain the mode of action of these substances. They are most likely a vital part not only of the skeleton, but also of all other parts of the body, and as some part of the mineral substances is continually eliminated, the loss must consequently be repaired by the food. We know of certain diseases, such as scurvy, rickets, and osteomalacia, which are in all probability results of certain abnormalities in the assimilation of one or another mineral substance. But the manner in which these states are produced is just as little known to us as is the nature of the normal assimilation of these substances.

While studying the functions of the liver and pancreas, we have met with the fact that, besides producing and eliminating certain secretions through their ducts, they perform also some other work, the so-called internal secretion. The latter is of the greatest importance to the organism, and consists in one of the following two kinds of functions: Either the cells of such glands take up some nutritive substances from the blood and transform them in some way, and then turn them to the blood again, or the cells of these glands produce by themselves certain substances and eliminate them into the blood. From the blood these substances pass into other organs of the body and influence there in one way or another their metabolism.

Now there is a series of these so-called ductless glands in the body, such as the thyroid, the pituitary body, the suprarenal glands, the spleen, the lymphatic glands, and to their number must also be added the marrow of the bones. What is their function? Normal physiology was utterly unable to answer this question. It was thought that all these glands had some connection with the formation of blood, but practically they were hardly considered of any importance in the organism. It was left for pathology to elucidate this, as well as some other most difficult questions of normal physiology. The former was first to show clinically, as well as experimentally, that an organism cannot live without the thyroid and dies after its extirpation under symptoms of poisoning. These symptoms consist either in acute irritation of the nervous system—tetanic convulsions—or in slow depression of nervous and mental functions with certain characteristic changes of the connective tissue (myxœdema). Apparently the thyroid is also an important factor in the general metabolism of the organism, though we are as yet hardly able to determine the mode of its action. The cells of the thyroid may absorb some intermediate product of metabolism poisonous to the organism and transform it into a non-poisonous substance. Or the cells of the thyroid may produce some substance necessary for the general metabolism. We have also facts which tend to show that the same kind of function belongs to the suprarenal glands and the pituitary body. We may say, then, that these so-called ductless glands are very likely some kind of regulators of the general metabolism, and any pathological state of the former injures the whole metabolism.

Far less yet are we able to explain the relation to the metabolism of the spleen, the lymphatic glands, and the marrow of the bones. There are facts which show that an organism may continue its normal life even after the spleen has been extirpated. This fact, however, does not yet preclude the possibility that the spleen may have some very important part in the metabolism. Its function may, for instance, consist in neutralizing or transforming some bacteria or other poisons introduced from outside, and this will explain the fact that the spleen increases so often in size during infectious disease. But this supposition needs a great deal of additional experimental work in order to become even a theory.

Pathology of Excretion.—It has been already stated that as the last stage of the assimilation of food there are formed in the organism carbonic oxide, water, urea, uric acid, some other product of decomposition of proteids, and mineral substances. These last products of the metabolism are eliminated by the organism through its excretory organs. Carbonic oxide and part of the water are eliminated by the lungs, the excretive function of which we have already studied. All the other substances are eliminated by the kidneys and the skin.

The kidneys are the most important excretory organs. Their function consists in absorbing from the blood all the last products of metabolism (except carbonic oxide) in an aqueous solution and subsequently eliminating them. It must be added that the cells of the kidneys are also able to change the structure of

some of the absorbed substances, an instance of which we can see in the formation of hippuric acid. Both kinds of function may certainly become abnormal. The absorbing power of the kidneys may suffer in two ways: on the one hand, from causes emanating, as a rule, outside the kidneys, the latter may be enabled to absorb from the blood substances which they could not absorb abnormally. Among these substances are sugar, which we studied already, and albumin. It has been shown lately that one of the albumins which appear in the urine under pathological conditions, *i.e.*, nucleo-albumin, is due to some lesion of the cells of the kidneys themselves. But in most cases albumin is eliminated from the blood as a result of some abnormality either of the blood circulation or of the filtering properties of the cells of the kidneys, or of both. The elimination of albumin through the kidneys, *i.e.*, albuminuria, has hardly any influence upon the rest of the organism. The quantity of albumin eliminated is certainly too small to cause the organism to suffer from proteid inanition. Far more injurious to the organism is such an abnormal condition of the kidneys as makes it impossible for them to eliminate all the substances of decomposition from the blood.

In the course of different diseases of the kidneys there may develop a state of the organism called uræmia. Uræmia may present different phenomena in different cases, but it is always associated with a state of general irritation or depression of the central nervous system, and always shows features common to general intoxication. The explanation of the nature of uræmia has always interested and puzzled physicians. At first it was thought that in the diseases of the kidneys urea accumulates in the blood and is transformed there into ammonium carbonate, which is poisonous to the organism. Then successively salts of potassium, uric acid, and creatin were considered the poisons that produced uræmia. But it has been proven experimentally that none of these substances, though poisonous to the organism, is able to produce all the symptoms of uræmia. Neither has an overaccumulation of these substances in the blood been found in cases of uræmia. There must consequently be some other substances in the urine, the retention of which within the organism produces uræmia. The chemical search for these substances has so far not proven successful. But we have experimental proof that even normal urine is poisonous to the organism. It has been shown that sterile urine of a normal organism, if injected intravenously into a rabbit, kills it under symptoms very like those of uræmia. The quantity of normal urine necessary to kill a rabbit is always nearly the same. It has been further shown that in order to kill a rabbit with urine taken from a diseased organism we have to take sometimes a greater and sometimes a smaller quantity. The latter fact could be taken as a proof that there is overproduction in the diseased organism of those toxic substances that exist in the normal urine. The former, on the other hand, would show that there is retention in the organism of the same toxic substances which exist in the normal urine. The latter fact would then tend to prove that uræmia is produced by retained toxic substances which are normally filtered into the urine. Still this fact alone cannot explain uræmia. We know of cases in which there is a complete anuria for a few days, and still no uræmia follows. The most important factor, therefore, is probably the impaired power of the kidney cells to transform some toxic products of metabolism into non-toxic ones.

The skin is also able to secrete the greater part of those substances which are eliminated by the kidneys, but in such small quantities that the secretory function of the skin is hardly of any importance to the organism. An extensive injury of the skin may damage or even kill the animal, but such an effect then will not be due to the impaired eliminative function of the skin, but rather to the disturbance of the heat economy caused by such an injury.

From the study of general metabolism we saw that this function of the cells of the organism is the most important and extensive one, as it is common to all the cells of the body. The abnormalities of this function result in partial or complete inanition, or more frequently in some kind of poisoning. This poisoning from causes originating within the organism itself, the so-called auto-intoxication, is gaining a predominant place in pathology, and is probably the most frequent and important ultimate cause of disease.

Pathology of the Heat Economy.—The temperature of an organism depends, on the one hand, upon the temperature of the atmosphere, and on the other on the amount of heat in the organism, and any change in either factor must influence its temperature. An organism can withstand a lower atmospheric temperature only up to a certain point, and then its own temperature falls gradually, and the animal dies under symptoms of general paralysis. A so-called "cold," or an influence of an abrupt decrease of an atmospheric temperature in producing different diseases, was in former years considered quite an important factor, but with the advent of bacteriology its significance has been entirely underrated. Lately the opinion seems to prevail that even in infectious diseases a "cold" may have a certain influence as a contributing cause. It is interesting to note in this connection that experiments have been made which show that an animal previously cooled off more readily yields to bacterial infection.

Very high atmospheric temperature is also proven experimentally, as well as clinically (insolation), to be injurious to an organism. The temperature of an animal rises and it dies under symptoms of general paralysis. The cause of death from overheating is not yet clearly ascertained; the most plausible opinion seems to be that the ultimate cause is some kind of intoxication.

A decrease of the temperature through causes emanating from the organism itself does not seem to be of any importance in pathology. The deaths resulting from an extensive injury of the skin have to be ascribed to this cause.

The most important and frequent abnormality in the heat economy of an organism is the increase of the temperature emanating from internal causes, or the so-called fever. There is still much difference of opinion as to what the term fever means. There is certainly a great deal of difference between an elevation of the temperature after mechanical overwork and that which accompanies septicæmia or some other diseases. Some pathologists, therefore, do not consider every elevation of the temperature a febrile one, but say that in fever the temperature has not only to be raised to, but also levelled on, a certain point. This means the following: If we attempt by the help of some agent to reduce a simple elevation of the temperature of an organism, we shall succeed in reducing it and keeping it at norm, even after the agent has ceased to act, while if we do the same with an individual having fever the temperature will not sink entirely to the norm, and will rise again to the former height as soon as the agent ceases to work. Now, this very ingenious theory still does not seem to introduce any qualitative difference between the two kinds of elevation of the temperature. Let us suppose that in the first case the cause which produces fever gives a certain shock to the regulative mechanism and then ceases its action, while in the other the cause acts continually. It is evident, then, that in the first case

the temperature will be easily reduced to the norm, while in the other it maintains its height, because the regulative mechanism gets the second shock before the antipyretic has had time to act. But as long as there is no qualitative difference between the different elevations of the temperature, it is more convenient to call fever every elevation of the temperature due to causes originating within the organism itself.

Now, to what abnormality in the heat economy is fever due? The normal temperature of an organism depends on the relative amount of heat produced and distributed. It has been shown experimentally that the amount of heat distributed decreases in fever. At the same time the amount of heat produced, which under normal conditions would also decrease under the regulative influence of the nervous apparatus, now even increases. The main factor then must consequently be the abnormal function of the heat-regulating mechanism, which works in fever so as to raise the temperature of the organism above the normal. Quite a large amount of experimental work has been done of late, which tends to show that this abnormality in the function of the heat-regulating mechanism is brought about by some kind of intoxication due to the so-called albumoses (derivates of cell or bacteria proteids). It must be borne in mind, however, that these substances producing fever are not identical with the substances producing the pathological process which is accompanied by the fever. Undoubtedly there are also cases in which fever is produced by a simple reflex action through some peripheral nerves on the heat centres.

From all that has been said we can see that heat economy resembles general metabolism in so far as it is the result of a joint work of many organs of our body, and pathological states of heat economy are in most instances special kinds of intoxication by some substances not yet well defined.

Pathology of the Nervous System.—The study of all the manifold functions of the nervous system must go hand-in-hand with the study of the functions of the other organs of the body. The nervous system may be considered the organ which connects the inner life of the organism with the outside world. One class of nerve cells or so-called neurons receives its impulses from the outside. The functions of these neurons must be studied together with the functions of the organs of sense, and it would lead us too far to undertake such a study here. Neither can we dwell here on the vast domain of functions of that part of the nervous system which is treated by the science of normal and pathological psychology. Neurons of the third kind are those which transmit the impulses received from the other neurons to the different organs of the body, the functions of which we had occasion to study before. We shall have to consider here only the functions of the locomotor apparatus. The locomotion of an organism is brought about by two kinds of organs, the passive ones—bones and joints, the rôle of which is mechanical and need not be dwelt upon here, and the active one—muscles, the various contractions of which bring the bones and joints into motion. The function of a muscle is so fully dependent upon the nervous system, that functionally a muscle fibre may be considered simply a continuation of the axis-cylinder process of a neuron. The joint function of the muscular and nervous system gives rise to two kinds of muscular action. The first is a simple reflex action. In certain pathological states of the nervous system this action may be abnormally increased or decreased, or it may even cease entirely. Much more important to the organism is the second kind of muscular action, the so-called co-ordinate movements. There are regions in the brain in which the axis-cylinder process of one neuron transmits its impulse to the protoplasmic processes not only of one but of a number of secondary neurons. The axis-cylinder processes of the latter pass within the spinal cord and leave it to approach the corresponding muscles. As a result the neurons of the so-called motor regions transmit the impulse not to one but to several muscles, and these muscles are so combined that the organism is enabled to perform certain rational movements. If the nervous impulse ceases because of some abnormality of the nerve cell in the brain or the loss of continuity of the axis-cylinder process in the spinal cord, then the function of the muscles also ceases, they become paretic. Again, whenever neurons of the motor region become over-irritated, then the corresponding muscles will produce contractions unnecessary for the economy of the organism; we will see different kinds of convulsions. Epilepsy is a result of some kind of irritation of all the motor regions of the brain.

Besides the abnormalities in the special functions of the different neurons, there are conditions when the nervous system as a whole is affected, as in anæmia of the brain, its increased pressure or commotion. Such states have always a general influence on the organism; they produce fainting, vomiting, slackening of the pulse and respiration, general convulsions, and so on. What the nature of this general influence of the nervous system on the whole organism is, is a question which cannot yet be positively answered. Possibly these actions impair somehow the supply of food to the nerve cells, or else poison the cells by uneliminated products of their metabolism.

Conclusion.—From the perusal of the foregoing pages we can easily see that the subject-matter of pathological physiology resembles closely that of normal physiology. Both are dealing with the different functions of the organism. Still these sciences are by no means identical. While normal physiology studies only one normal type of the functions, pathological physiology has to study every variation of the same function. This makes the science of pathological physiology more complicated, not only because every function may become abnormal in different ways, but also for the reason that every change in the function of one organ is usually accompanied by functional changes in the rest of the organism.

The study of this science must necessarily be experimental. Deductive reasoning on the basis of facts acquired in the clinic or from the study of pathological anatomy or chemistry alone can hardly wholly enlighten us. Every diseased organism we meet with in the clinic presents abnormalities in a number of its organs, and in most instances we are unable to say what organ it was which primarily became abnormal and how it influenced the others. Pathological anatomy and chemistry may show that a given disease is followed by certain lesions in certain organs, but this makes a certain relation between these two factors only probable. In order to change this probability into certainty, we must prove that a certain morphological lesion produced on a healthy organ of an animal will be accompanied by the same functional abnormality that we saw in the clinic.

Neither is it always necessary to produce a certain morphological lesion on an organ in order to change its function, for there are various factors which, though leaving the organ morphologically unchanged, make its function abnormal. Once the function has become abnormal, we can compare it with functional abnormality which we met in the clinic, and also study the influence of this abnormality on the rest of the organism. But to change at will the conditions of existence of an organism means to experiment. Pathological physiology is a science of functions, of dynamic processes, and experimentation alone can solve its prob-

lems. Pathological physiology and experimental pathology may be then considered synonymous.

In applying the results of pathological physiology to medicine, a further difficulty arises from the fact that we can only very seldom experiment on a human being. The objection is always liable to be urged that no experiment on an animal can be compared with the pathological process in the human being, as their organizations are different. There is certainly some truth in this assertion, as there are, for instance, pathological processes that we are as yet unable to produce in an animal (acute exanthemata, tumors, etc.). Some factors producing a pathological process on a human being do not affect an animal, and vice versa. Still in most instances we have a perfect right to transfer the results of an animal experimentation to the study of human pathology. The cardinal functions of the corresponding organs are the same in all animals with a higher organization; the morphological features of the organs also resemble each other very closely. If we then produce in an animal the same lesion which we met in a human cadaver, and notice the same symptoms which we saw on the patient before his death, we can no doubt compare the results. This is the way, for instance, that all the results in bacteriology have been achieved. Neither must we strive always to experiment on animals which stand nearest the human being by the complicated and high development of their organization, but, on the contrary, more use should be made of lower animals than has hitherto been done. The less complicated an organism, the less complicated its functions and the easier it is to study their nature and causes. From these studies it will then not be difficult to pass over to more complicated phenomena.

As was stated above, the experiment in pathological physiology consists in introducing new factors to act on a certain organ. But as our aim is to compare the abnormal function which we have produced artificially with the one met in some diseased organism, the factors which change the function must also coincide in both instances. In other words, before we are able to study the pathological physiology of a certain disease process, we must know its etiology, and as the latter is frequently unknown we must start our study with it. After an abnormality in the function of a certain organ has been produced, we must also study its changed morphological and chemical composition in order to be able to compare it fully with the corresponding organ of a diseased organism.

We see then that pathological physiology, though resembling the normal, has its own problems and uses its own line of experimentation to solve them. Besides this, it employs certain technical methods used in pathological anatomy and bacteriology for instance, but not used in normal physiology. Like every branch of medicine, pathological physiology is closely, we may say originally, united with the other branches of medicine. It may be considered a connecting link between normal physiology, pathological anatomy, bacteriology, and pathological chemistry on the one hand, and the clinic and hygiene on the other. Fed and strengthened by the development of the former, it becomes indispensable in its turn not only for progress in the treatment of diseases, but not less so for the achievement of the highest aim of medicine, the art of preventing diseases. Prevention of epidemics, immunization, hygiene of food, and innumerable other subjects could not have been properly developed without pathological physiology.

A Christian Science Expert recently fell ill in a boarding-house in this city and tried to unthink the thought that annoyed her. She was so successful that an ambulance was called, and she was carried to the hospital in a raving delirium.

THE DISCOVERY OF "UREINE," THE PRINCIPAL ORGANIC CONSTITUENT OF URINE AND THE TRUE CAUSE OF URÆMIA.[1]

By WILLIAM OVID MOOR, M.D.,

NEW YORK.

About one year ago I began studies regarding certain substances which could be easily oxidized, and which gave as a proof of their easy oxidizability the same characteristic blue reaction with a solution of ferrocyanide of potassium and ferric chloride as we observe when morphine or any of its salts is brought in contact with a solution of these two salts of iron. To my great astonishment I found that the human urine contained a large quantity of some organic substance, which gave this interesting blue reaction in a very intense manner. Numerous and exact investigations forced me to the conclusion that none of the known organic or inorganic components of urine could account for this intense blue reaction, and that therefore some chemical body until the present unknown must be the cause of this strange phenomenon. For the last three months I labored in vain to find and to isolate this mysterious body, and almost gave up the task as a hopeless one, when at last, on the fifth day of July, 1900, I discovered that the human urine contained a liquid organic body, in a quantity superior to urea. I wish to state here at once, that this organic liquid is the most characteristic component part of urine, and that, therefore, I shall henceforward designate it by the name of "ureine." It is not surprising that the existence of a metabolism-product of such great importance should until the present have escaped our knowledge, for every urinary analysis has been made with the firmly rooted idea that urine is a liquid composed of water and of inorganic solid ingredients. For obvious reasons it must be evident that the principal scope of this communication will be a description of the method to be employed for the isolation of ureine; an accurate knowledge of its physical and chemical characteristics and of its clinical significance in relation to the pathological conditions of the body can be only the outcome of careful and assiduous investigations by serious workers all over the world.

In isolating this organic liquid, two principal rules should be kept in view: (1) High temperatures must be avoided. (2) Chemicals should be used as little as possible.

The urine to be examined for its liquid organic component, ureine, should be put in a large, shallow, flat recipient and evaporated at a temperature of not over 50° C. As soon as we observe that there is no more vapor ascending from the recipient, we treat the remainder of the liquid with a strong solution of silver nitrate until no more precipitate is formed. We now cool off the liquid sufficiently to promote the separation of the saline and earthy phosphates, and then filter, washing out the filter once or twice with water, until the liquid comes out perfectly colorless. The filtrate is now put into a small cup, which should be rather deep, and heated to 65° C., in order to evaporate the remaining water. New aqueous vapor will be formed but soon the formation of vapor will cease, though the evaporation may still continue invisibly.

To determine accurately whether or not the rest of the liquid contains a considerable percentage of water, the following delicate test is indispensable:

A large mercury thermometer is placed in the liquid and rapidly withdrawn just at 65° C.; we will probably see a puff of vapor ascending from the mercury bulb, which is an indication that the remainder of the urine still contains an undesirable quantity of water. This procedure is repeated at short intervals, and

[1] Communication presented to the Thirteenth International Medical Congress, Paris, 1900.

finally we shall arrive at a point when there is no more vapor ascending from the mercury bulb. We now measure the quantity of liquid which remained and add to it one-half of its volume of absolute alcohol together with powdered pure oxalic acid, 1 gm. for each 100 c.c. of urine used, and after having allowed the newly formed oxalate of urea—$(CH_4N_2)_2 C_2H_2OO_4$—to settle completely, we carefully add a concentrated alcoholic solution of oxalic acid (which is prepared by dissolving 3 gm. oxalic acid in 10 c.c. of hot absolute alcohol) until no further precipitate is formed. The alcoholic liquid thus obtained is filtered, the filter is washed out once or twice with absolute alcohol, and the whole is now exposed to a temperature of about 55° C. (but not over) for about one hour or an hour and a half, being stirred once in a while with a horn spoon or with a glass rod. To facilitate the separation of sulphates and of the other remaining solid ingredients from the liquid organic constituent of urine—ureine—we now reduce the rest of the liquid to a low temperature and filter the same, freely using cold absolute alcohol to facilitate filtration. There is finally nothing but ureine, together with coloring-matters left in the recipient (besides the alcohol, of course). To separate the coloring-matters from the ureine, the alcoholic solution containing both must be treated carefully with a saturated solution of nitrate of mercury—$Hg(NO_3)_2$—until no further precipitate is formed, and neutralized with carbonate of sodium. (It is advisable then to add a sufficient amount of sodium carbonate, so as to render the liquid slightly alkaline.) Filter again and evaporate carefully, resorting to a temperature of not over 55° C. We have thus obtained ureine, the liquid organic component of urine, that mysterious chemical body which is the cause of the intense blue reaction resulting from urine and a solution of red prussiate of iron and perchloride of iron. Ureine resembles in aspect olive oil, is of a pale yellow color, of a slightly bitter taste, gives to the touch the impression of a fatty substance, and produces on paper spots resembling fat spots, though not so marked as those produced by fat. Its specific gravity is about 1.270; it is, therefore, much heavier than water and about as heavy as glycerin. It is freely miscible in all proportions with water and alcohol, whether these latter are of a neutral, acid, or alkaline reaction; it is barely soluble in ether. Its own reaction is very slightly alkaline, almost neutral. My preliminary investigations have led me to the conclusion that this organic metabolism-product of the human body belongs to the group of alcohols of the aromatic series; at a temperature of about 80° C. it begins to split into several bodies belonging to the class of aromatic oxy-acids, and if heated to about 150° C. it leaves behind pure carbon. This organic liquid has a characteristic odor; in fact, it is this constituent of urine which is the cause of its specific odor. Rubbed into the skin it soon produces a sensation of slight burning; there can be no doubt, therefore, that it is the principal cause of the irritating qualities of urine. One of the most remarkable characteristics of ureine is its ability to take up large quantities of oxygen with great facility. The quantity of 50 c.c. of the average human urine can deoxidize 1 gm. of potassium permanganate, and one sample of urine taken from a woman in the ninth month of pregnancy deoxidized with great rapidity over 4 gm. of permanganate to each 100 c.c. of urine; this urine was voided about five o'clock in the afternoon, was of an intense yellow color, and of a specific gravity of 1.030; it contained about 2⅔ per cent. (by volume) of ureine. It is important to remember that the power of urine to take up oxygen does not depend only on the quantity of ureine present, but to a greater extent on the quality of the ureine, on some intrinsic peculiar force inherent in this wonderful organic liquid; I have seen urine, containing less ureine than did other samples of urine, absorb more oxygen than did the latter samples which were richer in ureine, and especially strong was this power of absorption in the urine of a pregnant woman. Urine which has been subjected for some length of time to a temperature of 70°–80° C. loses in a great measure its capacity of taking up oxygen, and when exposed to 90° C. for about half an hour it loses seventy-five per cent. of its absorptive power. It does not take up all at once all the oxygen which it is able to absorb, but does so with great avidity in the beginning, and gradually takes up less and less during equal periods of time; its capacity of absorbing oxygen is not wholly extinguished before a lapse of four or five weeks.

Ureine surpasses urea as regards quantity; thus far I have found that it is present in a quantity double that of urea. The greatest amount of ureine is contained in urine voided between 5 and 7 P.M. On July 11, 1900, I examined the urine of a diabetic woman and found six per cent. of ureine and only 2.1 per cent. of urea; the urine was voided about 6 P.M., specific gravity 1.025, total amount in twenty-four hours 1,250 c.c. The same woman gave me a sample of her urine on July 18th, at nine o'clock in the morning; this time I found only 2.3 per cent. of ureine. In the case of a pregnant woman (eighth month of pregnancy) I found on some days only one per cent.; on other days, especially when she had worked a good deal and had felt unusually well, I found almost three per cent. of ureine; on one occasion, June 10th, I had found only 0.6 per cent. of urea in a sample of her urine voided about noon. In the urine of an elderly man about sixty years old, I found four per cent. of ureine by volume; his urine was markedly yellow, of a rather strong odor, of a markedly acid reaction, and of a specific gravity of 1.030. The urine of a middle-aged man, thirty-five years old, suffering from polyuria, contained two per cent. ureine. This urine was voided on July 12th, at 8:30 A.M.; its reaction was markedly acid, its specific gravity 1.017½; the total amount of urine formed in twenty-four hours was 3,500 c.c.; the entire quantity of ureine excreted in twenty-four hours must have been at least 70 c.c., but was probably about 80–90 c.c., weighing 100–115 gm. A sample of urine from the same man, received on May 22d about 9 P.M., contained only 0.5 per cent. of urea, corresponding to 17–18 gm. of urea in twenty-four hours.

It is self-evident that the enumeration of even a greater number of isolated cases can afford no clew as to the clinical and pathological importance of ureine. The more gratifying must it be to us, as physicians, that at least in one respect the pathological significance of ureine is clearly established. It was to be expected *a priori* that the principal organic constituent of urine should be the true cause of those complex toxic symptoms which have been designated by the collective name of "uræmia," and which are quite frequently incidental to the puerperal state, after all the other organic and inorganic components of urine failed to account for these terrible toxic phenomena. A few experiments on rabbits have fully demonstrated the truth of this *a priori* conclusion. Several of these animals, each weighing over 1 kgm., have succumbed after three to eight hours from subcutaneous injections of 3½ to 4½ c.c. of ureine. For the present I shall give the results of only one of these experiments, the others closely resembling the one mentioned:

On July 22d, at 4:10 P.M., I injected subcutaneously into the dorsum of a lively black rabbit, weighing about 1 kgm., 3½ c.c. of ureine obtained from the urine of a pregnant woman in the ninth month of her pregnancy. Immediately after the injection the animal lay motionless for several minutes, evidently prostrated; in a few

minutes the rabbit made slowly a few steps; it seemed excited, but soon afterward was again prostrated; it tried to hide itself with the head resting against a pillar, the hind legs stretched out, and the ears flat; the respirations were 124 per minute (at 4:40 P.M.). At 5 P.M., the animal was still motionless, ears flat (as in cases of morphine poisoning), bladder and rectum relaxed. At 5:50 P.M. the animal presented a picture of complete prostration; it lay flat on its abdomen with the head flat on the floor, eyes closed, forelegs stretched out; it paid no attention to food placed by its mouth, did not stir when approached, but twitched once in a while; the respirations were 88 per minute, rather labored. At 6 P.M. the rabbit lay on its side; four minutes later it jumped up and had a short general convulsion, turned around slowly in a circle twice or three times. At 6:05 P.M. the animal lay on its right side, evidently *in extremis*. At 6:17 the respiration was very labored, difficult; now and then convulsive movements occurred. At 6:25 the respirations were 63 per minute. At 6:30 P.M. the animal's eyes were turned for one moment, the white of the eyes only being visible; the aspect of the animal was like one dead, except for slow, shallow respirations—a perfect picture of uræmic coma; now and then there was a spasmodic twitching of the legs. About 6:45 P.M. there were long-continued general convulsions with opisthotonos, the animal being stretched out in a semicircle from one end of the body to the other. After the convulsion the animal's respirations were 30 per minute, spasmodic; it opened and shut its mouth with each act of respiration, gasping for breath. At 7:06 P.M. it gasped at long intervals, and at 7:13 P.M. the animal was dead.

Lack of time forces me to conclude this paper, but before doing so I wish to state that ureine is the principal cause of the ammonical fermentation of urine, as without its presence urea cannot be decomposed into ammonia and carbon dioxide. Neither Pasteur's micrococcus ureæ, nor Leube's bacterium ureæ, nor any other micro-organism is able to change urea; in fact, in many respects urea is just as indestructible as iron, silver, or any other elements, for the strongest mineral acids do not decompose it, but simply combine with it. Only a temperature of above 130° C., perhaps 140° C., can split urea into ammonia and carbon dioxide. Ureine is therefore a ferment, which has a potential energy of at least 130° C. Without ureine all organic matter would become converted into urea, which would remain in nature without any use, and thus within a limited period of time all vegetation and animal as well as human life would cease.

Truly, this wonderful organic fluid deserves our closest attention and study, and I hope that my feeble efforts will give some impulse toward detailed researches, which may in the near future bring us to a full understanding of ureine and of its significance in relation to the science of medicine.

ROME, ITALY, PIAZZA MONTE CITORIO, 121.

Actual Experience with Wounds Inflicted by Modern Military Projectiles vs. Theory.—C. B. Nancrede disputes the conclusions of many of the recent writers on this subject, some of whom he claims "never set foot out of the country, and who never heard a bullet whistle." He details at some length his views as to theories of ballistics, and claims that while at short ranges deflection of the missile is not common, yet at the ranges at which most wounds are received it does occur much more frequently than is usually taught. He does not believe that results obtained from bullet wounds on the cadaver are the same as those produced by bullets shot into living tissues. It is a palpable mistake to suppose that a bullet fired into a dead body necessarily will produce the same effects as when living tissues are concerned, because the liquid fat of the medulla and cellular tissue becomes converted into a soft, solid mass by the loss of the body heat, the skin loses its elasticity as well as support afforded by the dense fasciæ rendered tense by muscular action, while other patent changes also occur. The lessened mortality in recent wars is due especially to the "first-aid" package with which the combatants are supplied. Without this, the results now would be practically the same as during the times before the packet was used. When distinct indications do not exist for meddling, the best primary treatment for modern ball wounds of joints is antiseptic occlusion and fixation, to be followed by antiseptic incision, exploration, removal of infected foreign bodies, fragments of bone, etc., and the maintenance of free drainage, when the occasion requires, not merely to meet a theoretical possibility which may never materialize.—*Toledo Medical and Surgical Reporter*, August, 1900.

Treatment of Fungoid Otitis Media.—A. Bonain secures local anæsthesia by means of a mixture of mentho-phenol cocaine, observes rigid antisepsis, and carefully cleanses the ear. The fungosities are then removed with snare, forceps, and curette. The field of operation is then re-anæsthetized and carefully dried. For cauterization he employs for small areas pure chloride of zinc, and for larger ones the same salt in ten- or twenty-per-cent. solution. Following cauterization the ear is irrigated with sterile water and lightly packed with iodoform gauze.—*Revue Hebdomadaire de Laryngologie*, July 21, 1900.

Does a Cerebral Abscess of Otitic Origin Ever Disappear Spontaneously?—Roepke says that the course of an otitic cerebral abscess is regularly acute or subacute. In many cases the pus opens into the ventricles or on the meninges after some days or weeks, and proves fatal. It is not rare, however, that the course is slow and that the purulent formation ceases, and the virulence of the infection may then be so light that a limiting wall will form. If the cerebral tissue surrounding the abscess is in nearly a normal condition, absorption can occur, although a case presenting exactly these conditions has never been observed. The membrane limiting the purulent focus may undergo calcareous degeneration, but it is not known whether the contents of the abscess undergo the same change or not. Cysts have been discovered in the brain of persons who have had purulent otitis, and certain authors have considered them as of otitic origin.—*La Pratique Médicale*, June 15, 1900.

Myotherapy.—Nathan Herman holds that massage is indicated: (1) For the removal of exudates or infiltrations, which it does by causing their absorption, to overcome stases, and to re-establish a more active local circulation; (2) for the after-treatment of fractures; (3) for the treatment of some forms of paralysis. Various forms of exercise are indicated for the correction of deformities, especially of the spine. Chorea, writer's cramp, cerebral congestion, indigestion, constipation, neurasthenia, anæmia, chlorosis, threatened or incipient phthisis, malnutrition, obesity, rheumatism are some of the disorders benefited by myotherapy. Gymnastics and athletics offer a vast field and an endless diversity of application, especially in the prevention of disease by the enhancement of vital resistance. Especially noticeable among the effects of exercise are the enlargement of the thorax and the increase in costal mobility, thus creating conditions which, if they do not preclude pulmonary diseases, at least render their attacks less noxious and fatal.—*Maryland Medical Journal*, August, 1900.

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RECENT VIEWS ON THE EFFECTS OF ALCOHOL.

THE conclusion reached by Professor Atwater, as a result of experiments conducted by him last year to determine the effects of alcohol on the human system, that the substance taken in small quantities and under certain conditions is a food, has given rise to much and bitter discussion. The garbled accounts given in the newspapers of Dr. Atwater's findings are chiefly responsible for this state of affairs. Many of these journals proclaimed that the professor had proved alcohol as a beverage to be harmless, whereas in fact he went no further than to declare that it is oxidized in the same manner as any other food materials, and is transformed into heat and muscular energy. The experiments were not sufficiently prolonged to demonstrate what the effects might be upon the human organism of the habitual use of alcohol, nor was any attempt made to show that such use would be anything but harmful.

Another pronouncement on the same question has been recently made by the well-known Viennese clinician, Prof. Max Kassowitz, who asserts that the dogma concerning the nourishing and strengthening character of alcohol is one of the fatal errors of science. He holds the view that the majority of physicians take up an inconsistent position with regard to the use of alcohol, for the reason that while they are well aware of its dangerous and poisonous qualities, they nevertheless contribute to making permanent the false ideas concerning the value and effects of alcohol which are so generally disseminated. Kassowitz explains these inconsistencies on the ground that the teaching which considers alcohol a food because it is burned in the organism, has held its ground in spite of many disregarded newer investigations which have shown its indefensibility. He is therefore of the opinion that the assumption ascribing food properties to alcohol based on simple theoretical consideration is a grave scientific error, the removal of which is the most important preliminary condition to an effectual battle against alcoholism.

Dr. Hermann Blocher, of Basle, Switzerland, in an article in the *Internationale Monatsschrift für die Bekämpfung der Trinksitten* for April, comments very favorably upon Professor Kassowitz's utterances, and discusses the matter from the standpoint of physiological experiment. He refers to the investigations of Miura, which indicate that alcohol belongs to the same group of substances as glycerin, lactic acid, butyric acid, and so forth, which are indeed burned in the animal body, but which nevertheless are not fit, even to the smallest extent, to take the place of necessay food in the preservation of the body. Miura found that the addition of alcohol to the food before its being taken not only causes no diminution of the nitrogen output, and does not prevent the loss of body material (as is the case with the addition of sugar or fat), but that on the contrary the nitrogen output following this addition of alcohol may become yet greater than it had been without this addition.

Professor Atwater did not pretend in his experiments to prove the innocuousness of alcohol as a beverage, and it was due to the newspapers that such a belief was disseminated. Whether alcohol in small amounts and used with discretion is harmful has yet to be clearly proved.

CONSERVATISM IN THE TREATMENT OF APPENDICITIS.

THERE are several gradations of opinion on the question of when to operate in cases of acute appendicitis, and whether in all cases operation is the best treatment. Those who hold the most radical views believe that an operation should be undertaken as soon after the diagnosis is made as is possible, and various arguments and statistics are brought to bear in order to justify this attitude. Another group of observers believe that it is better to wait, especially in first or mild attacks, until there is some specific reason for operative intervention, of which several may exist when the patient is first seen, or may occur during the period in which the patient is under observation.

These observers are of the opinion that practically every case of appendicitis must sooner or later come to operation, if not on account of rapid development of threatening symptoms in the first attack, then during a recurrent manifestation or in the period of quiescence. We might add a third class of observers who are perhaps fond of being called "conservative," and who think that at least a fair proportion of cases of appendicitis result in recovery without operation, and that an appreciable number of patients do not again suffer from the disease.

Accumulating evidence, clinical and pathological, has very nearly driven this view of the matter into its last ditch, and it is hardly necessary to say more than that patients who have had appendicitis are never cured without operation, though they may be free from symptoms for a long time, and that one true attack of the disease, well marked enough to cause definite symptoms, invariably leaves the appendix in a condition which predisposes to subsequent attacks. The attitude of those who hold the views outlined in our second grouping have apparently a position of considerable justification, both from the evidence of the statistics of this disease and from the state of mind, usually present, which makes us assume that we ought

to relieve our patients with as little surgery as possible, as a matter of general principle. It is, however, undoubtedly a fact that the observers who are in a position to see and treat most cases of appendicitis are more and more coming to believe thoroughly that no case of the disease which results in recovery from an attack without operation is ever safe from another attack; in other words, as we have noted above, that true non-operative cure is impossible, and furthermore that in many instances the attacks increase in severity. It is quite true that many attacks can be tided over without operation, but this does not cure the patients, and what passes for conservatism is then too often timidity, indecision, or ignorance. Those who are most radical in their views form a group which is receiving constant accessions of men who are generally inclined to be aggressive in their advocacy of what they think is right, and are pretty successful in supporting themselves with logic and statistical material. Their position involves acceptance of the following statements: that appendicitis is always a grave and important disease; that it is never cured spontaneously; that the attacks are very apt to increase in severity; that the course of an individual attack involves several important elements of uncertainty; that there is no real non-operative treatment of the disease, though the symptoms can be mitigated and temporarily removed; and that operative treatment in competent hands, undertaken at the proper time, gives an exceedingly small mortality figure, which is unquestionably becoming still smaller and is unapproached by any form of non-operative treatment. The interval between the beginning of the attack and the operation is of the greatest importance in the prognosis, and no hard-and-fast rule can be made, but, in general terms, the more severe the attack the sooner should an operation be done. The "proper" time may be within two or three hours of the attack, and, according to the most radical, is rarely beyond twenty-four.

Now the views embodied in these statements seem at first sight extremely radical, and their diffusion and general acceptance are encountering a good deal of the inertia of "conservatism," but this is bound to be gradually overcome, and then the treatment of appendicitis will be looked upon purely as a surgical question, with the details of time and place to be decided promptly by the surgeon. When we reach this state of affairs, there will be a still further reduction in the mortality figures from this very important and common disease, fewer operations under desperate conditions, and much less chance of ventral hernias on account of necessarily large incisions in these same desperate cases. It will never be necessary nor wise to try to promulgate the rule that all cases should be operated upon within twenty-four hours of the beginning of the attack, for there are often cases which do not demand operation so immediately and so strenuously; though even under such circumstances the idea must not be to avoid operation altogether, but to choose the most favorable time at which to operate, either during the present attack in the period of quiescence, or when the next attack occurs, the last the less desirable. The true conservatism in treating patients with appendicitis consists in knowing when to operate upon a condition which sooner or later is certain to demand operative intervention, and in carrying out this intervention promptly and intelligently. It is not conservative to trust to luck that each particular case is not one in which surgery must be called upon for help, and to make an inefficient attack upon the symptoms, hoping that somehow the patient will survive.

LUSTIG'S PLAGUE SERUM.

A Bombay physician reports to the *Lancet*, of July 28th, a series of observations made on, and the results from the use of, Lustig's plague serum. The first series of observations lasted from March to November, 1898, and again from February to May, 1899. During the course of this period four hundred and three patients received the serum treatment and eleven hundred and ninety patients were treated by ordinary methods. The clinical effects of the serum were watched from day to day, and although in some very grave and advanced cases the patients ultimately succumbed, the immediate effects on the general condition of the patients were extremely well-marked, indicating either that the dose of the serum was too small, or that it was not strong enough, or that the treatment was commenced too late. On the whole, however, the improvement was quite perceptible and gratifying. When at the termination of these observations the results were tabulated, it was found that the serum-treated cases had a recovery of 38.2 per cent., whereas that in those not so treated was 19.5 per cent. only. The second series of observations was commenced in May, 1899. The object with which this series was started was to determine the statistical value of the serum, and hence it was resolved to conduct observations on one thousand cases of plague, five hundred to be treated with the serum and five hundred by ordinary methods, the latter acting as controls, and the cases were to be taken for treatment alternately in the order of admission and without any attempt of exclusion of any sort. But objection to this method of treatment was the preponderance of either moribunds or convalescents in either set vitiating the final results. It was, however, anticipated that in two such large sets of five hundred each these would equalize at the end, and thus no undue advantage would accrue to one side or the other. Further, in order to arrive at strict accuracy and to eliminate all errors, some standard had to be fixed as to what cases should be classed as moribunds and what as convalescents. It was therefore determined to fix the limit for the former at twenty-four hours, and all patients dying within twenty-four hours of admission were considered moribund; but as it was subsequently found that a large number died between twenty-four and twenty-seven hours of admission, twenty-seven hours was adopted as the standard. As regards convalescents all those that had gone over the acute stage of the disease and had a normal temperature or thereabouts, and had suppurating or suppurated open buboes, were considered convalescents.

The results of these observations were as follows: Up to the end of June 480 cases had been treated with serum and 480 cases had become controls. Of the serum cases 328 patients died, 152 recovered; percentage of recovery 31.67. Of the control cases 382 patients died and 98 recovered; percentage of recovery 20.42. The showing is even better if the moribunds and convalescents are eliminated from either series. The results then stand thus: Serum cases, 313; patients died, 189; recovered, 124; percentage of recovery, 39.62. Control cases, 297; patients died, 237; recovered, 60; percentage of recovery, 20.21, showing a difference of 19.08 per cent. in favor of serum. These facts are vouched for by the chief medical officer of one of the Bombay hospitals, and would appear to indicate in the clearest possible manner the value of the serum treatment of plague in general and of the use of Lustig's serum in particular.

News of the Week.

A School of Embalming is about to be established in London, "under American patronage," as the advertisement reads.

The International Language of the Future.—A writer in the *Tribune* states that Dr. Dietz, of the Berlin University, in a lecture before the Prussian Academy of Science, has declared his belief that English is undoubtedly the world language of the future. According to the London *Daily News*, the professor points to the wonderful diffusion of the English language through Great Britain and her colonies and the United States, a circumstance which in itself constitutes a great claim to a still more pre-eminent position among the languages of the world. But, apart from its political prestige, English, thinks the professor, is remarkably adapted by its very structure to be the *Weltsprache*. It has freed itself from all superfluous ballast of declensions and conjugations and genders. By its fusion of the Germanic and Latin elements it represents "two principal streams of culture." "The young Englishman," says Dr. Dietz, "unconsciously from early childhood amalgamates valuable elements of cultivation dating back one thousand years in his Germanic-Roman mixed speech which every other nation only acquires with great pains and at great expense."

Quarantine in the Philippines.—Passed Assistant Surgeon Perry, chief quarantine officer for the Philippine Islands, has recently completed an inspection of Philippine ports of entry with reference to quarantine service. As a result of the investigation he recommends that as vessels come direct from Hong Kong to Iloilo, and the distance from there to Manila is thirty-six hours, a small station, with barrack accommodations for one hundred people, be equipped at Iloilo as soon as practicable. This station would be available for a great number of vessels from the neighboring island ports. He also recommends the establishment of a small floating and disinfecting plant and barrack accommodations at Cebu, as a station there would be convenient for the disinfection of boats coming from the groups of islands to the east and south of Luzon. It may also be necessary to have a station at Zamboanga on the island of Mindanao, as it is purposed to have ships from Singapore and Australian ports call there. Assistant Surgeon L. D. Fricks has been detailed as quarantine officer at Iloilo, and Assistant Surgeon H. A. Stansfield at Cebu.

The University of St. Andrews has received a gift of £20,000 from the Marquis of Bute to establish a chair of anatomy.

The Hospital Ship "Maine."—The Anglo-American hospital ship *Maine*, which rendered such effective service in the Boer war, both as a hospital station at the Cape and as a transport for sick and wounded soldiers to Netley, has been sent to China. She arrived at Hong Kong last Saturday, and on Friday of this week proceeded to Wei-hai-Wei.

Tuberculosis in Hawaii.—The Honolulu health reports show a progressive increase in the death rate among the Japanese and native Hawaiians on the island of Oahu. The greatest increase is in the deaths from tuberculosis, and the board of health is discussing measures for restricting the immigration of consumptives, of whom there are many coming to the island because of its climate.

Plague in Nicaragua?—A report from Managua, dated August 1st, states that some kind of dangerous epidemic is causing the death of rats and pigs in that place. Hundreds of those animals are found lifeless in the streets and vacant lots. The number of pigs that have died from the unknown malady is very large. The rats are also very numerous, and the great mortality among them is evidently connected in some way with that among the hogs. A sanitary commission has been formed which is endeavoring to discover the cause of the epidemic and to put a stop to its ravages, lest it should prove to be the bubonic plague and attack the population.

Leprosy in the Philippines.—Surgeon-General Sternberg has received a report from Major Guy L. Edie, president of the board of health in Manila, stating that the board of health is considering a plan to segregate all the lepers on one island, where hospitals and other suitable buildings can be erected for their care. The report states that leprosy was introduced in the Philippines in 1633, when the Emperor of Japan sent one hundred and fifty lepers to the islands. Since then the number has increased until the estimate is that there are thirty thousand lepers in the archipelago, largely in the Vasayas. In a recent inspection of Manila, one hundred lepers were found concealed in various houses, while many others escaped to the country.

The Russian Medical Service in China is said to be better than that of the other European nations. The number and good organization of the Russian ambulances should afford, it is said, an object lesson for the other powers. At Moscow twelve new military medi-

cal corps have just been organized, and they will shortly start for the East. Each of these corps consists of four physicians, four Sisters of Charity, and eighty-two nurses.

Carbolic Acid has been officially declared a poison in Great Britain, and its purchase is now hedged about with the same formalities, meant to be deterrent, as that of other deadly drugs. Special provision has, however, been made to facilitate its sale for agricultural purposes.

A Chilian Medical Congress is announced for December of the present year. This ought to be an additional reason for the postponement of the Pan-American Medical Congress to some more convenient season than the Christmas-tide.

The Bubonic Plague in Glasgow.—Several cases of plague have been discovered in Glasgow, and the families of the sufferers, as well as those of persons who have come in contact with the sick—forty families in all—have been quarantined. Up to Wednesday of this week there had been five deaths. The disease was imported in a ship recently arrived from the Orient.

A Coroner's Diagnosis.—A physician in Philadelphia who attended a boy six years old, who died in convulsions, believed the symptoms to be those of hydrophobia, and so informed the coroner. There was a history that the child was bitten by a dog twenty-six days previously, and that he died in convulsions resulting therefrom. The coroner instructed the jury that he discredited the hydrophobia theory, and that his opinion was that death was due to the excessive heat, causing the convulsions. The jury found a verdict accordingly.

No Base Hospital for China.—With a probable recall of some of our troops in China, the large base hospital that was projected by the government at Nagasaki, Japan, has been abandoned, and the wounded and sick from China who would have gone there will be brought to San Francisco and treated in the general hospital at the Presidio. The physicians and nurses who had been ordered to Nagasaki will remain in San Francisco until it is definitely decided that their services will not be required in China or the Philippines.

A Royal Lady's Doctor's Bill.—A report from Honolulu states that Dr. Charles E. English, who was ex-Queen Liliuokalani's physician for about two years, has sued her for $5,000. He declares he gave up all his practice to attend her, for which he was to receive $300 a month, with a bonus of $5,000 should she part with his services. In case she received compensation for the crown lands he was to get $30,000. In July, he says, she suddenly told him that his attendance was no longer required, and refused to pay the $5,000.

The Rôle of the Mosquito in Filariasis.—We recently noted the discovery by Dr. George G. Low, of London, of the filaria sanguinis hominis in the proboscis of the mosquito, and his deduction from this that man might receive the parasite by direct inoculation instead of by drinking water in which the worms had been deposited on the death of the mosquito. This discovery has been confirmed by the members of the expedition of the Liverpool School of Tropical Medicine now at Bonny in equatorial Africa.

Cholera is reported to be prevailing to an unusual extent in Bombay, the present epidemic, according to *The Daily Mail* of London, being one of the worst on record. The bubonic plague is for the time being quiescent.

Anti-Alcohol Teaching in the Public Schools.—The school superintendent of Cincinnati has forbidden the use of colored pictures showing to a greatly exaggerated degree the effect of alcohol upon the mucous membrane of the stomach and upon other organs. He says the pictures are unæsthetic and fill the minds of the children with unpleasant impressions, and give them false notions which will react harmfully on them in the future. He favors impressing upon the pupils the benefits of temperate eating and drinking, and not dwelling upon the horrors of an intemperate use of alcohol. He says he is in favor of giving instruction in hygiene and preventive medicine, and suggests that the city health department issue circulars and papers, which shall be used as the teachers see fit. These will show how contagions are to be prevented, and in general give pupils an idea of how best to preserve their health.

Second Attacks of Typhoid Fever.—Dr. T. J. Maclagan, writing in the *British Medical Journal* regarding preventive inoculations for typhoid fever, says that the foundation of the treatment is a hypothesis which is inconsistent with fact. The idea is that, as one attack of typhoid gives immunity from a second, temporary if not lasting immunity might be acquired by inoculation with an attenuated dose of the poison. But one attack of typhoid does not give immunity from a second, he says. Second attacks of typhoid are as common as, by the ordinary doctrine of chances, they ought to be; more common, for instance, than second attacks of pneumonia, in about the same proportion that first attacks are more common. If one attack of the fully developed disease does not give immunity, he concludes, inoculation with an attenuated dose of the poison can scarcely be expected to do so.

Insanity in the Philippines.—Dr. Charles H. Latimer of St. Elizabeth's Asylum, Washington, has been commissioned by the government to go to the Philippines to study and report upon the effect of the climate of those islands upon the brain.

Deaths from Rabies in New York.—A boy thirteen years old died a few days ago in the Harlem Hospital of hydrophobia. He was attacked while playing in the street by a dog which bit his nose off. The first symptom of rabies appeared seventeen days later. It is stated that this is the seventeenth death from rabies reported in this city during the past five years.

Trouble on a Hospital Ship.—It is reported that there has been serious trouble on the hospital ship *Relief*, now at Nagasaki. Thirteen men in the en-

gineers' department and several officers are said to have struck. They are also said to have expressed the determination not to sign new service contracts when those now in force expire. The first officer of the *Grant* has been ordered to the *Relief* as master.

An Obstetrical Fraud.—A French contemporary relates an instructive story of a young physician who was visited by a woman presenting the external signs of pregnancy. She engaged him for the approaching confinement and left. A few months later the physician was summoned to his patient, to find the infant not only born, but washed and dressed. He was gently chided for his slowness in responding to the summons, and was requested as a particular favor to call at the registration office for the purpose of registering the birth. Anxious to re-establish himself in the good graces of his patient, the physician did as requested, leaving the house without examining either mother or child. We may judge of his surprise and dismay when, some time after, he was prosecuted by the state for aiding and abetting in a fraud by having made a false declaration as to the birth of a child. It turned out that his patient had not been pregnant and consequently had not borne a child; but had presented her physician with a supposititious one and made him a guileless partner in her attempt fraudulently to acquire some property. Fortunately for the young man, M. Brouardel interested himself in his case, and the prosecution was dropped.—*The Medical Press.*

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 25, 1900. August 20th.—Passed Assistant Surgeon L. L. von Wedekind ordered to temporary duty at the headquarters of the marine corps, Washington, D. C., August 22d, and then to the *Richmond*. August 24th.—Medical Inspector J. R. Waggener transferred from the naval hospital, Cavite, P. I., to the naval hospital, Yokohama, Japan, for treatment. Surgeon G. Pickrell detached from the naval hospital, Yokohama, Japan, and ordered to the Cavite naval station. Surgeon O. D. Norton detached from the *Monocacy* and ordered to duty with the marine regiment in China. August 20th.—Pharmacist S. W. Douglass detached from the *Massasoit* and ordered to the Key West naval station immediately.

The Hospital Charges in South Africa.—A Mrs. Chamberlain, sister-in-law of the British Secretary of State for the Colonies, has contributed an interview to a London paper in which she declares that the charges regarding the mismanagement of the military hospitals in South Africa, recently made in Parliament, are literally true. She says that hospital supplies were intentionally withheld, and also expresses a poor opinion of the surgeons, saying that "with few exceptions the army doctors are a low class of men. Those in South Africa neglected their patients. Six cases of drunkenness among army doctors came under my observation. After these people had come into contact with the police they were sent home in charge of invalids." Possibly Mrs. Chamberlain, who had been for several months in South Africa, was one of the atoms in the "plague of women" concerning which Mr. Frederick Treves spoke so feelingly. In that case her animosity against the army surgeons receives a ready explanation.

Danger of Yellow Fever from Cuba.—Surgeon-General Wyman of the Marine-Hospital service has recently received a report from the chief quarantine officer at Havana, that during the month of August, up to the 26th, there had been two hundred and four cases of yellow fever reported at Havana, and thirty-four deaths. Many of the cases were very mild. There were eleven new cases August 27th. On account of the mildness of the cases and their short duration the surgeon-general has notified the various quarantine stations on the Atlantic and Gulf coasts to use particular care to prevent an importation of the disease.

Obituary Notes.—Dr. William B. Waterman died at his home in Brooklyn on August 21st, after an illness of several months' duration. He was born in Brooklyn in 1862 and was graduated from the Medical Department of the University of New York in the class of 1887, taking the Mott medal.

Dr. Ernst Schmidt, of Chicago, died on August 25th. He was born in Bavaria in 1830, and was a graduate of Würzburg in 1852. Soon after graduation he came to this country and settled in Chicago, where he practised for over forty years. He was connected with the Alexian Brothers' Hospital and also with the Michael Reese Hospital.

Dr. Ferdinand E. Chatard, of Baltimore, died at Atlantic City on August 27th. He came of a line of medical men, his father and grandfather both having been surgeons of prominence. He was educated at Mount St. Mary's College, Emmittsburg, and was graduated in medicine from the University of Maryland in 1861. After a period of study abroad he returned to Baltimore and became associated with his father in practice. One of his brothers is the Roman Catholic bishop of Vincennes, another is a physician in Washington.

Dr. Frank Stephen Milbury died at his home in Brooklyn on August 29th, at the age of forty-three years. He was born in New Brunswick, and first turned his attention to dentistry, practising in Nova Scotia and later in the City of Mexico. He then studied medicine and was graduated from the Cincinnati College of Medicine and Surgery in 1888. After a period of post-graduate study in Europe, Dr. Milbury entered upon practice in Brooklyn. He was laryngologist and otologist to the Bedford Hospital and assistant at the New York Eye and Ear Hospital.

Rev. Dr. John S. Breckinridge, superintendent of the Methodist Episcopal Hospital, Brooklyn, died on August 28th at Stamford, Conn. He was about sixty-three years old, and was born in Pennsylvania. He was graduated from Wesleyan University in 1861. In 1887 he was appointed superintendent of the Methodist Episcopal Hospital, a position he held up to the time of his death.

Progress of Medical Science.

The Medical News, August 25, 1900.

The Abortive Treatment of Acute Mastoiditis.—James F. McKernon says that when a case comes under observation, if there is not sufficient drainage of the middle ear the perforation made by nature in the drum membrane must be enlarged, and if the upper portion of the middle ear or attic is infected this incision is extended upward, opening Shrapnell's membrane, and still continued outward and backward through the tissues of the superior canal wall, thus making what has sometimes been called an internal Wilde's incision. This done, the patient is placed in bed and kept absolutely quiet on a fluid diet; an ice coil is applied snugly over the mastoid process, a free purgative is administered, and the canal is irrigated every two or three hours (depending upon the character of the discharge) with a warm solution of bichloride of mercury, 1-4,000. The coil is left in position for twenty-four hours, and at the end of this time we usually find upon its removal much less tenderness than had existed before, and if all swelling has not entirely disappeared it has markedly diminished. Usually in from thirty-six to forty-eight hours convalescence is established and the danger of mastoid involvement is over. The author is strongly opposed to the application of moist heat to the mastoid process of a patient suffering from acute middle-ear disease.

Medullary Narcosis during Labor.—S. Marx reports several cases of lumbar cocainization employed to mitigate the pains of parturition. He says the report is only preliminary, for the cases are too few to warrant any wide deductions as to the ultimate value of this method. As far as he can form conclusions from the few experiments he has made, he says he feels warranted in stating that in lumbar cocainization we have a method which is of the greatest value in producing analgesia, which checks almost entirely the pains of labor without, so far as personal experience goes, the least danger to mother or child. "It is very astonishing and awe-inspiring to those of us who have seen many labors and heard the agonizing and maniacal shrieks of these poor women, to see the parturient, under the influence of cocaine, lie quietly in bed, feeling only some indescribable sensation, but without pain, bearing down when told to, and giving birth to her child without her knowledge, and only cognizant of the fact when the first cry of the new-born is heard." The puncture is made between the third and fourth or fourth and fifth vertebræ, the point of the needle being pushed slowly and gently downward until the spinal fluid is seen running out. An injection is then made of ten minims of a solution representing gr. $\frac{1}{6}$ of cocaine.

The Construction and Management of Small Cottage Sanatoria for Consumptives.—By Arnold C. Klebs.

Co-operation of the Public Schools in Teaching "Good Teeth, Good Health."—By Richard Grady.

Tuberculosis and Modern Methods for its Prevention.—By H. H. Vinke.

Boston Medical and Surgical Journal, August 23, 1900.

Hysterectomy for Myoma in America.—Ernest W. Cushing points out the principal contributions of Americans to this branch of surgery. Up to 1895, in the transition period, there was a mortality of 13.8 per cent. At present, in the hands of good operators, there is often a series of sixty or seventy-five or more cases without a death. The change of methods in performing hysterectomy for myoma may be briefly summarized as: (1) Entire abandonment of the extra-abdominal treatment of the stump by serre-nœud or rubber ligature; (2) the wide trial and substantial rejection of vaginal hysterectomy, as an operation of election in cases of myoma and salpingitis; (3) the establishment of indications for the retention of the cervix uteri, as compared with total extirpation of the uterus; (4) the adoption of a method substantially the same by most operators; (5) the disuse of drainage wherever possible; (6) the common employment of the operation by general practitioners operating in the small hospitals which are springing up in all towns of three thousand or more inhabitants. This generalization is at present a disadvantage, but by competition and training tends to the diffusion of good surgery throughout the country.

Repeated Ectopic Gestation in the Same Patient, with Operation in Each Case.—Malcolm Storer and M. T. Thurber report the case of a young woman, who in December, 1898, was operated upon by the former for ectopic pregnancy, and the left tube and ovary were removed. In May, 1899, Dr. Thurber again found that the patient had an extra-uterine pregnancy, and Dr. Storer performed a second operation. The tube was removed, but most of the ovary was left in place and stitched to the stump of the tube. In the first operation, an attempt was first made to use the vaginal route, but this had to be abandoned on account of free hemorrhage. In general terms, the author would confine the vaginal operation to women with large pelves, yet even in them, should there be urgent symptoms of active hemorrhage, he would personally prefer the abdominal route, as the source of bleeding could more easily be found and controlled. Should the operator prefer to begin by the vaginal route, he would be wise to have everything ready for a cœliotomy in case he should find it necessary to abandon the vagina in a hurry.

The Mortality of Hysterectomy for Fibroids.—F. H. Davenport points out that the causes of danger in case the tumor is left alone are: (1) hemorrhage, which may become a source of danger, no matter what the size of the tumor; (2) pressure from a large tumor causing disease in other organs; (3) anæmic necrosis of a part of the tumor; (4) the development of malignant disease in connection with the fibroid. The author has done nineteen hysterectomies for fibroids. Two of the patients died; these had large tumors which presumably could have been successfully removed if taken earlier. In addition to these two cases, there were two of malignant degeneration, three of anæmic necrosis, one of the latter presenting malignancy as well. Therefore out of nineteen cases there were six in which life was threatened by the presence of the growth. The author strongly advises the removal of fibroids if symptoms are present.

Immediate Repair of Perineal Tears.—E. S. Boland says that if carefully carried out the immediate operation of suturing ought to give ninety per cent. of successes. An anæsthetic is not usually necessary: the value of the prompt restoration of the perineal body does not depend wholly on the after-results, but also on the influence it exerts to minimize the risks of septic infection in the puerperium. To illuminate the vagina, the head mirror of the laryngoscope with head-band attached will be absolutely satisfactory, and a neighbor or the patient herself can hold the lamp, thus obviating the necessity of an assistant, which in poor families is a consideration.

Medicine as a Science and Medicine as an Art.—By Philip H. Pye-Smith.

The Philadelphia Medical Journal, August 25, 1900.

A Contribution to the Significance of Koplik's Spots in the Diagnosis of Measles.—Jose L. Hirsh reports seven cases, one in a negro, in which a diagnosis of measles was made or confirmed by the observation of Koplik's spots, and he formulates the following conclusions: (1) An eruption limited to the buccal and labial mucous membrane and characterized by the presence of an irregular red spot with a bluish-white centre, is always present in beginning measles. (2) These spots are present for twelve hours to five days before the cutaneous outbreak. (3) The number of these spots bears no relation to the severity of the attack. (4) These spots will be found in no other condition of health or disease.

The Psychoses of the Menopause.—John B. Chapin says that of 8,320 women admitted to insane asylums in 1899, 188, or 22 in 1,000, were stated to have become insane at the menopause. Many women who are melancholy or threatened with insanity at the menopause have had serious neurotic or mental symptoms at the age of puberty. He says it can be stated as a clinical conclusion that women who become insane at the menopause as a rule possess a neurotic and mental heredity, or have already suffered from recurrent insanities during the menstrual life, and are rendered suitable and peculiarly liable to a fresh attack at any crisis in their lives.

Physical Diagnosis in its Relation to the Stomach and Associated Organs.—By B. C. Loveland.

Mütter Lectures of the College of Physicians of Philadelphia.—By John B. Roberts.

Two Cases of Trichinosis with Eosinophilia.—By William Watt Kerr.

An Apparatus for Making Roll-Cultures.—By George H. F. Nuttall.

Military Surgery.—By W. C. Borden.

Journal of the American Medical Ass'n, August 25, 1900.

Keratitis Bullosa.—E. O. Sisson reports a case of this rare affection, which is usually secondary to blindness caused by corneal cicatrix, iridocyclitis, increased tension, etc. According to Fuchs, the lymphatic stasis of glaucomatous eyes produces an interstitial œdema of the epithelium, which tends to the production of vesicles, etc. The continual irritation of the corneal epithelium alters the nutrition of the cells. The usual treatment of opening the bullæ and touching the raw spots with nitrate-of-silver solution was first adopted. This, together with atropine, was fruitless.

Iridectomy was then done under cocaine. At first this promised success, but suddenly new bullæ appeared and the eye was enucleated, a procedure which the patient had pleaded for from the first. In this case the condition, which had existed for a year, was secondary to cataract and complete posterior synechia of the iris.

Chemical Factors in Interstitial Gingivitis.—W. L. Baum says that since the gums at times take upon themselves the function of excretion, they are peculiarly apt to be affected by chemical action. The metals and phosphorus all produce, by their excretion through the gums, conditions of œdema, which are predisposing factors to interstitial gingivitis. Among vegetable alteratives having a like action are colchicum, guaiac, salicylic acid, sarsaparilla, and pilocarpine. A culture-medium is furnished by the œdema produced. In a case of mercurial stomatitis examined, evidences of inflammation were found in the gums, bacteria being absent, and it was thought to be due to the chemotactic influence of the mercury in process of excretion. Bacteriological invasion is secondary to an endarteritis obliterans, producing an anæmic infarct, which either undergoes absorption or becomes necrotic.

Cerebral Localization.—Sydney Kuh speaks of cortical localization, cerebral centres, distribution of motor centres, etc. The points in differentiating Jacksonian from idiopathic epilepsy are: the spasm is limited in the beginning of the attack; loss of consciousness occurs late, if at all; the epileptic cry, fall, and biting of the tongue are usually absent; post-epileptic coma is slight, of short duration, or entirely absent; and in the *état de mal* there is no rise of temperature. The history and age aid. The diagnosis of corpus callosum lesions is usually impossible. The signs of importance are enumerated. Temporal lobe, basal ganglia, alternating hemiplegia, etc., are considered.

The Constitutional Treatment of Interstitial Gingivitis.—J. H. Salisbury says that besides metallic and other drugs, auto-intoxication plays a part in pyorrhœa alveolaris, atrophic changes being due to poisons circulating in the blood. Successful treatment depends upon the discovery of the toxæmia by which the condition is caused. The indications to be met are: (1) to stimulate the eliminating organs; (2) to fortify the system against the action of the poison; (3) to prevent the formation of the poison.

Local Treatment of Interstitial Gingivitis.—M. H. Fletcher quotes Talbot to the effect that the exciting cause of gingivitis is tartar, and believes with Carpenter that without a locally exciting cause the disease would not exist. He makes an acute, a chronic, and a sloughing stage. He advocates soft-wood toothpicks, stiff brushes, and tooth-powders containing no gritty substances.

Anæsthesia.—D. H. Galloway reports a case which illustrates the value of nitrous oxide as an aid to anæsthesia when ether or chloroform is employed.

How to Place Lenses Before the Eyes so that Distance of their Respective Anterior Foci Shall be the Same.—By Mark D. Stevenson.

The Bacillus of Philippine Dysentery.—Extract of a report by R. P. Strong and W. E. Musgrave.

A Few Observations on the Efficacy of Protargol in Pyogenic Affections of the Eye.—By F. C. Hotz.

Anteflexion of the Uterus: its Causes and Treatment.—By Augustus P. Clarke.

A Simple Operation for Divergent Strabismus.—By L. Webster Fox.

Parturition as a Factor in Gynæcological Practice.—By John Milton Duff.

Medicine and Medical Men in the United States.—By A. Jacobi.

The New York Medical Journal, August 25, 1900.

On a New Method of Operation for Exstrophy of the Bladder.—Carl Beck reviews the various procedures devised for repair of this most distressing condition, and gives a plan of his own recently modified which has served him well. The disadvantages of implanting the ureters in the sigmoid flexure are discussed, and while intestinal implantation approaches more nearly the ideal *restitutio ad integrum*, there are severe risks attending it. His own autoplastic method for restoring the retentive power by an anterior muscular wall is described, and cases are cited, showing how a small bladder was secured and protected by a firm muscular layer.

A Case of Murphy-Button Anastomosis.—John von Aesch relates an instance of abdominal injury with attempt at suture and subsequent insertion of the button. The features are: long delay, very dirty gut, time lost in vain attempt to suture, and passage of the button on the eleventh day, bringing with it a large intestinal worm which had been caught in the trap-like opening of the button.

A Case of Cyst of the Epiglottis.—W. L. Bullard relates a case of this rare condition. After incision of a filbert-sized cyst on the anterior surface of the epiglottis and touching with strong silver solution, there was recurrence. After a second incision with discharge of gelatinous fluid, and touching the interior of the sac with fused chromic acid, cure was permanent.

The Annual Address of the President of the American Laryngological Association.—By Samuel Johnston.

Bladder Incrustations, Multiple Phosphatic Calculi; Median Lithotomy, Irrigation, etc.—By J. Coplin Stinson.

Secondary Hemorrhage following the Use of Suprarenal Extract.—By Frederick E. Hopkins.

Laryngitis a Provoking Cause of the Asthmatic Paroxysm.—By William C. Glasgow.

The Lancet, August 18, 1900.

The Hot-Air Treatment of Eczematous, Gouty, Rheumatic, and Other Affections.—David Walsh describes the apparatus employed in the application of hot air. The method is likely to do good in painful nervous affections, many painful and stiffened joints, anæmia, Bright's, eczema, rheumatism, gout, etc. A typical case of gonorrhœal rheumatism treated with good results is detailed. It is here shown that cardiac complications need not necessarily contraindicate the application of the Tallerman treatment.

Measles, German Measles, and the "Fourth Disease."—Robert Craik relates the history of several cases. In Case I. a scarlet-fever-like rash with very little fever, illness, or desquamation was present in 1899. In March, 1900, the patient had measles, and in May, 1900, she had German measles. Cases II., III., and IV. proved to be the first of an epidemic of German measles. The reasons for not regarding the cases as scarlatina are given.

An Unusual Case of Scarlet Fever.—A. J. Rice Oxley relates an instance of scarlatina in which, six days after desquamation began, and two days after the patient first sat up, the cervical glands began to swell. Five days later there was fever (103 F.), and ecchymoses began to form on various parts of the body, and then large extravasations followed by death. The reporter is at a loss for an explanation.

Preliminary Rashes in Measles.—J. H. Thursfield records a case and speaks of scarlatiniform rashes which were present in five out of seven cases seen. In four they were the earliest manifestation of measles, Koplik's spots not being found. The scarlatiniform premonitory eruptions are apt to mislead, especially since text-books do not as a rule mention them.

An Address on Professional Organizations.—Delivered before the Southwest London Medical Society by W. G. Dickinson.

Report on the Physiological and Therapeutic Action of Digitalis and its Active Principles.—By Sir T. Lauder Brunton.

A Case of Dislocation of the Shoulder Joint Produced by Muscular Action Alone.—By J. Grimmond Smith.

The Danger to the Community of the Workmen's Compensation Act, 1897.—By Albert Benthall.

Note on a Case of Strychnine Poisoning.—By Thomas Lettis.

Some Remarks on Cancer of the Breast.—By Skene Keith.

Münchener medicinische Wochenschrift, August 7, 1900.

The Pathogenesis of Gout.—O. Hager discusses the various theories as to the causation of this disease, and contrasts the views of recent continental observers with those of the English writers. Garrod's theory is that owing to dietary excesses, exposure, exertion, injury, etc., an attack of gout may be produced, which consists in the deposit of uric acid in the form of a urate in the joints or the surrounding tissues, in anomalous forms also in the internal organs. Through the attack the blood is relieved of the excess, and the deposit in the joints appears as a sort of safety-valve for the escape of the surplus. Luff regards as materia morbi the quadri-urate of soda, and explains the formation of uric acid in two ways. In health it is formed in the kidneys, probably from urea and glycocin, and is immediately excreted by the urine. If as a result of some functional or organic disturbance this process is impeded this substance is taken up by the circulation and forms the supply which furnishes the gouty deposits. In diseases which are accompanied by leucocytosis uric acid may originate in the nuclein of the leucocytes in the spleen and possibly in the entire body, but this is properly taken care of by the kidneys, which are supposably in a normal state, and hence no gouty deposits are found. These views seem untenable to the author, who advocates the following theory: Under the influence of heredity, the lymphatic constitution, or intoxication of some sort, and sometimes with-

out any recognizable cause, a state of faulty metabolism is inaugurated. This consists in the retention in the body of a considerable quantity of nitrogen, which does not enter into the formation of new albuminous bodies. These retained substances, which are not demonstrable as uric acid and which comprise such alloxur bodies as adenin, circulate in the blood and eventually produce necrosis of certain tissue cells. These necroses constitute a decomposition which leads to the formation of alloxur bodies and an increased amount of uric acid in the blood, which is deposited in the damaged areas, and so the gouty circle is fulfilled.

Nervous Disturbances in the Domain of the Brachial Plexus in Angina Pectoris.—L. Loewenfeld describes the accessory nervous disturbances accompanying angina pectoris and illustrates by the citation of a case history. The brachial symptoms may be grouped into three classes: disturbances of sensibility, of motility, and of vasomotor control. As regards their bearing on the angina it is to be noted that they may be entirely absent, but it is more often the case that they are concurrent with the cardiac seizure, though there is no definite relationship between their intensity and the severity of the disease proper. Sometimes it is observed that the accessory symptoms precede the main attack, and in others that they considerably outlast it. This is especially true of the sensory manifestations, parasthesiæ, etc. Finally the brachial neuralgia may appear to be entirely unrelated to the cardiac disease and run an independent course. Under these conditions there seems to be no common causative agency for the two, but they mutually aggravate each other.

A Case of Death from Starvation.—Hartmann describes the post-mortem findings in a man aged seventy-three years, who was allowed to die through lack of food in the almshouse of a small village. The evidence of the manner of death lay in the emptiness of the alimentary tract, the presence of old hard fecal masses, the loss of body fat, the anæmia of many organs, and the absence of any other cause, as well as the testimony of witnesses which showed that for twelve days he had received no food.

The Time for Surgical Intervention in Extra-Uterine Pregnancy.—By L. Prochownik.

Xeroderma Pigmentosum.—By Herxheimer and Hildebrandt.

The Corset and Dress Reform.—By J. Thiersch.

The Suture of Arteries.—By R. Seggel.

Berliner klinische Wochenschrift, August 6, 1900.

Idiopathic Evanescent Clouding of Consciousness.—Placzek reports two cases of temporary mental aberration which are interesting from a forensic point of view. The first concerns a woman aged about forty years, who without warning became entirely irrational in language and action for a period of six hours, after which she returned to the normal and had no recollection of the time that had elapsed. The other case is that of a man, and is much of the same type, except that in this instance the recovery took place just as suddenly as the onset of the trouble, while in the former it took several hours for a clear realization of events to be re-established. In their causation the author thinks that seizures of this sort are referable to circulatory disturbances in the cortex, and calls attention to somewhat similar phenomena observed in those resuscitated after strangulation by hanging, in which the main effect is the compression of the carotids. It is of great importance from a medico-legal standpoint to recognize the possibility of such a loss of emotional control, which it appears may occur quite independently of any epileptic, hysteric, traumatic, or hereditary taint.

A Contribution to the Bacteriology of Whooping-Cough.—G. Arnheim corroborates the findings of Czaplewski and Hensel on the ground of forty-four cases of the disease and three autopsies studied by him. In the sputum of these patients and in two of the bodies he was able to find and grow in pure culture the Czaplewski-Hensel bacillus, which is described as occurring singly or in chains, the individuals appearing to be divided in the middle owing to the fact that only the two poles take up the stain. Control experiments on patients with other pulmonary and bronchial diseases gave negative results. Taken in connection with the observations of other authors, the number of cases in which this bacillus has been isolated is now sufficiently large to leave little doubt as to its specific nature, and although experiments on animals have not been successful, still the requirements of Koch's law as to constancy of species and location and the possibility of pure culture have been complied with.

The Nature and Significance of Alterations in the Ganglion Cells, especially in Psychoses.—By E. Meyer.

The Subject of Primary Sarcoma of the Stomach.—By W. Mintz.

Observations on Diabetes Insipidus.—By H. Rebensburg.

Deutsche medicinische Wochenschrift, August 8, 1900.

A Typhoid-Like Disease Caused by a Bacillus Resembling that of Typhoid.—Schottmüller, in making bacteriological tests of the blood of fifty typhoid patients, was able to cultivate the specific bacillus in eighty per cent. of the cases. One of these, however, while running the typical course of a rather mild typhoid, yielded cultures of a bacillus which differed so markedly from the normal that there is no doubt in the author's mind that it is a separate variety. In its cultural characteristics it corresponds closely to the Koch-Eberth bacillus, but in addition to the usual properties it possesses the entirely irregular ability to produce fermentation in sugar bouillon. The patient's blood gave no response whatever to the Widal reaction, but caused the agglutination of cultures of its own atypical bacilli even in the dilution of 1 : 100. The converse of the experiment was then tried and the serum of four typhoid patients that reacted with typhoid bacilli at a dilution of 1 : 100 allowed to act on the abnormal bacilli, with the result that even at 1 : 20 only one specimen caused clump formation. While the regularity with which the typical Widal reaction is obtained is sufficient evidence of the rarity of this form of the disease, the author thinks that those not altogether uncommon cases in which the reaction never appears are explicable on this ground, and recommends that in all such a bacteriological examination of the blood be made.

A Contribution to the Study of Polyneuritis Puerperalis.—M. Minkiewicz describes a case of multiple neuritis beginning in the latter half of pregnancy and undergoing sudden exacerbation immediately after labor. Neither the history nor the physical examination shed any light on the causation of the disease, which first involved mainly the lower extremities and later became seated in the arms. The labor was a perfectly normal one, and there were no signs of septic infection either intra- or post-partum. Medication seems to have had no effect whatever on the course of the trouble, which lasted for five months, at the end of which time the patient made an apparently perfect recovery.

The Physical and Medicinal Analysis of Mineral Waters.—By H. Köppe.

Right- and Left-Handedness.—By Hecht and Langstein.

Is Alcohol a Food or a Poison?—By Kassowitz.

French Journals.

Operations on the Prepuce.—S. Bernheim draws the following conclusions from the experience of a long practice: (1) The prepuce is an organ often presenting congenital or acquired malformations of very irregular form. These malformations, annoying during infancy, may become the point of departure in the formation of bad habits (masturbation) or of infirmities (retention or incontinence of urine). During adult life they constitute an impediment to sexual congress and favor all kinds of infectious inoculations (chancroids, syphilis, blennorrhagia, epithelioma, tuberculosis). At times, too, they are the direct cause of sterility. It is, therefore, well to examine this anatomical organ in all new-born. Preputial adhesions may be ruptured, the preputial orifice may be dilated, or a piece excised so as to permit liberation of the glans. Circumcision is the most salutary procedure, and useful from different moral and material points of view.—*Journal de Médecine de Paris*, August 12, 1900.

Pathology of the Initial Sclerosis in Syphilis.—Ehrmann, of Vienna, has proved, by the artificial injection of the blood-vessels and lymphatics in chancre, that the contagion advances principally by way of the lymphatics coming off from the region contaminated. The virus in spreading in the lymphatics produces an irritation in the network of blood capillaries surrounding the lymphatics, and causes the latter to become filled with lymph cells destined to combat the virus. In consequence of these observations the writer has practised upon the chancre electric diffusion with corrosive sublimate. In this way he has prevented the production of secondary symptoms in some cases treated during the first fortnight following contagion and before the appearance of regional adenopathy. Electric diffusion is a very simple procedure applicable to all cases seen early. —*Le Bulletin Médical*, August 11, 1900.

Treatment of Neurasthenia.—De Fleury, in a report upon the treatment of nerve prostration, comes to these conclusions: (1) In the genesis of the symptoms of neurasthenia it seems proven that the brain initiates and that the other symptoms, and notably the gastric symptoms, are secondary. The gastric state does not cause the mental, but it aggravates and keeps it up. (2) The brain is the origin of all the symptoms, but not the brain as an organ of thought. The fixed idea is not, as in hysteria, a generator of symptoms. (3) The fatigue of the nervous centres engenders a general functional paresis which has its reflec-

tion in the feelings. Treatment must be based upon this conception.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, August 9, 1900.

Bulletin of Johns Hopkins Hospital, July and Aug., 1900.

A Comparative Study of Some Members of a Pathogenic Group of Bacilli of the Hog Cholera or Bacillus Enteritidis (Gaertner) Type, Intermediate between the Typhoid and Colon Groups.—Harvey Cushing describes a bacillus, the bacillus O, which is intermediate between the typhoid and colon groups, the clinical significance of which, as a definite type, has been much neglected. It possesses the morphological and motile properties of Eberth's bacillus, but differs from this organism in the fermentation reactions, producing gas in the presence of glucose and other more easily fermentable carbohydrates. Its chief characteristic difference from the bacillus of Escherich rests upon the fact that fermentation in various media made from milk does not produce sufficient acidity to precipitate the casein, but, on the contrary, the acid production is but a transient process and is followed in the presence of air by a prompt (two to three days) and distinguishing alkalinization of the media, which furnishes a ready means of differentiation from both the typhoid and colon type. The author demonstrates that the definiteness of the serum reactions, pathogenicity, and perpetuation of cultural features of these bacilli justify the placing of them in a separate group.

I. Primary Carcinoma of the Appendix Vermiformis. II. Carcinoma of the Appendix Secondary to Carcinoma of the Ovaries.—Elizabeth Hurdon describes two cases. The diagnosis of this affection is, of course, extremely difficult, owing to the absence of distinctive symptoms in the early stages. Our attention is first directed to the iliac region by the onset of pain and the presence of tumefaction, and when these are manifest the growth is usually well advanced. There is ordinarily no interference with the digestive function until the growth has invaded the cæcum or the large or small intestine. The diseases for which carcinomatous appendix is most apt to be mistaken are: cyst of the appendix, calculi, tuberculosis of the so-called neoplastic form, impacted fæces in the cæcum or small intestine. In many instances only an exploratory section will enable one to make a positive diagnosis. If the appendix is found to be the seat of a new growth, in order to secure its complete removal the head of the colon should be resected, and should the growth have visibly extended beyond the appendix a more extensive resection may be indicated.

A Case of Transient Spastic Convergent Strabismus.—Samuel Theobald reports a case, due in all probability to an irritation of influenzal origin of the innervation centre which controls the associated action of the internal recti muscles. It disappeared under the influence of atropine, a normal muscle balance being re-established in a few days.

Charles Frederick Wiesenthal, Medicinæ Practicus, the Father of the Medical Profession of Baltimore.—By Eugene F. Cordell.

On the Present Status of Therapy and its Future.—By Lewellys F. Barker.

The Edinburgh Medical Journal, August, 1900.

The Feeding of Phthisical Patients in Relation to the Wasting of the Body.—Vincent Dormer Harris says that the object we should aim at is not to increase the weight of the patient by a mere deposition of fat, but rather to set up a more healthy metabolism in the tissues, and especially in the muscles, in which so much of the active metabolism takes place. With this object in view, it would seem to be unwise to increase any one of the three varieties of food stuff to any large extent, at the expense of the others, but if any is to be increased it should be the proteid. Food should be given in the most appetizing form possible, well cooked, and in variety. Preserves, honey, and marmalade with breakfast are good, and relishes frequently stimulate the appetite. Fat may be given as cream, fresh or clotted, bone marrow, yolk of eggs in wine, caviar, fish roes, etc. Frequent small meals often help to overcome anorexia. The author has little confidence in increase of weight exhibited by patients who are lying down and inactive most of the day, but progressive increase in weight, maintained while the daily amount of exercise is gradually increased, appears to be of real value as an indication of improved tissue metabolism.

Suppression of Urine Following Cystitis.—J. Lamond Lackie reports a case of chronic cystitis; there was double infection of the kidneys, but, strange to say, there were no symptoms pointing to renal affection until a short time before death, when complete suppression of urine occurred, and even then the patient did not feel especially ill until complete anuria had existed for ten days. After that occurrence, there was a continuous flow for eight days, and again for four days before death no renal secretion occurred.

The Treatment of Simple Goitre in Young Adults.—George R. Murray calls attention to the satisfactory results obtained by the treatment of some forms of enlargement of the thyroid gland by thyroid extract. Exophthalmic goitre must be excluded, for its symptoms are often aggravated by this treatment. Liquid thyroid extract or dry thyroid may be given; the author uses the officinal preparations, giving of the former ♏ xv. twice or thrice a day, and of the latter gr. iii. or more two or three times a day. He reports three cases which illustrate his point.

The Action of the Heart in Mitral Stenosis.—C. C. Gibbes discusses the various theories held in regard to the mechanism of this disease, and says in conclusion that he considers the predominant feature of mitral stenosis to be a want of synchronism in the action of the two ventricles, the right assuming in part the function as well as the rhythm of the left auricle.

Points of Practical Interest in Surgical Gynæcology. IV.—Conservatism and its Influence on Operative Technique.—By H. Macnaughton Jones.

Uretero-Vaginal Fistula, with Notes of a Case for which Uretero-Cystostomy was Performed.—By E. Arthur Gibson.

Remarks on the Treatment of Dacryocystitis and Lacrymal Obstruction.—By W. Ernest Thomson.

Dublin Medical Journal, August, 1900.

Pemphigus with Erythema Circinatum.—H. C. Drury reports the case of a boy aged fourteen years, with a scanty eruption on the face, chest, and arms, consisting of groups of small vesicles for the most part the size of boiled sago grains, some few being the size of small peas; there were a few on the eyelids and cheeks, also a few scattered about the chest and arms. In the course of twenty-four hours he developed a most extensive gyrate or circinate erythema over the entire trunk and upper parts of arms and legs. This consisted of larger and smaller circles, sharply marked off from the healthy skin by a distinctly raised margin. These circles were of a bright red color, somewhat paler in the centre than at the margins; some were separate, but many coalesced, forming large, irregular gyrate patches. The vesicles seen on the previous day, though still for the most part small, were a little larger than before. On the next day the erythema had faded, though the evidences of it had not disappeared. The whole body was mapped out by gyrate markings; the margin still could be felt by the finger to be distinctly raised; inside this the patch showed a very faint brownish discoloration, which when viewed from a distance was distinctly seen, but when looked at closely could hardly be said to be different from the healthy skin outside the bounding ridge. In addition to this, however, a great increase had occurred in the size and number of the vesicles and bullæ. For six or seven days after admission the bullæ increased in number and size, this latter feature being due partly to increase in individual bullæ, but chiefly to the coalescing of several, so that huge, irregular bags of fluid were formed, measuring in some cases as much as three inches by two inches. The patient did well on arsenic, and was discharged on the twenty-first day of treatment in good condition, though not entirely well.

Remarks on Dupuytren's Contraction of the Palmar Fascia.—J. Knott saw five cases in old soldiers whom he examined for pensions. Two of them had the lesions of chronic rheumatic arthritis. In all the contraction engaged the ring finger of the right hand and passed to the little finger of the same side. The corresponding fingers of the left hand had afterward become affected, but always to a slighter degree. Several other cases are also alluded to. Knott gives a history of the literature of this affection, and makes an interesting digression concerning the place of the ring finger in classical studies on the hand. In every instance he has examined he has found some evidence of the coexistence of what he calls the fibroid diathesis. He believes that the skin is involved as well as the deeper structures. The relationship of the palmar fascia to the overlying skin also contributes to give to this condition some of its peculiar features. Anatomists are familiar with the fact that the separation of the skin from the subjacent "deep fascia" presents special difficulty in the case of the palm of the hand and sole of the foot, as also in the case of the scalp. The skin in these localities is, so to speak, nailed down to the strong fascia beneath by vertical pegs of dense fibrous tissue. This arrangement accounts for the fact that the skin cannot be pinched up in these places; also that the subcutaneous tissue does not become the seat of fatty deposit or of œdematous infiltration to any marked extent. The cirrhotic process had had the effect of approximating the surfaces of skin and fascia, and the amount of "granular" fat normally found in this situation was reduced to a vanishing quantity. The ring finger is especially involved because it is a place of least resistance, owing to the peculiar arrangement of its tendons.

The Nose, Cold Feet, "Tobacco" Heart, and Convallaria Majalis.—H. S. Purdon ascribes the cold feet and redness of the nose often seen in smokers to the weakened action of the heart from tobacco poisoning. He advises convallaria internally, while suggesting calisthenic exercises with the arms, bending the body, and pressure with the hands "off and on," over the epigastric region, which help to restore "tone" to the heart. For the cold feet and in all cases of any redness of the nose, especially in those of the female sex, no matter how caused, a mustard foot-bath at night for ten or fifteen minutes, followed by brisk friction, and in winter a "hot-water bottle" in bed, is most useful as well as comforting. For the local treatment of redness of nose, a sulphur and calamine lotion rubbed into that organ stimulates the skin circulation and does good in restoring a natural appearance to that prominent and important organ.

University Medical Magazine, August, 1900.

Perichondritis of the Larynx in Typhoid Fever.—M. Howard Fussell reports two cases, both occurring during convalescence from typhoid, which had been mild in one case, severe in the other. In both the laryngeal symptoms appeared after some sort of exertion of traumatism, in the one swallowing an apple, in the other the shock of opening a rather large abscess. In both the severe symptoms came on suddenly and threatened life in a very few hours. In both cases there was early some slight disturbance of breathing, in one some hoarseness. Operation was refused in the case of the patient who swallowed a large piece of apple, although he was suffering tortures from stenosis. He died in three days. The post-mortem showed a huge abscess of the cricoid cartilage. The second patient recovered after tracheotomy. He wore the tube constantly for six months. The patient remains well, with a slight stridor in breathing, and hoarseness of the voice and some dyspnœa on exertion.

A Case of Migraine with Aphasia and Numbness in One Arm.—Samuel McC. Haniell reports the case of a young man aged twenty years, who at seventeen years, while preparing for the final examination of his college year, began to suffer from hemicrania. At the beginning of the attacks there was visual disturbance, with a peculiar sensation in the epigastric region, relieved by loosening his clothing, then numbness with loss of sensation, first in the little finger, then the fingers in succession and the thumb, the hand, and the forearm to the elbow. Following this there was numbness in the lip and one side of the nose, and on several occasions he had difficulty in speech. The head pain began very shortly after these phenomena, gradually augmented, became very severe, and subsided in from three to five hours. There was never any suggestion of a convulsive seizure. The author protests against the view held by many at the present time, that migraine is closely allied to epilepsy.

Malignant Precocious Syphilis.—H. M. Christian has seen eight cases during the past two years. In all of them the precocious type of the disease was shown by the early appearance of ulcerative and pustulo-crustaceous lesions, most particularly marked upon the lower limb. Apart from the varying forms of cutaneous lesions presented by these patients, the following conditions were found common to all: progressive loss of flesh, anæmia—the result of a marked leucocytosis—hectic fever, insomnia, and night sweats. In the treatment of these cases, no time should be lost in giving mercury by the mouth, or by daily inunctions, the latter being the more suitable method of employing the remedy. Iodide of potassium should be given in ten-grain doses three or four times daily. Tonic and stimulating methods should be employed, such as are resorted to in the treatment of any wasting disease.

A Case of Pneumonomycosis due to the Aspergillus Fumigatus.—By Leonard Pearson and Mazyck Ravenel.

Some Personal Observations on the Plague.—By H. M. Miller.

Revue de Médecine, August 10, 1900.

Diseases of the Spinal Cord in New-Born and Nursing Infants with Hereditary Syphilis.—De Peters gives a detailed study of eleven cases, in which various forms of paralysis testified to affection of the spinal cord. In nine cases there was the "*Flossenstellung*," outward deviation of the wrists; in two paralysis of the nucha and upper extremities, and in nine paralysis of the upper extremities without affection of the nucha. The author gives his reasons for attributing the paralyses to hereditary syphilis. Treatment consisted in friction with gray ointment, the internal use of calomel, and the administration of potassium iodide to the mother, and was followed by surprisingly rapid and good results.

Acute Dysenteric Hepatitis.—Paul Remlinger concludes a study of four cases of this affection as follows: Dysentery is capable of occasioning either acute hepatitis or liver abscess. The diagnosis between these two affections is possible, but difficult. Exploratory puncture will solve doubt and will precede operation in the case of abscess, and bleeding of the liver in the case of hepatitis. Whether this bleeding acts simply by relieving congestion, or by withdrawing a certain number of micro-organisms and favoring leucocytosis, it is followed by rapid improvement of the local and general conditions, and a recovery so complete that no other form of treatment can bear comparison with it.

Simple Persistence of the Arterial Canal.—By G. Gérard. A continued article.

Sadism at Bullfights.—By Charles Féré.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

WEATHER CHANGES—ECHOES FROM IPSWICH.

LONDON, August 17, 1900.

WE are still awaiting the arrival of your heat-wave. Some of the weather-wise say it has been turned aside by the east wind from Spain; others think it has only been tempered thereby. At any rate we have had a week of delightful warm summer weather. Yesterday twelve hours of sunshine at a bearable temperature has made us forget the wet holiday week, and to-day is nearly as fine, though a thunderstorm seems to be brewing.

The scandal of the National Hospital for Paralysis and Epilepsy advanced a stage on Saturday, when at least sixteen governors seem to have attended the meeting; for a resolution of the board was carried by fourteen votes to two, that "it is inexpedient to grant the demand of the staff for direct representation on the board." What next? I have just received from my college a note saying that on the 26th ult. it was resolved to circulate again a resolution passed on the 25th of October, 1888, in the following terms: "That it is undesirable that any fellow or member of the college should be officially connected with any company having for its object the treatment of disease for profit." It seems to me difficult to imagine a more feeble action on the part of so influential a college. I am half inclined to think it an impertinence to warn me against such an "undesirable" proceeding; but then I remember there are some fellows who have been guilty.

The little "odds and ends" gathered from conversations about the doings at Ipswich are sometimes interesting and often reflect floating opinions which may not find other expression. There is certainly widespread indignation at the amazing effrontery of the Council in endeavoring to seize all the authority and the accumulated funds of the association. On the other hand, there is, perhaps, an equally widespread indifference as to what the wire-pullers may do, mingled with mild contempt for everything pertaining to the association, except in relation to any sign of scientific progress.

A curious circumstance connected with sectional management may be noticed. In some sections the president announced that he had been requested not to deliver a formal address, and called upon the openers of the discussions to proceed with their papers; in other sections the old formality of a presidential address was observed without remark; so there are conjectures as to whether the request was general or partial, and inquiries as to by whose authority the requests were made. Certainly the profession has lately had a surfeit of addresses, and the time of the sections is often insufficient for adequate discussion, while sketches of what has been done are of little interest to audiences supposed to be devoted to the departments under review. These sectional formalities must be distinguished from the three addresses before the whole association, which are on a different level. I gave you a note or two on that in medicine. Dr. Smyly's address in obstetrics should interest every general practitioner. It might well be summed up in the old adage against "meddlesome midwifery," only the aphorism was thoroughly applied as to every up-to-date measure.

In the Psychological Section, Dr. R. P. Smith gave an address in which, admitting the increase of insanity as to which so much has been said, he boldly urged the necessity of attacking it at its sources. These are heredity, alcoholism, and syphilis. Legislation is not likely to forbid "free trade in marriage." Probably persons who have even suffered attacks of insanity, will, in spite of the risk, continue to marry. Many have done so with disastrous results. Others who have not actually suffered attacks are liable

through heredity. Then there are the cases of break-down after marriage. Further, it is a sad fact that congenital imbeciles and chronic epileptics have added many bad specimens to the stock. Should they be prevented from marrying? Dr. Smith would say yes, but how to do it is not an easy problem. The second most powerful cause of insanity is alcoholism, and surely it would be easier to deal with this than with the first, but though the subject is ever before Parliament no really practical measure has been passed restricting the influence of this poison. So we go on building new asylums at enormous cost for preventable diseases, and no doubt shall do so until the oppressed rate-payer, on whom are heaped the costs, rises in his might and insists on a change. The third source of the evil—syphilis—is now seen to be more active than was supposed, and it is unquestionably more difficult to restrict it. Notification is the popular panacea with many, but I doubt its applicability here. Dr. Smith is doubtful if the ensuing century will be marked by an arrest of insauity in these sources, but he thinks that is the direction in which our efforts should tend.

In the Section of Diseases of Children, Mr. Muirhead Little read a paper dealing with one hundred and fifteen cases of infantile paralysis. He gave full details of the deformities met with and the muscles that suffered. These statistics brought out the fact that has been before noted, that the left lower limb is more often attacked than the right and that the tibiales anticus and posticus were far more often palsied than any other muscles, and the quadriceps extensor was affected twice as often as the hamstrings. He gave details of eight cases in which tenoplasty was performed, and of four in which he had stiffened the ankle. He remarked on the difficulty of deciding how much of the resulting benefit was due to the removal of the deforming muscle and how much to the newly constituted muscle. In the discussion which followed speakers had nothing to say on the statistical part of the paper, but confined themselves to discussing the operations. The general feeling was distinctly in favor of tenoplasty, and especially of Nicoladoni's operation.

As we are engaged in war, and much heart-searching as to our preparations for it, the new Section on Army, Navy, and Ambulance naturally attracted attention. The past, present, and future of the Royal Army Medical Corps was discussed. So was the volunteer medical organization. The necessity of increasing both is becoming a conviction on the part of the public. A motion was carried by Surgeon-Captain Cantlie, asking the Council to appoint a committee to draw up a scheme to submit to the government for reorganizing the medical services of the auxiliary forces on the basis of the system of the Royal Army Medical Corps, and bringing into unison the medical services of the regular and auxiliary forces.

Your reporters have no doubt told what took place about the journal of the association. Some talk of Mr. V. Horsley's "attack on the editor" as if it were a personal affair, but he disclaimed any such intention. Others say it was time some one spoke out, and it was well that a strong man undertook the task. The positiou of the editor is no easy one, with the Council and journal committee and members to cater for. You will no doubt sympathize with him, as I do, for an editor in harness and driven by conflicting influences may well stumble. But Dr. Dawson Williams has really raised the tone of the journal since he took the reins. Any blame about the articles concerning the Exeter Hall attempt should be put on the shoulders of the wire-pullers, who seem to have concealed from the editor their full intentions, just as they must have done from Dr. Ward Cousins, for he is not the man to have willingly cajoled his hearers. If you read between the lines of Mr. Horsley's speech, which has been published in full in the journal, you will see that he did not really attack the editor personally, but only hit out at the others through the official, and the editor's defence was satisfactory so far as he was himself concerned.

THE PLAGUE IN BEYROUT.

(From our Special Correspondent.)

Beyrout, July 21, 1900.

They have left the city and gone to the mountains this time with a vengeance; not because the summer is upon us in full force, but for another reason, to wit, the "plague" was "declared" about fifteen days ago—on Friday, the 6th of this month. It came about in this way: Three men and a boy aged fourteen years, who used to work in a pit, a cellar, or a charnel-house, whichever you like to call it—their occupation being the making of sweetmeats, no less, for the multitude—fell ill suddenly. They came out of their residence and had a promiscuous and heavy meal, composed of I don't know what, but I have been informed that the symposium was a mixture in one course of sweets (of course), vegetables, cheese, melon, raw cucumbers, and some dishes the composition of which is a mystery, filling up the details with bread and onions raw. They had been fasting, no doubt, these three men and a boy, and being a-hungered ate heartily. Then the end came. All three were stricken down with vomiting and diarrhœa and collapse.

The quarantine officer, or the port medical officer of health, was sent for and "declared" the malady to be "plague." Other medical men were sent to consult with him, and the case hung fire, the consulting physicians being opposed to the diagnosis (quick as it was) of the sanitary officer. He held his ground, however, and on Saturday evening, the 7th of July, the declaration of plague was confirmed in Beyrout. Then came the stampede. The plague was a subject of further investigation. A rabbit was inoculated with the blood of one of the victims. It fell sick unto death. All in Beyrout were hanging, so to speak, on the life of the little rodent, and when it died, seventy hours after the inoculation, there was a panic. Twenty-five thousand inhabitants left the town in one day. The road for twenty-one kilometres (fourteen English miles) was one line of carriages, outriders, muleteers, camels, baggage carts, and mules in abundance laden with household property, donkeys ditto, men, women, and children on foot tramping up, all (except the beasts of burden) terror-stricken, to the shelter of the hills. Not knowing the circumstances, one could not well have said whether it was a grand funeral procession or an invading army.

Then the amusing part comes in. As I said, "la Peste" was confirmed on Saturday evening, the 7th inst. Now all the merchants here send their families to "the mountains," going to visit them from Saturday till Monday, returning on that day by the early train to look after their various businesses, from the banker to the man who sells you a yard of tape. All these went off in the best of health and in the enjoyment of good spirits on that fatal Saturday afternoon—to come back no more. On the night or evening of that fated or fatal Saturday all communication by rail or road was cut off—no one and nothing was allowed to cross the frontier to the highlands, so that the train our friends were waiting and waiting for never came. It was lying snugly without a sign of life in Beyrout station. It used to be full of energy early of a morning, puffing its little soul out to be in readiness to fetch the swarms of folks from Aleigh to the capital. But now not a puff, not a running to and fro—even the throttle valve was silent; and it lay, did the little engine, stiff and stark in its engine-shed. The news of the plague surely could not have succeeded in putting out its fires and extinguishing its lights, while all the multitude waited and wept for it in breezy Aleigh with its dust by day and its fogs by night.

On the top of this came the "cordon" (of course Beyrout had already been put under quarantine to outside ports and the yellow flag hoisted), by which we mean an encircling line of armed dragoons surrounding and cutting off the town and suburbs of Beyrout from any communication with the hills of Lebanon. Did it end there? By no means. We were not allowed to go to Lebanon, and Lebanon was not allowed to come to us! As the merchants could not come down, all their stores, shops, and warehouses are closed, or most of them, and only that we are not enlivened by an occasional shell from above, and in that we have the sea open to us, upon our word it looks like another Ladysmith. No vegetables in the market, very good mutton, and very bad beef. Thank goodness we are few, so the supply of the latter is good and the price has gone up very little. Flour has gone up, however, 17.5 per cent., which is a very bad thing for the poor in our midst, bread and herbs being their sheet-anchor to save them from starvation. The principal streets are being repaired and macadamized at a furious pace—the deus and purlieus of the inner circle of the bazaars are more unkempt and filthier than heretofore.

Should this plague scare turn out a fiasco, as I think it will, there "will be trouble in the town." Somebody—I think it was a Jesuit father—claims to have discovered the real true and undeniable bacillus of "la peste." "It is not," I am informed he says, "the absolute bacillus, but that of the third degree." Well, what could he have more? All this on account of four men and a boy aged fourteen who shut themselves up without sunlight—the only sun was their candle or lamp—and of fresh air there was none, coming out of their burrow and filling themselves to repletion at a temperature of about 90 F. in the shade. Business is stagnant, merchants will lose a vast amount of money, the ships refuse to land or take cargo, we are a beleaguered city—and all on account of four men and a little boy of fourteen, who are doing merrily and well after their fifteen or sixteen days' experience of the "Forest"—a grove of stately pine-trees outside the city wall.

No case has been "reported" since, and the health of the town, considering the season, is practically good.

Surgical Suggestions.

Varicose Veins.—

℞ Barii chloridi..... 2
Aquæ destil .....q.s. ut ft. sol.
Lanolini 60
Ol. amygdalæ dulc..... 1
M. S. Use three times daily with friction, where blue veins shine through the skin.

—Alex. Rixa.

Pruritus Ani.—

℞ Fluid extract of hamamelis..... 1
Fluid extract of ergot 2
Fluid extract of hydrastis..... 2
Compound tincture of benzoin..... 2
Carbolized olive or linseed oil (5 per cent.) 1
M. S. Shake well and inject from one to three drachms daily

Paint with a solution of silver nitrate, using a two-per-cent. cocaine solution to prevent excessive pain. After two or three burnings, apply citrine ointment, cover with cotton, and secure with T-bandage.—Adloe.

Bites of Fleas, Mosquitos, Gnats, etc.—

℞ Ol. chamomillæ camphorat..... 100 parts.
Liq. styracis..... 20 "
Spt. menth. pip..... 5 "
M. S. Apply.

—Brocq and Jacquet.

Hemorrhoids.—

℞ Carbolic acid, saturated solution..... ʒ i.
Ol. olivæ..... ʒ ij
M. S. Inject five or ten drops into each tumor, injecting as the needle is withdrawn.

Reinsert into any part that does not turn white. Treat all tumors at one sitting. Smear with vaseline, press well inside, and put patient to bed.—Monroe.

Paraldehyde and Chloroform given together do away with the period of excitement and cause anæsthesia more rapidly and with less chloroform than when the latter is used alone.—Cosimo Noto.

Closed Inhalers are cumbersome, unclean, unscientific, and dangerous. The best inhaler is the simplest; one made with a towel or an "Allis" for ether, and a folded towel for chloroform.—H. A. Hare.

Nævi, Lupus, and Scar Tumors may be treated with advantage by the elastic bandage. The good results are due to pressure, warmth, and moisture, and protection from external irritation. The band may be removed every day so that it, as well as the skin, can be thoroughly cleansed.—Serenin.

Lupus.—Calomel may be injected or Robins' pills given:

℞ Hydrarg. chl. corros.,
Sodii chloridi,
Vin. thebaic.....āā 1
Mic. panis..... 5
Gluten..... 2.5
Glycerin..... 2–3
M. ft. pil. No. c. S. One to three daily with meals.

Bleeding from the surface of an internal organ or from a single vessel may be checked by directing against the seat of hemorrhage a current of hot air (39° at 5 mm.) from the Holländer apparatus.—*La Semaine Médicale.*

Nasal Stenosis from Defective Septa.—Briefly this operation consists of four steps: 1. Buttonhole the septum at the point of greatest obstruction, and incise obstructing ridges or convexities in the line of convexity. 2. Break with forceps all fibrous bands and separate the cartilage from the superior maxillary spine at the floor of the nose. 3. Overlap cut edges and introduce splints. 4. Treat antiseptically for two weeks. It restores the entire septum to its normal position, corrects slight external deformities, and leaves both surfaces of the septum parallel. It is adaptable to all forms of deformities or deflections. No perforations result, no granulation tissue is left behind, and better and more uniform results have been obtained by me than by other methods.—Beaman Douglass, in the *Laryngscope*, June, 1899.

Strabismus should be treated early with glasses and parents be made aware of the following dangers of neglect in this particular: Permanent cross-eyes, partial blindness; necessity of operation in after years which will straighten the eyes but will not cure the blindness.

In Resection of the Gasserian ganglion the sphenoidal sinus should be guarded against injury and infection which might have fatal results. There is less danger by the Krause-Hartley than by the pterygo-maxillary route.—O. Jacob.

In Heat-stroke with convulsions and œdema of the lungs, the patient was benefited by venesection.—C. Klein.

Fracture of the Nose in its Upper Portion.—Waste no time in an attempt to replace the bones from the inside nor in applying plasters, etc., externally, but make a median incision and replace the fragments, holding them in place with fine stitches.—Büdinger.

To Preserve Rubber Articles keep them in a one-per-cent. solution of formol or zinc chloride, or a concentrated solution of boric acid. They should never be left exposed to the air or to the action of cold.—Krolikovski.

Linen is entirely unsuited for the proper application of ointments to the skin, and still it is popularly thought essential.

Late Union is more apt to occur in fractures of the upper third of the humerus than elsewhere; a prognostic point to bear in mind.

Iodoform Odor may be removed from the hands by thorough washing in vinegar after the use of soap and water.

Extemporized Dressings.—Cheesecloth cut into strips or squares is rendered alkaline by boiling for twenty minutes in a solution of washing soda (two ounces to a quart), then wrung out and boiled again in clear water, previously boiled and allowed to settle. It is then passed through a bichloride solution (1 : 200) and packed moist in jars previously sterilized or washed in bichloride solution (1 : 200). Just before using it is wrung out in bichloride solution (1 : 2,000). —*The Clinical Review.*

Note on a Case of Webbed Penis.—L. Grounauer mentions a case of deformity of the penis in a child aged seven years, submitted to operation, and calls attention to the extreme rarity of the condition. The penis portion was attached to the scrotum, drawn up and separated from the pubic region by a marked furrow which dipped down upon either side in the arc of a circle to near the frænum, and showing externally the separation between the penis and scrotum. The penis was drawn down so that the meatus looked downward by the combined adhesion to the scrotum and a marked shortening of the penile portion of the urethra. An operation separated the parts successfully and restored the penis to approximately normal conditions. —*Revue Médicale de la Suisse Romande*, July 20, 1900.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Sixty-eighth Annual Meeting, Held at Ipswich, July 31, and August 1, 2, and 3, 1900.

(Special Report for the MEDICAL RECORD.)

SECTION OF GENERAL MEDICINE.

(*Concluded from page 310.*)

Second Day—Thursday, August 2d.

The Problem of Gastric Ulcer.—This discussion was opened by DR. J. F. PAYNE, of London, who said he would present several problems, discussion upon which he trusted would prove of interest. He first took the prevalence and mortality of gastric ulcer and showed from statistics of upward of six hundred cases spread over a period of thirty years that the disease was apparently increasing both in prevalence and mortality. He could find no satisfactory explanation for this, but thought it was suggestive that the same held true for other abdominal diseases. He had looked up the records of appendicitis for twenty years, and there seemed to be an enormous increase in this disease, which he put down to better methods of diagnosis. He said that cancer of the digestive organs had increased more than cancer of other organs, and typhoid more than other zymotic diseases. He was not prepared with an explanation. The next question he brought forward was that of diagnosis, and he asked whether all cases so diagnosed were really gastric ulcers. He reviewed in detail some of the main symptoms, and pointed out that the principles of diagnosis were with one exception the same thirty years ago as now. The only new symptom of importance was that of hyperacidity of the gastric fluid, of which he would speak later on. With regard to the typical pain in the stomach after food, circumscribed, often severe, and associated with circumscribed tenderness, he had found that it was absent in the majority of his cases. Vomiting was recorded in more than half. He was surprised to find that hemorrhage was often absent in fatal cases, whereas it nearly always took place in the non-fatal. He supposed that the rapidity of a fatal termination by perforation was the explanation. This raised the question of correctness of diagnosis. Hæmatemesis was fatal apart from gastric ulcer. He had collected one hundred and four cases, and he had found that chronic alcoholism and cirrhosis of the liver were the most common causes in males. Aneurism was rare. He believed that a strain might be the starting-point of a gastric ulcer, and he instanced several cases. He came to the conclusion that hemorrhage from the stomach in grown men was most commonly due to alcoholism, but that in the young and in women gastric ulcer was the most frequent cause. He now referred to the symptom of hyperacidity of the gastric fluid, to which attention had been drawn by German writers. They nearly always detected hydrochloric acid in excess, and considered it of such value that they washed out the stomach in all suspected cases. They believed this hyperacidity a cause of gastric ulcer. Others, on the other hand, had not found it, but it became a question how far it was allowable to wash out the stomach. The next problem was, could a distinction be made between acute and chronic ulcers, and he believed that only in fatal cases which were brought to the post-mortem table could we distinguish for certain. In forty-eight fatal cases the symptoms in thirty-six had lasted over one month and the appearances were those of chronic ulcer; in twelve the appearances were of acute ulcer and the symptoms had lasted less than one month. He found of non-fatal cases that in thirty-four per cent. the symptoms had lasted one month or less, and in sixty-six per cent. they had been present for more than one month. Among the former were only twice as many females as males, while the females in the latter were four and one-half times in excess of the males. He knew these figures did not accord with Dr. William Fenwick's. He asked of if there was any criterion of acute disease, or whether a chronic ulcer was anything more than an acute ulcer grown older. Coming to the problem of etiology he considered that of the many factors which had been brought forward as possible causes of gastric ulcer he believed the theory of auto-digestion offered perhaps the best explanation. It would at all events account for the persistence and chronicity of the disease. The precedent conditions were, however, still unexplained, and he did not think that bacteriology helped us very much at present. As regarded sex, his tables showed that, of those who died, the sexes participated nearly equally, and he was able to point out that, although the disease was commoner in women, it was relatively much more fatal in men. The male mortality took place principally in the later periods of life, the female in those under thirty years. The proportional mortality for all cases in later life was high. It had been said that the disease was most common in young women of the poorer classes. Considering the enormous numerical preponderance of the poor, he doubted if this were true. As to prognosis he had little to say at that time, but he believed that, speaking briefly, in the young it was good, in the elderly bad. On the subject of morbid anatomy he would only say that he did not take the occluded vessels with coagulation of their contents—a condition not infrequently found—as evidence of thrombosis. He strongly advocated treating the disease by rectal injections. He admitted that that was a process of slow starvation, but pointed out that by allowing the patient to drink small quantities of water this method could be employed for two weeks or more. He deprecated the employment of lumps of ice. He remarked that acetonuria had been observed in rectal-fed patients. Acetone in the urine was decidedly common in other conditions than diabetes, especially in alcoholic dyspepsia, and he regarded it as due to starvation.

DR. HABERSHON, of London, displayed some interesting tables drawn up from his late father's private notebook. They supported much that Dr. Payne had said, and went to show that gastric ulcer was not uncommon in young women of the upper classes. He thought that there must be some very potent cause for the prevalence of this disease in young women. There were, he maintained, three classes of cases in which the diagnosis was often extremely difficult. They were, first, those occurring in young women with no history of hæmatemesis; secondly, the neurotic class, in which there was extreme hyperæsthesia often located in such situations as gave rise to grave suspicion of gastric ulcer. In this connection he related what had been handed on to him as a "tip" in dealing with this class, and which he had found to be of the greatest possible practical assistance, namely, that while pressure was made over the epigastrium with one hand, firm pressure should be made upon one of the carotids with the other. He found in this way that the imaginary pain fled in a remarkable manner. He was unable to say how this came about, but he suggested that it acted either by cutting off some of the circulation through the brain or by direct pressure upon the pneumogastric nerve. The third class, which he found difficult to diagnose, were those in which the pain was relieved by food. It was in these that the ulcer was found near the pylorus.

Dr. W. Gordon, of Exeter, reviewed the many well-known theories as to the etiology of the disease, but he did not attach value to any. He set aside the idea of either thrombosis, embolism, or simple submucous hemorrhages with subsequent auto-digestion, and regarded such causes as trophic lesions, scalding food, tight lacing, or wounds as most unlikely. He believed the explanation would be found in some organism associated with alkaline reaction of the gastric fluid. On this account he very strongly advocated the systematic bacteriological examination of all excised ulcers. Eight or nine years ago he had an opportunity of examining a very typical example of acute perforating gastric ulcer. The specimen, which had been some time in spirit, showed a clean circular hole punched out as it were in the stomach wall, with no evidence of induration or even swelling around it. Sections into the surrounding tissue starting from the edges of the ulcer were made, and stained with methylene blue showed what was at least suggestive. The edge of the ulcer was confused and almost structureless, having apparently undergone digestion. A little way from the edge there was indication of a certain amount of inflammation with aggregation of leucocytes, and (what impressed him most at the time) beyond the leucocytosis and reaching for some distance into the stomach wall were numerous cells stuffed with micrococci, and free groups of micrococci were scattered in the tissue. On the free edge of the ulcer there were also microbes, but they were various, both bacilli and cocci. He had not pursued the investigation at the time, for it seemed to him that without fresh specimens, *i.e.*, specimens excised in life, no useful result could be arrived at, and eight years ago excision of the ulcer was not even spoken of. Now in certain cases the material had become available, although he himself had had no opportunity of making use of it.

Dr. Calwell, of Belfast, addressed himself to the question of whether it were not possible to prevent adhesions forming from gastric ulcer. He strongly urged the importance of treating even slight cases of acute dyspepsia with this end in view. His practice was to advise bed and complete rest for days, and he did this because it was his belief that many patients suffering from acute dyspepsia had as a matter of fact small gastric ulcers. He said the presence of adhesions had been denied, but he had evidence of strong adhesions in sixteen cases upon which he had operated. One of these patients had had an attack of epigastric pain on making a sudden movement. He related a case of acute hemorrhagic pancreatitis in which he had found adhesions to the pancreas.

Dr. Julia Cock, of London, related two very interesting cases which pointed to difficulty in diagnosis. In both, the symptoms simulated gastric ulcer. The first was that of a young girl with all the symptoms of gastric ulcer, including hæmatemesis, which was severe and for which she was admitted to hospital. She was under observation for some weeks, her symptoms being always such as to suggest gastric ulcer. The question of laparotomy was raised. At the post-mortem there was subphrenic abscess with pleurisy and pneumonia from extension, while there was absolutely no explanation for the hemorrhage. Miss Cock thought that in young women hæmatemesis without ulcer was more common than was supposed. The second patient was an older woman, and her symptoms spread over a period of eight years. At first she presented the typical symptoms of gastric ulcer, having several attacks of pain and hæmatemesis; she was also phthisical. A laparotomy was performed for symptoms of perforation and the stomach was found healthy. An interval elapsed which was followed by recurrence of the pain which now became constant. A second laparotomy was done and chronic adhesions were found and divided. The stomach was perfectly healthy.

Dr. Newton Pitt, of London, had long held the view that hæmatemesis in young women was not necessarily due to gastric ulcer. He had been struck by the wide divergence between the clinical and the post-mortem evidence. He himself had made two autopsies on patients with hæmatemesis and had found no cause for the hemorrhage. He related a similar case to Miss Cock's, and suggested that hæmatemesis should be the diagnosis until there was positive evidence of gastric ulcer. On the other hand, hemorrrhage, as shown by Dr. Payne, was often absent in fatal cases.

Mr. W. Stuart Low, of Kirkbank, after some remarks on the anatomical relations of the stomach, said that he had had very good results from the use of mucin, which he tried in ten cases of acute dyspepsia, the pain and constipation being speedily relieved. He considered this to be a logical method of treatment when the position of the mucous secreting glands of the stomach was remembered. They were nearest the surface and suffered most. He dieted his patients carefully, but objected to peptonized foods and rectal feeding.

Dr. Pye-Smith, of London, remarked on the difference between the clinical and the post-mortem evidence in respect to the age and sex incidence of the disease under discussion. He had collected cases which entirely bore out what Dr. Payne's tables showed. He was much interested in Dr. Gordon's suggestion as to the pathology, and agreed that a bacteriological investigation of the freshly excised ulcer was likely to help us to an explanation of the exciting cause. He considered that it was important to bear in mind the different appearances that an acute perforating ulcer and a chronic funnel-shaped ulcer presented. He was familiar with these cases of hæmatemesis occurring in young women without any apparent cause, and likened them to the nose-bleedings from which boys so often suffered. He regarded hæmatemesis without ulcer as an epistaxis of the stomach, so to speak. He took a favorable view of the prognosis in cases of hæmatemesis. He believed that it might be said with truth that hæmaturia was never fatal, hæmatemesis from gastric ulcer very rarely, and hæmoptysis only occasionally. He advocated treatment by rectal feeding, and agreed that small draughts of water, and especially warm water, not only were harmless, but he believed they were of distinct advantage.

Dr. Saundby, of Birmingham, said he was quite at one with those who laid stress on the difficulty of diagnosing gastric ulcer. He had always been in the habit of pointing this out; but at the same time he would not go so far as Dr. Pitt, for in that case it came to never diagnosing the disease at all during life. His practice was to speak of anæmic gastralgia until hemorrhage occurred, when he thought it was safe to diagnose gastric ulcer. He was inclined to be sceptical about the value of the statistics which had been brought forward, for he could not, from his experience, agree that gastric ulcer was more fatal in elderly people. He was sure that hæmatemesis from gastric ulcer was very rarely fatal. In a long experience at the Birmingham General Hospital he had had only one fatal case. His routine treatment consisted of rectal feeding for twenty-four to forty-eight hours; he then gave milk and lime-water in gradually increasing quantities. He usually prescribed a mixture containing the sulphates of magnesium and iron, advising his patients to continue this for a considerable period.

Dr. Pope, of Leicester, said that no mention of drugs had been made throughout the discussion except by the last speaker. He himself was in the habit of giving his patients resorcin in doses of gr. v.

He believed the pain and discomfort were materially relieved by this method of treatment.

Dr. Payne, in his reply, said he was somewhat disappointed that the problem of prevalence had not been touched upon by any of the speakers. He was interested to hear Dr. Gordon's remarks, and was inclined to believe in the theory of the bacterial origin of the disease. In support of this opinion, he had seen in one autopsy two ulcers occupying such positions that when the walls of the stomach came in contact the ulcers closely approximated in a way that he thought was suggestive.

Intermittent Pulse.—Dr. Arthur R. Cushny, of Ann Arbor, Mich., read a paper on this subject. He differentiated four types of irregularity, ascribing them to excessive or deficient contraction of auricles or ventricles.

Third Day—Friday, August 3d.

Explanation of So-Called Imperfect Aeration Symptoms of Post-Nasal Adenoids.—Dr. McKeown, of Manchester, read a short paper with this title. Headache, bad memory, stunted growth, etc., were usually attributed to imperfect aeration of blood, but he was of opinion that this explanation was not warranted, and he mentioned several reasons in support. Often the growths were too small to form sufficient obstruction. During sleep, the mouth being kept open, the intake of air must be ample. The symptoms were as a rule immediately relieved by operation. He referred to the anatomical relation of the growths to the sphenoidal and other sinuses, and pointed out that headache was not, as a rule, caused by imperfect aeration of blood. These considerations had led him to seek some other explanation, and he suggested that it might be found in reflex action.

Very few members had as yet arrived, and no discussion took place.

The Diastolic Expansion Movement of the Ventricles as a Factor in Compensation for Disease of the Mitral Valve.—Dr. Stacey Wilson, of Birmingham, followed with a long but interesting and carefully prepared paper on this subject. Unfortunately the time limit (fifteen minutes) did not give Dr. Wilson an opportunity of reading more than half the matter he had prepared, most of which was demonstrated by a series of cardiograph tracings. The following short epitome of his argument does poor justice to a valuable communication. He contended that the ventricular expansion movement during diastole was due to active expansion of the muscular fibres and not merely to passive dilatation. Experimentally it had been demonstrated (1) that the muscular wall of the ventricles remained active for an appreciable time after closure of the valves, and (2) Stefani had found that after section of the vagus less force was required to prevent diastolic expansion of the heart. The clinical evidence was scanty. His series of cardiographic tracings showed that the expansion rise was so great that it could not be caused by a mere elastic expansion; it must be muscular.

The President regretted that time did not allow a satisfactory elaboration of the interesting and valuable paper then being read. There was no discussion.

Pathogenesis of Gout.—Dr. Gore, of Whitchurch, read a paper entitled "A Toxin Theory of the Causation of Gout." Gout did not arise in all cases in which uric acid was found in excess in the blood, and, with the exception of the deposits in the joints, there was little evidence that uric acid was the cause of gout. He believed that the various manifestations of gout were the result of some morbid condition of the blood, which was probably brought about by a toxin developed in the alimentary canal from one of the bacilli commonly infesting the intestinal tract. A catarrh set up by the ingestion of unsuitable food would induce such changes as would enable the bacilli to exert their morbid influence through their toxins. He believed this theory would explain many of the aspects under which gout presented itself, and that it suggested a line of treatment aiming at the flushing and cleansing of the gastro-intestinal canal. His supposition would explain the baneful effects of lead which constricted the blood-vessels. He explained the concurrent presence of uric acid as due to the action of the toxins on the liver, and he believed that the specific alteration produced in the intestinal secretion by unsuitable diet was assisted by hereditary predisposition.

Dr. Samuel Bartow, of Norwich, agreed with Dr. Gore that gout must be due to some other cause than lithic acid, and he had always felt that. In his neighborhood lithic-acid calculus was extremely common; gout, on the other hand, very unusual. Therefore he maintained there must be some other factor, although he believed that this factor came into play only when uric acid was in the blood. He thought gout less common now than formerly, and supposed that that was due to people knowing better how to manage their diet.

Dr. Gordon, of Exeter, said that in Devonshire an exactly opposite condition of things obtained. Gout was common, but uric-acid stone almost unknown. He was in the habit of prescribing salicylic acid in some form for those irregular symptoms of gout such as headache, dyspepsia, and giddiness, and had had good results. He thought this supported Dr. Gore's contention.

Dr. Pope, of Leicester, thought that the fact that colchicum relieved only when it purged also bore testimony to the correctness of Dr. Gore's theory.

Dr. Garrett-Anderson, of London, found it impossible to accept the toxin theory for gout. She favored the chemical theory.

Subcutaneous Saline Injections in Pneumonia.—This paper, jointly compiled by Drs. Ewart and B. Percival, of London, was read by the former. He had thought it well, considering that treatment had as yet not reduced the mortality of pneumonia, to give a trial to this method, which had been introduced by Dr. Clement Penrose, of Baltimore. He thought cases might be roughly divided into three groups—those likely to recover, those almost certain to be fatal, and those in which there was uncertainty. It was to these very grave, but not hopeless cases that he had applied this method. It was not strictly empirical but had a scientific basis. It was well known that saline infusions were attended by success in cases of severe collapse. In pneumonia they were dealing with a disease in which sudden change for the worse, with collapse, often took place about the third or fourth day. This suggested applying the method of treatment which formed the subject of that paper. They, however, had considered it best to transfuse earlier, before the stage of possible collapse arrived, in the hope of supporting the system against its effects. A pint of decinormal saline solution was injected into the chest wall twice or thrice in the twenty-four hours, each operation occupying about an hour. He related six cases, only one of which appeared to benefit from the infusion. This case improved the day after the first injection and the temperature reached normal three days after. Of the other cases, all of which were fatal, one was complicated by typhoid, another by salpingitis and pleural effusion, two by alcoholism. Two had, in addition to the saline solution, ten per cent. peroxide of hydrogen. In none did the infusion produce any apparent favorable result, except, perhaps, to delay the fatal termination. They considered that

they could come to the following partial conclusions: that the infusions were not followed by any unfavorable consequence, but, on the contrary, they appeared to delay the fatal event; that possibly the bulk of saline solution should be increased; that the infusions were powerless to check fatal cases; that there was no effect on the changes in the lung; that the patients did not resent the treatment.

No discussion took place.

Progress in the Sanatorium Treatment of Consumption in England.—Dr. Jane Walker, of London, read a paper with this title. She believed that under favorable circumstances consumption could be cured in any climate, and advocated that the sanatorium treatment should be carried on in the climate in which the patient would afterward have to reside. She laid great stress on the importance of careful medical supervision in sanatoria. Those possessed of strength of will, wisdom, and equanimity of temperament did best. It was often very hard to tell people they were not yet well, although they might feel well. The general standard of health should decide the length of stay. It was very important to get cases early, as the chances of recovery from the second stage were not so good. She regarded inverse type of temperature, excessive pulse rate, and diarrhœa as indications for bad prognosis. When the temperature remained down and the patient gained weight she regarded the prognosis good. The management of these cases resolved itself into the exhibition of common sense on the part of all concerned. She held that Mr. Gibson, in the *Nineteenth Century*, erred in giving false hope to many by saying that all could be cured in sanatoria. She advocated sanatoria for tuberculous children and tuberculous pregnant women. Out of one hundred and seventy-seven cases passing through her hands, forty-five patients were cured and fifty-four improved; thirteen were losing ground, and seven died; twenty-nine were still under treatment, and she had lost sight of nine.

Dr. Chowry-Muthu, of Ilford, advocated open-air treatment for all infectious diseases. He had seen cases of scarlet fever, typhoid, and pneumonia all treated by this method with admirable results. With regard to consumption he considered that the sanatorium treatment gave the best results for the majority. Under the old methods patients did what they liked; now they placed themselves under the generalship of a medical man, and he believed that was the secret. Three things influenced the progress of these cases especially, vitiation of the stomach by toxins, bronchial catarrh, and strong east winds.

Dr. Burton-Fanning, of Norwich, was sure that wisdom on the part of the patient was of great value, and was glad Dr. Walker had drawn attention to that. He considered no thanks were due to Mr. Gibson. The latter, in his article in the *Nineteenth Century*, spoke of cure being effected in three months; in his experience, one year was the shortest stay a patient should make. Mr. Gibson spoke of ninety per cent. of cures. It would be more correct to say ninety per cent. of the patients improved. He believed everything depended upon early treatment, and for this reason he considered the stethoscope of less value than the thermometer, the laryngoscope, and staining reagents. He agreed that climate was of little importance, and commended Dr. Walker's statement that elaborate common sense was what was of most value.

Dr. St. Clair Thomson, of London, speaking as an official, urged the importance of making people understand the necessity for medical supervision. A retired tradesman had written to him and said he had taken two roomy cottages and had placed all the cases of consumption he could find in them; was there anything else he could do? He thought that cases had sometimes been kept too long in sanatoria to the detriment of others. A wise American had once remarked that we must not get hold of the wrong case and put it in the wrong place, until death resulted; but we must get the right case, and put it in the right place, until recovery took place.

Consanguinity as a Factor in the Etiology of Tuberculosis.—Dr. Charles Davies, of the Isle of Man, read this paper. After bringing evidence from various authors to show that it had been commonly known and observed from early times that children sprung from in-and-in marriages were of inferior energy, he directed attention to the condition of things existing in the Isle of Man. The Manx, an isolated being, resented the introduction of strangers, and, further, the dwellers in the north not only held the southerners of the island in aversion, but there were natural physical conditions which formed a barrier between them. In addition it was rare for migration from village to village to take place. The consequence was that undoubtedly families had married and intermarried with their immediate neighbors again and again. There was no exaggeration in saying that three parts of the inhabitants were related to one another. The Manx people had then attained to a very high degree of consanguinity. Did ill-effects result? There was undoubtedly a high phthisis rate, viz., 25.7 per 10,000 living, and he believed this was accounted for by in-breeding. The temperature of the island was equable; fogs were unknown, sunshine was abundant, and he considered the climate to be eminently suitable for the treatment of lung diseases. The soil was fairly dry and well drained, the natives were well nourished and happy and contented. Their principal occupations were healthy. The dwellings were no worse, from a sanitary point of view, than those of their class in England. He was driven, therefore, to conclude that there must be something in the constitutional idiosyncrasy of the people that rendered them peculiarly liable to tubercle.

Dr. Sommerville, of London, asked if the same result had been noticed among the royal families and nobility of Europe.

Dr. St. Clair Thomson wished to thank Dr. Davies for his interesting paper. It was at his suggestion that Dr. Davies had come from the Isle of Man to make that contribution to the etiology of phthisis.

Dr. Barton thought that consanguinity *per se* might not be the cause. Was it not rather due to tubercle attacking a community in which intermarriage was common? At Clovilly, where there was much inbreeding, there was no tubercle.

Dr. Gore suggested that the condition of the cottages might have an influence, as he believed was the case in Ireland.

Orrhotherapy of Malignant Endocarditis.—Dr. Ewart next related a case of fatal malignant endocarditis and right embolic hemiplegia apparently due to infection from dental caries and stomatitis, treated by anti-streptococcic serum and by saline infusions. A man aged twenty-six years was admitted to St. George's Hospital on April 10th, having been seized suddenly with aphasia and right-sided paralysis. On admission, the only thing noticed after careful examination was a systolic mitral murmur. His temperature was 101° F., and he had albumin in his urine. On April 13th he became worse and died suddenly. There was no delirium, but the man was nervous; he understood what was said to him, but had difficulty in making his wants known. The cardiac signs had varied since admission. A diastolic murmur had been heard over the pulmonary valves and a double murmur at the apex. On this account the diagnosis of ulcerative endocarditis was made. For treatment he was at first placed on a mixture containing perchloride

of mercury. Subsequently five injections of anti-streptococcus serum were administered, and he was given four saline infusions, while finally large doses of quinine were tried. A question of source of infection had been before their minds, and a very thorough investigation was therefore made. They found only stomatitis from decayed stumps with very intense fetor. The glands were not enlarged. A post-mortem examination was made forty-two hours after death. The aortic valves appeared greatly diseased with ulcerative vegetations, the liver was nutmeg, there was an infarct in one kidney. There was an embolism of the left middle cerebral artery with softening of the brain tissue. Van Jurgensen, Ludwig, Herzog, and others made no reference to any portal of infection in their recorded cases; they called them primary ulcerative endocarditis. Some authors, however, in reporting cases, had mentioned certain septic conditions incidentally. Gibson, for example, had related a case in which middle-ear disease was present. Dreschfeld came nearest to pointing to the mouth as a possible route for infection. If no examination had been made in the case he had related that day, he supposed it would have been put down as primary disease of the valves; but he believed that, having excluded all other possible sources, that case depended upon an organism existing in the mouth.

Dr. Coldstream, of Florence, remarked that he had published a case of ulcerative endocarditis which resulted fatally on the fourth or fifth day after a gumboil, associated with a bad tooth, had been incised.

Dr. Sommerville referred to cases which led him to suppose the cause of infection might have been an unclean condition of the mouth.

Dr. Stacey Wilson mentioned cases associated with middle-ear disease which had come under his notice.

With Dr. Ewart's reply the proceedings of the section terminated.

SECTION OF TROPICAL DISEASES.

First Day—Wednesday, August 1st.

President's Address.—Col. Kenneth Macleod, president of the section, gave an opening address on "The Scope and Aim of the Section's Work." A knowledge of the pathology and pathogenesis of disease, he said, must obviously precede and guide preventive and curative effort; and it could not be too loudly proclaimed that this knowledge could be obtained only by systematic scientific research. The days of casual and statistical observations and dissertations had gone, and it was now universally understood that nothing would avail for the solution of pathological problems except the undistracted work of trained agents provided with ample opportunities, facilities, and appliances. The recent history of malariology, he continued, was a signal illustration of the dependence of sanitary and therapeutical endeavor on pathological discovery. Laveran in 1880 furnished the key to the morbid processes which in malarious disease took place within the body by the discovery of the plasmodium malariæ. Manson and Ross pioneered the brilliant investigations which had revealed one, if not the one, means by which this organism left the infected subject, lived and bred in outer nature, thus compassing the communication of what must now be admitted to be an infective disease. This knowledge was being at the present time turned to practical account, and it explained and gave precision to methods of prevention and cure which had previously been resorted to empirically. Koch had been attacking the plasmodium within the human host, and claimed, by destroying it in that phase or stage of its existence, not only to cure the individual but to reduce greatly, or altogether abolish, the prevalence of malarious disease in the community. Sambon and Low in Italy were addressing themselves to the extrasomatic life of the parasite, and endeavoring by special contrivances and precautions to cut the morbific circuit outside the body. The results of their labors would be eagerly watched, as they would contribute an important aid to the solution of the question whether the Anopheles was the only medium of malarious infection, and, if so, whether this occurred invariably by inoculation. That typhoid fever existed in South Africa, and was apt to prevail in South African towns and cantonments during the summer months, was well known, and its appearance among the troops engaged in this war was fully anticipated; but the excessive prevalence of the disease in a country and climate with a reputation for exceptional healthiness had come, he said, as an unpleasant surprise. No doubt the circumstances and exigencies of warfare were mainly responsible for the heavy tribute of sickness and death which the fever had levied. War shared with famine the malignant power of enhancing the susceptibility to whatever infection happened to be present at the place and time. Malaria, cholera, yellow fever, and dysentery had on many occasions been stimulated into disastrous activity by war. So with famine; malarious disease, smallpox, diarrhœa, dysentery, and relapsing fever had attended or followed it, and at the present time cholera and plague were raging among the famine-stricken in India. It was important to note, the speaker continued, that a very marked contrast existed between the ordinary incidence and mortality of the disease in temperate and tropical or sub-tropical countries—in England and Canada on the one hand, and in India and Egypt on the other. A similar contrast appeared in the French army stationed in France and in Northern Africa. How much of this great excess was due to tropical conditions, topical and climatic, and how much to remediable sanitary defects, it was not easy to say. But, side by side with the excessive suffering of the army in India, we were confronted with the remarkable fact of the immunity of the native population. Whether a similar immunity existed among indigenous races and habitual residents in South Africa was an interesting question. Evidence seemed to indicate that it was so. The native immunity in India, though not absolute, was undoubted; its cause had not been satisfactorily ascertained. It had been attributed to habituation to minute dosage of the contagium, to protection conferred by attack during infancy and childhood, and to racial resistance acquired in the course of generations through both these influences. Some experiments by Freyer and others indicated that natives gave positive reactions to Widal's test; but more extended and exact investigations on this point were desirable. It was quite certain that the immunity was not due to superior sanitary conditions. Whether a similar immunity—temporary or permanent—could be engendered in European subjects by a process of inoculation such as had been devised by Professor Wright, of Netley, and practised on a large scale among soldiers proceeding to the seat of war, was a question the reply to which was awaited with eager anxiety. Some figures obtained from Ladysmith had been published by Professor Wright, which seemed to show that some immunity was conferred by these inoculations, but, though encouraging, they were by no means demonstrative. The persistence of plague in India and the appearance of the disease for the first time south of the equator—in Mauritius, South Africa, South America, and Australia—were events deserving of special notice. The disease had during its present prevalence confined itself mostly to warm and hot countries, and, though not exclusively a tropical disease, nor apt in

the tropics to be at its worst when conditions were most typically tropical, it appeared to find in tropical countries and circumstances the most favoring environment. It was curious to remark that, while in India natives appeared to be readily susceptible to the infection of plague. Europeans, though not absolutely insusceptible, exhibited a comparative immunity—the reverse of what happened as regarded typhoid fever. The work of this section, Dr. Macleod said, in concluding his remarks, had to do not only with exclusively tropical diseases, many of them strangely named and imperfectly investigated and understood, which might be encountered and contracted in hot places where Europeans were compelled to reside for purposes of protection, administration, or commerce, and which were not as a rule met with outside of the tropics. More important were those diseases, originally or essentially tropical, which might be disseminated by intercourse with the tropics, and might prevail for a time in extra-tropical localities in which they were not habitually present. And, finally, there were the diseases which were not specially tropical, but which were liable to be aggravated in prevalence or severity by tropical conditions. These three classes represented a wide field of research, and, in addition, interesting questions arose regarding diseases which, common elsewhere, were rare or unknown in tropical countries.

Quinine; its Action and Value.—Dr. Andrew Duncan opened a discussion upon the use of quinine as a prophylactic and as a curative agent. He said that in the hands of French physicians quinine was found to be of some prophylactic value in the milder forms of malarial fever, but in pernicious varieties it was wellnigh useless. The general conclusions arrived at by Russian and Austrian military surgeons were that quinine had but little, if any, value as a prophylactic. In America Dr. Bryan stated that cinchona preparations had a markedly prophylactic action. The last Surgeon-Major Parke, of the Stanley expedition in search of Livingstone, gave the officers four grains of quinine daily for ten days before entering the mouth of the Congo. During a subsequent journey of three hundred and fifty miles through one of the most unhealthy regions of the world only two officers contracted fever. The speaker's own experiences in India afforded support to the belief that the giving of quinine was a preventive to malaria. In 1896, of fifty men of the Second Goorkha Rifles who took three grains of quinine daily none had fever, whereas among the men who took no drugs 6.5 per cent. had malaria; in 1897 the same experiment was tried again, when the results were, no malaria among the quinine takers and 9.8 per cent. among the non-quinine takers. During the Malay war the prophylactic benefits of quinine were not marked. West African experiences were varied. Harvey found that the sailors who took quinine had as much fever as the men who did not take it. During the Ashanti wars of 1893 and 1896 quinine as a prophylactic proved of no benefit. An inquiry in connection with this subject was promoted by Mr. Chamberlain and Dr. Manson in West Africa. The benefit of quinine as elicited by this inquiry seemed to be pronounced, for in 87.7 per cent. of those who used it as prophylactic it was efficacious. Dr. Duncan then reviewed the action of several reputed antimalarial drugs. Arsenic as a prophylactic afforded conflicting evidence. In Italy it had been moderately successful, in India it had proved very disappointing. The most eminently successful experiment seemed to have been made by Dr. Ralph Leslie in the Congo Free State, where arsenic was administered during fifteen days every six weeks, and every one who took it was rendered immune to fever. Narcotine seemed of little value as a prophylactic. As a cure for malarial attacks quinine gave by far the best results, only 2.05 per cent. of failures. Next to quinine as a curative came nim bark in doses of ʒi. thrice daily; failures were eighteen per cent. Berberis had fifty per cent. of failures. Narcotine, kreat, and inderjas seemed to be unreliable as either prophylactic or curative agents.

Maj. W. J. Buchanan reported an experiment on a large scale. At six of the large jails of India the prophylactic issue of quinine had been tried for five years past. In some instances the results had been tested by control experiments. At the Mymensingh jail the result was "diminished fever"; at the Rajahmundri jail, one of the most malarial jails in India, quinine as a prophylactic was useful in the case of those who had not been previously exposed to malaria; those who contracted fever had it more mildly; the duration was shorter and the recurrences were fewer when the drug had been taken previously as a preventive. At the Rajshaye jail Lieutenant-Colonel French reported strongly in favor of quinine as a prophylactic during 1896 and 1897, but he changed his opinion in consequence of the experiences gained during 1898. At the Bankura jail the prophylactic issue of quinine had distinctly beneficial results; at the Huzaribagh jail, Major Maynard gave it as his opinion that cinchonidine given in six-grain doses daily was useful as a prophylactic, and as a beneficial agent should attacks of fever come on afterward. Major Buchanan's experience at the Bhagalpur jail proved negative, the quinine takers and those who had not taken the drug being equally affected. Major Buchanan had never seen hæmoglobinuria or other evil effects from taking quinine.

Dr. Fielding Ould, of West Africa, said that since Koch's statements about quinine the Europeans on the West Coast entertained, many of them, a dread of the drug. Quinine acted by staying the development of the malarial amœbæ: it might do so by binding the oxygen to the hæmoglobin more closely and thus depriving the parasite of the oxygen necessary for its growth. Quinine could be in no sense a preventive, it could deal with the parasite only when it existed in certain stages in the blood; it could not prevent the entrance of the parasite into the blood. He quoted an experiment of Bignami's in which blood rich in parasites but impregnated with quinine was incapable of reproducing malaria when injected into a healthy person. Of the methods of administration that by the mouth was perhaps preferable unless gastric catarrh was present, when it might be given by the rectum or hypodermically. The prophylactic use of quinine was in many instances harmful by upsetting digestion; and it was persons who suffered from gastric catarrh or hyperæmia of the liver who were wont to be most severely attacked by malaria; in them the pernicious forms of malaria, the bilious remittent and hæmoglobinuria, were apt to develop.

Dr. Patrick Manson said that the reputed prophylactic action of quinine was but a phase of its therapeutic action; it was the application of the drug to the parasite and not an immunizing of the body against the parasite that characterized the action of quinine. Just as some varieties of the parasite were highly amenable to the drug given therapeutically, similarly its prophylactic power would be greater against such. Dr. Manson recommended that future experiments in prophylaxis be made with the aid of the microscope, and in reference to the particular type of malarial parasite it was used against.

Lieutenant-Colonel Mursden stated that he had invariably given quinine, both as a prophylactic and as a therapeutic agent, for the last twenty years, and the results had nearly always been satisfactory. He described the only case in which he had seen quinine

cause hæmoglobinuria as that of a German missionary, who every time he took quinine declared that hæmoglobinuria supervened, and when the drug was administered by the speaker the urinary trouble developed.

Mr. D. C. Rees, of London, gave his experience of quinine as a prophylactic in Nigeria. He came to the conclusion that five grains administered daily, although it did not reduce markedly the number of attacks of fever, tended to lessen the severity and also the case mortality. He advocated introducing the needle of the hypodermic syringe into the muscles when administering quinine by this method; when introduced beneath the skin only, suppuration was apt to follow.

Dr. C. F. Harford-Battersby, of London, believed strongly in the prophylactic value of quinine. Although quinine might cause hæmoglobinuria, he did not believe it could cause hæmoglobinuric fever. He held that there were many minor ailments attributable to malaria, such as vomiting, neuralgia, etc., which quinine would relieve.

Major Wilson did not find in the Ashanti expedition of 1895-96, nor on the Sierra Leone coast, that quinine held much prophylactic value. He had used the hypodermic injection of quinine in many instances without causing local inflammation.

Dr. B. S. Ringer, of Canton, China, described a case of quinine blindness (occurring in malaria), which disappeared by treatment with ten-grain doses of potassium iodide.

Lt.-Col. B. C. Maitland asked for information concerning the use of methylene blue in malarial fever. During an outbreak of malaria he gave it in alternate cases with quinine and found methylene blue gave the better results. He found little danger in giving quinine in pregnancy, and he had administered it without inducing abortion at any and every stage of pregnancy.

Mr. James Cantlie, of London, related a case of fever in a child four months of age. The child was born in England, while the parents were at home on a holiday from China. The fever continued for six weeks, and it was only when the mother, who was nursing the child, and the child took quinine that the fever disappeared.

Dr. Henderson, of Shanghai, stated that the benign tertian was the usual malarial parasite met with in Shanghai practice, and that it readily yielded to quinine. He believed quinine to be a decidedly dangerous drug in pregnancy, and he had seen miscarriages traceable to its administration. With opium, or better still with chlorodyne, some of the danger of quinine to pregnant women might possibly be minimized.

Major Ronald Ross, of Liverpool, drew attention to the circumstance that in old cases of malaria there might be a secondary form of fever, due to enlargement of the liver and spleen, not directly due to the presence of parasites and not amenable to quinine. Major Ross advocated the exhibition of quinine for three months after infection, and believed the best form of administration was in solution by mouth.

Dr. Guthrie Rankin, of London, described a case of hæmoglobinuric fever developing in about fourteen months after settlement in Central Africa. The man returned to England, had a mild attack of hæmoglobinuria, and after four months went back to Africa. During his second term of residence there, extending over two and a half years, he took quinine daily in teaspoonful doses, and never had a return of malarial fever.

Lt.-Col. Oswald Baker, of London, believed the reason of quinine failing as a prophylactic was that it was not given in sufficient doses. He was of opinion that the prophylactic dose should be the same as the curative dose.

Col. H. Macleod, of Netley, pointed out the importance of using the microscope as a guide and check during the administration of quinine. It had been asserted that malarial parasites might exist in the blood without causing pyrexia, and it was necessary to ascertain the infection of the community before coming to a conclusion as regarded the prophylactic use of quinine. Colonel MacLeod referred to the distinction to be drawn between hæmoglobinuria and hæmoglobinuric fever. The former was caused by many drugs, but the latter seemed to be a specific disease.

Notes on the Etiology of Filariasis.—Lieutenant-Colonel Maitland referred to the observations made by Dr. G. C. Low concerning the presence of the filiarial parasite in the proboscis of the mosquito, and the probability of the infection of the human being by the bite of the mosquito. He regarded the evidence in favor of this theory as presumptive only and opposed to well-attested evidence. He drew attention to the extraordinary immunity of Europeans to filariasis in districts where the natives were extensively infected, and regarded the fact that Europeans boiled or filtered their drinking-water as an argument in favor of water being the medium of infection in filariasis. The speaker thought it quite possible that the young filaria might pass from the mosquito's proboscis into water instead of directly into the blood.

Metamorphosis of the Filaria Sanguinis Hominis in Mosquitos.—Capt. T. P. James read a paper in which he drew attention to the difference in time required for the metamorphosis of the filaria in mosquitos observed by Bancroft and Manson, and it would appear that the period of such metamorphosis was not yet determined definitely. In Bancroft's experiments and in those undertaken by Captain James, the female Culex was employed. The insects were bred from larvæ placed under the mosquito curtains of a filariated man's bed, and when caught they were transferred to bottles in which ripe bananas were hung. Against the water-borne theory of infection Captain James advanced the argument that the filaria died in two and a half hours in pure water; and therefore too short an existence was allowed to insure continuance of the species. The speaker favored the idea that the filaria was carried to the human being by the bite of either the Anopheles or Culex.

Dr. Manson wished to state that the discoveries of Dr. Low and Captain James were made independently of each other, and that both observers were entitled to have their names associated with the establishment of the fact that the filarial worm could find exit by way of the proboscis of the mosquito. He regarded the relative immunity of Europeans to filarial infection as due to the use of mosquito nets and their better sanitary surroundings compared with those of the poor natives. The process of richly infecting a human being by filaria probably involved a considerable time; the individual required possibly to be bitten many scores of times by filaria infected mosquitos before the embryos appeared in sufficient numbers to cause pathologically lesions of any clinical magnitude. He drew attention to the analogy between filariasis and malaria. In both diseases a parasite was removed from the human blood by the mosquito; they both developed in the mosquito's tissues, both probably quitted the mosquito via the proboscis, both were inoculated by the mosquito bite, both exhibited a remarkable periodicity in the human blood, and both gave rise to recurring fevers.

Mr. D. C. Rees said that although both Dr. Bancroft, of Australia, and Captain James seemed disinclined to believe that filaria nocturna cast its sheath in the mosquito's stomach, he thought there could be little doubt that it did do so. Several specimens in his possession showed that ecclysis has taken place, for the filaria and its sheath could be seen side by side.

Major Ross referred to the case of an Englishman living in the West Indies who suffered from elephantiasis which he ascribed to the bite of a mosquito.

Hot-Weather Diarrhœa in India.—Maj. W. T. Buchanan read a paper drawing attention to a very severe form of diarrhœa which was not cholera, but in many cases closely resembled it. After describing the sudden onset, the watery stools, the collapse, the cyanotic appearance of the patient, occasional suppression of urine, etc., he said he thought the disease bore the same relation to cholera in India as did summer diarrhœa to cholera nostras in England. He suggested the name "thermic diarrhœa" for the complaint. The disease, especially in old people, was occasionally fatal. The treatment consisted in boiled milk, brandy, and the tinctura chloroformi et morphinæ Co. B.P.; as the diarrhœa subsided, a dose of castor oil hastened recovery.

Colonel Macleod remarked that Major Buchanan's paper raised two questions: First, as to the distinction between cholera nostras and cholera Asiatica, and, second, what the organisms or toxins were which gave rise to cholera nostras. The form of diarrhœa mentioned was very common among children in India.

A Note on a Case of Blackwater Fever.—Dr. George Thin, of London, reported the case of a man who died of blackwater fever in Central Africa. Specimens were forwarded to Dr. Thin by Dr. Douglas Gray for examination. Dr. Thin's conclusions were that the patient died of acute malarial fever in which the hæmoglobinuria was a concomitant symptom. The presence, condition, and extent of the pigment in the liver and spleen showed the recent existence of the parasite in great numbers at some point of the blood circulation.

Dr. Manson remarked that, although he inclined to the belief that hæmoglobinuric fever was an expression of malarial fever, he did not think we were justified in jumping at such a conclusion merely because the malarial parasite was found in a hæmoglobinuric patient's blood. It would be strange were post-mortem evidence of malarial infection not found in persons dwelling in so highly malarious a country as British Central Africa, whatever the cause of death.

Mr. D. C. Rees stated that he had examined specimens from the same patient upon which Dr. Thin had reported, and he had come to an exactly opposite conclusion to that arrived at by Dr. Thin.

The Diseases of Goorkhas.—Dr. Andrew Duncan said that malarial fever of an intractable form seemed to prevail among the soldiers of the Goorkha regiments he had been quartered with. He found administration of quinine by the rectum was more efficacious than by the mouth. Phthisis seemed also to run a peculiar course, passing from mild symptoms to a severe and suddenly fatal form. Mumps, measles, and ophthalmia were prevalent. Enteric fever, contrary to popular belief, was not a common disease among Goorkhas; in fact, he had seen only one case. In reply to Mr. Cantlie, Dr. Duncan stated that he had never seen scarlet fever among Goorkhas.

Second Day—Thursday, August 2d.

Ankylostomiasis.—Major G. M. Giles opened the discussion on ankylostomiasis by communicating a paper in which he referred to: (1) the history of our knowledge of the disease; (2) his own researches into the life history of the free stage of ankylostomum, by which he established the fact that the rhabdites can live and multiply freely in fecal matter; in other words, that it was a case of heterogenesis or dimorphism. (3) He then dealt with Dr. Sonsino's criticisms as regards the accuracy of his observations. Dr. Sonsino held that the organisms described by Major Giles were rhabdites terricola or other free nematodes, and that the appearances were really the free form of rhabdomena intestinale. To these criticisms Major Giles gave a distinct negative as to their potency. (4) Major Giles next discussed the question of the harmful versus the harmless nature of the ankylostomum. He held that the parasite was responsible for a formidable mortality, and for a great amount of chronic sickness.

Capt. A. T. Fearnside continued the discussion. He told of a systematic research for the ova of the ankylostomum parasite among the convicts and new arrivals in the central prison at Rajahmundry in India. He found that of six hundred and seventy-eight new arrivals at the prison four hundred and sixty-two, or 68.1 per cent., harbored the parasite. In another group of observations, the speaker found seventy-two per cent. infested, yet they remained in good health. About thirty-five per cent. harbored the ankylostomum and ascaris lumbricoides simultaneously. At one hundred and five post-mortem examinations at the jail, 74.3 per cent. revealed the presence of the ankylostomum. He held that post-mortem evidence went to show that the effects of the ankylostoma were for the most part secondary and not primary, and that it was only when the ankylostoma attacked a person already weakened by malaria or other illnesses that ankylostomiasis developed.

Dr. Leonard Rogers read a paper on "The Classification and Differential Diagnosis of Ankylostomiasis with Special Reference to the Type of the Anæmia." The question of the relation of kala-azar to ankylostomiasis was discussed by Captain Rogers, and he agreed with Major Ross that kala-azar had a malarial rather than an ankylostomian basis. He regarded ankylostomiasis as a disease characterized by anæmia produced by long-continued small losses of blood through the gastro-intestinal mucous membrane caused by the presence of several hundreds of ankylostoma acting for many months, or by still larger numbers acting for a shorter time.

Lieut.-Col. Oswald Baker described the condition induced by the ankylostoma in severe form as being practically identical with that of a person bled to the verge of death. He established the fact that the ankylostomum was extremely prevalent throughout the province, and considered the prevalence of ankylostomiasis to be directly and indirectly responsible for a high mortality. He attributed the wide distribution of the disease to be due to the habits and customs of the Burmese, especially as regards their mode of eating their food.

Dr. Manson remarked on the fact that the rhabdomena intestinale was so seldom found by Major Giles in Assam, considering that it was so frequently associated elsewhere with the ankylostomum, and that the climatic and other physical conditions closely resembled those in Cochin-China where the parasite was extremely common. The speaker had twice encountered ankylostoma in the stools of Englishmen who had returned to this country from the West Indies. He disagreed with a remark made by Dr. Fearnside in regard to the inefficiency of thymol as an anthelmintic, and stated that thymol rarely failed, if given in adequate and rapidly repeated doses. He referred also to the virtues of betel-nut taken by the natives of Assam, Burmah, and Malaya as a prophylactic against ankylostomum. He believed that the parasite was generally acquired by way of the food.

Major Ross remarked that he had carefully followed Major Giles' investigations on the rhabditiform stage of the parasite, and considered his conclusions sound. He regarded the well-known fact that the disease was present among earth-workers as an argument in favor of Major Giles' statements. He scouted the idea that

the ankylostoma parasite was harmless, and entered a plea for the much more general use of the microscope for the detection of the ova in localities where the worm was prevalent.

Mr. Cantlie stated that, stimulated by the researches of Dr. Walker in Borneo concerning the association of the ankylostomum with beri-beri, he had carried out prolonged examinations in Hong Kong, but failed to find the parasite in cases of beri-beri.

Tropical Abscess of the Liver.—Col. Kenneth Macleod, of Netley, read a paper on "The Management of Lung Lesions Consequent on Liver Abscess." The frequency of liver abscess pointing in the direction of the thorax, and opening either into the pleural cavity or into the lung, was referred to. When such an event occurred a free opening into the pleural cavity must be made, with resection of a rib if necessary. He pointed out the futility of operating upon an abscess of the liver after expectoration of liver pus. In all such cases the condition ought to be approached by way of the chest, and the lung treated as the offending organ; for very soon after the pus had found evacuation by way of a bronchus, the liver abscess commenced to heal and was not infrequently healed altogether, the patient succumbing to the lung lesion. He advocated leaving the liver to take care of itself in such cases, and the treatment should be confined to the relief of the lung.

Mr. James Cantlie, of London, read a paper on "Subhepatic Abscess." By subhepatic abscess he meant a collection of pus between the capsule of the liver and the under surface of the liver substance. The abscess tended to point in the epigastrium, and was probably due to a lymphangitis, and was not associated with either dysentery or any other pronounced intestinal lesion. He had been able to verify the existence of subhepatic abscess in a case in which laparotomy was performed, and he had seen two or three cases in which the clinical evidence was pronounced.

Dr. W. Johnson Smith, of Greenwich, continued the discussion with a paper on "The Diagnosis and Surgical Treatment of Tropical Liver Abscess." In regard to surgical treatment, he said he preferred exploratory puncture to laparotomy as a means of diagnosis. He had met with almost invariable success by puncturing the liver, and had never seen any untoward effects from it. Laparotomy, under the most favorable circumstances, had certain inconveniences and after-troubles when employed as a means of diagnosis. When treating the abscess by trans-pleural incision there was great danger of opening the cavity of the pleura. When the diaphragm was so pressed upward as to bulge into the wound, the pleural layers might be so approximated that one did not gain entrance to the cavity, a most fortunate circumstance.

Staff Surgeon P. W. Bassett Smith, of Haslar, reported a case of abscess of the left lobe of the liver, with remarks particularly referring to its amœbic causation. The abscess in this instance occurred in a man in England who had not been abroad for two years. The hepatic abscess followed quickly after an attack of dysentery. Amœbæ coli were abundantly found in the pus, to the exclusion of pyogenic bacteria. Owing to the existence of the pus in the left lobe of the liver the abscess was not found by exploratory puncture until quite late in the illness. Post-mortem an abscess was found on the right lung, not directly communicating with the liver abscess cavity.

Dr. Manson referred to the heroic nature of the operation for liver abscess practised by most surgeons in England, and thought that by the trocar and cannula more satisfactory results were obtained. He did not regard the presence of the amœba coli in the sputum as an indication of pus in the liver, he had never met with it. He failed to understand the cause of the serious hemorrhage met with during hepatic puncture by Bombay surgeons.

Major Ross had seen a case of hepatic abscess in Liverpool in which leucocythæmia but no evidence of malaria was present.

Mr. Cantlie said he had followed Dr. Manson's plan of treating liver abscess by the trocar and cannula and the insertion of a large drainage tube into the cavity, with success. He stated that he had studied the dangers from hemorrhage during hepatic exploration, and had from a frozen section of the body come to the conclusion that in a chest of thirty-two inches circumference it was not safe to penetrate farther into the liver in a vertical direction from the surface than three and three-fourths inches.

Colonel Macleod agreed with Dr. Manson that the plan followed by most surgeons was too severe. He mentioned a case in which after laparotomy the surgeon failed to find pus in the liver, yet the abscess burst into the bowel within three days after the operation. The trans-thoracic incision, with the removal of a rib and stitching of parts together, was an unnecessary proceeding unless the pus was actually in the pleural cavity.

The Cyprus Sphalangi and its Connection with Anthrax was the subject of a paper communicated by Dr. George A. Williamson, of Cyprus. He said that the so-called sphalangi was an insect resembling an ant belonging to a genus of sting-bearing hymenoptera, called mutilla. The bite of this insect was considered in Cyprus to be the means of carrying anthrax to human beings from animals dead of the disease. After stinging the local symptoms were a circumscribed induration and widespread œdema with toxic general symptoms. The discharge from the puncture had been found to swarm with anthrax bacilli. The treatment consisted in destruction of the indurated tissue by the cautery and hypodermic injections around the part of a solution of mercuric chloride and potassium iodide.

Some Suggestions for the Improvement of Sanitary Medical Practice in the Tropics was the subject of a paper by Maj. Ronald Ross. He advocated (1) the formation of small up-to-date libraries in the large towns in our colonies; a better supply of microscopes; (2) the necessity for improved municipal sanitary regulations; (3) the desirability of securing organization in the matter of research; (4) the importance of establishing a central scientific authority.

Dr. Mullick, of London, said there was urgent necessity for the appointment of specially trained investigators to fill the chairs in the medical schools of India.

Colonel Macleod pointed out the difference between a teacher and an investigator; seldom was the power of imparting knowledge and investigation met with in the same individual, and the first thing required of the lecturers in our schools was that they should be good teachers.

Third Day—Friday, August 3d.

Yaws.—Mr. Jonathan Hutchinson opened the discussion on yaws. He showed a man, a European from the west coast of Africa, believed to have contracted yaws. He regarded yaws as the parent of syphilis, and adduced many arguments in favor of the contention. In Fiji, where yaws prevailed, there was no syphilis, and he argued that the presence of yaws prevented infection by syphilis. Mr. Hutchinson denied the statement that there was no primary sore in yaws. He believed that sailors and others becoming infected by yaws abroad came back to this country with the signs and symptoms of syphilis, the cause of

the slight differences in symptoms being probably accounted for by climate.

Dr. Davies, of Samoa, said that in Fiji children only were attacked by yaws, and he failed to see how the disease could be acquired by sailors. In Fiji and Samoa the natives considered yaws in children in the same light as we in Britain regarded measles—that it was almost a certainty to have the disease, and the sooner it was got over the better.

Dr. Manson considered Mr. Hutchinson's views on yaws open to question and thought it strange that inoculation by yaws did not protect one from syphilis, and vice versa, if, as Mr. Hutchinson suggested, the primary poisons were identical. Why yaws was not seen in England was to be explained in the same way as the absence of many other skin affections of tropical origin, viz., that a high constant temperature was necessary for its continuance and development.

Mr. C. Rees said that he saw syphilitic cases and cases of yaws side by side in West Africa; that in the Hinterland yaws was common but syphilis unknown, and that the natives of the West African coast regarded syphilis as a new disease.

Colonel Macleod stated that he thought the case shown by Mr. Hutchinson was a case of syphilis, and all present agreed with him.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 25, 1900:

	Cases.	Deaths.
Tuberculosis	189	115
Typhoid fever	51	14
Scarlet fever	51	3
Measles	37	5
Diphtheria	120	28
Laryngeal diphtheria (croup)	6	4
Cerebro-spinal meningitis	0	7
Chicken-pox	1	
Smallpox	0	1

Antivivisectors in Sheffield.—The Sheffield correspondent of the *British Medical Journal* says: "The antivivisectors after a lull are again on the war-path. The walls and hoardings of Sheffield are placarded with 'torture' pictures calculated to hold the medical profession up to opprobrium and possibly to arouse the sympathies of the ill-informed. The campaign is fairly launched against the holding of a license at the University College. An office has been started, and signatures are solicited for a petition for the withdrawal of the license. An active canvass is also being promoted with the same object in view."

Climate of Pekin.—A well-informed journal, referring to the configuration of the country and the weather generally experienced in the neighborhood of Pekin, says: "The most of the territory east and west of Pekin in which the earlier part of the Chinese campaign will have to be carried on is flat and low-lying, much of it subject to yearly devastation by the overflow of the rivers. In winter the cold is frequently very severe, more so than in New York, which has nearly the same latitude as Pekin, and it is probably in anticipation of a campaign during the coming cold season that the British government called for tenders for the supply of fur capes for a considerable number of troops. At present the heat in the flat country east of Pekin is great, and the season rainy, but in view of a prolonged resistance by the Chinese it seems desirable that the same preparations should be made for the comfort of our troops."

Contagiousness of Smallpox.—Smallpox is probably more contagious than any other disease. As reported in the British Local Government Reports for the periods 1884–85, it was found by Dr. Power (the now chief medical officer of the board) that the disease was liable to be communicated under favoring conditions at the distance of a quarter of a mile. He showed that if the district in which the Fulham Hospital was situated were divided into zones by means of circles drawn upon a map of the locality, with the hospital in the centre, with radii of a quarter of a mile, three-quarters of a mile, and one mile distant respectively, and an enumeration made of all the houses in each belt and also of all houses invaded by smallpox, the proportion of invaded houses diminished as the distance from the hospital increased, and this relation held good in each "quadrant" of each zone. Within the quarter-mile zone there was only one approach to the hospital, and this was in the northwest quadrant. The distribution of cases in the several quadrants was not such as to suggest any relation to lines of traffic or ambulance routes. He concluded that diffusion occurred only when acute cases were aggravated and perhaps only under certain atmospheric conditions.

State Sanatoria for Consumptives.—Dr. Edward Otis thinks that State sanatoria should be erected by State appropriation, and at least partially maintained from the same source. A portion of the expense could be collected in some cases from the patient through his friends, or by private charity, or defrayed by the city or town from which he comes. Of course, the entire maintenance could be provided for by a per-capita tax on the locality from which each patient comes, as suggested by the New York board of health, but in the opinion of Dr. Otis a certain yearly appropriation should be made by the State, if not directly for maintenance purposes at least for investigations in bacteriology, pathology, and treatment of tuberculosis, which would indirectly benefit not only the State but the public generally.

Arsenic in a Popular Purgative.—Some little time ago a rumor was made public in Great Britain which caused widespread alarm. The report ran that a large firm of manufacturing chemists had for several months been sending out a granular phosphate of soda which was afterward found to contain a dangerous amount of arsenic. The firm issued a circular to chemists stating "that the phosphate of soda lately supplied by them contains a dangerous percentage of an arsenical preparation." They further admit that this defect applies to all phosphate of soda supplied from November 15, 1899, until the end of April, 1900. The *Medical Press and Circular*, commenting upon the matter, says: "The prospect thus opened up of wholesale and unsuspected poisoning is simply appalling. Phosphate of soda, as most persons know, is a mild aperient extensively used among babies and children. The effect of arsenic would be to produce cramps, vomiting, purging, watery and choleraic stools—in short, symptoms like those of summer diarrhœa. It is almost certain that any death so caused, in the absence of any symptoms pointing to arsenical poisoning, would be referred by the medical attendant to the disease mentioned. It is therefore not improbable that during the past few months many deaths of children have been improperly ascribed to diarrhœa, whereas their true nature was acute arsenical poisoning."

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Original Articles.

DILATATION OF THE CERVIX BY MEANS OF A MODIFIED CHAMPETIER DE RIBES BALLOON.[1]

BY JAMES D. VOORHEES, A.M., M.D.,

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THE normal mechanism of dilatation of the cervix means the manner in which the os uteri enlarges, when the waters are abundant and the membranes intact. The initial stages are in reality to be referred to the fact that the lower uterine segment possesses less muscular strength than the upper part of the uterus, and to the character of the uterine contractions; this lower segment therefore tends to expand during contraction from the action of the general intra-uterine fluid-pressure. Besides this, the longitudinal fibres of the uterus open up the os, and lastly, by separation and descent of the membranes a fluid wedge bulges through the cervix and enables the intra-uterine fluid-pressure to take direct effect upon its margins. As this process continues the internal os becomes effaced, the cervix is shortened, and finally the external os is in direct contact with the membranes and stands the pulling of the longitudinal fibres. The membranes bulge more and more, the force is greater and greater with the convexity, and finally the cervix has totally disappeared.

When the waters partially escape from a high-up rupture of the membranes, the presenting part, *i.e.*, the head, descends against the cervix and acts as a ball-valve. In such cases the process is slow, unless the os has so far dilated as to admit nearly the greatest circumference of the head, when it dips through as a wedge, and then the dilatation is rapid.

When all the waters escape, then the head must dilate the os by contact, assisted by the uterine longitudinal fibres. Now all such dry labors are not long, protracted labors. If the pains are strong, the pelvis is normal, the occiput anterior, or the child small, but especially if the cervix is soft, such labors are often the shortest.

One of the greatest bugbears for the obstetrician is the care of a case in which such happy conditions do not exist. In some cases the membranes rupture, the waters drain away, and the pains do not start. The child is compressed, the cervix is tough, oxytocics are useless, and we wonder how things will terminate. In others the pains start, are strong, the membranes rupture or do not, but for many reasons the labor is long and drawn out. Such protraction we expect in cases of posterior positions, small pelves, large children, twins, breech presentation, hydramnion cases, and the like. What concerns us principally is delay from the cervix, whether from spasm, because it is tough, rigid, and immature, or in consequence of congenital and pathological changes. Nature takes care of some of these cases; with strong pains, the spasm is relaxed, or the cervix lacerates and labor terminates. In the others there is no progress. These cases, if not helped in some way, soon show bad symptoms. The women are tired out and the bodily vigor is gone. The pulse runs up as well as the temperature. The tongue is dry, the teeth are covered by sordes; the vagina is dry; the uterus is not contracting or is approaching a tonic spasm. These conditions must be prevented. For such a state of the cervix many measures have been recommended—for weak pains, oxytocics; for spasm of the cervix, locally hot douches, cocaine and belladonna, also opium and chloral. Cases are reported to have been benefited by all of these measures. Undoubtedly chloral by the rectum is the best remedy. It gives sleep and rest, and restores the nervous tone. It does not diminish the force or frequency of the uterine contractions, and relaxes any spasm of the cervix. Often labor terminates quickly after its use.

For true rigidity the above treatment fails and something mechanical is necessary. Tents have been recommended and used. They are now obsolete. Their action is slow, painful, and uncertain. The danger of infection is very great.

Manual dilatation of the cervix has a wide field and is the only method used by many men. We always have our hands with us, which is a very important fact. The method is painful and demands anæsthesia. In cases of emergency, severe hemorrhage, placenta prævia, eclampsia, prolapse of the cord, etc., other procedures are too slow. Dilatation is readily accomplished in cases of soft cervix before a resort to forceps or version. Yet nature acts differently ordinarily. When the hand is used the cervix most often yields only by tearing.

Incision of the cervix is rarely necessary. It is demanded only in cases of cicatricial and organic changes in the cervix, and when, in dilating, a tear has started on one side of the os. Dührssen's incisions made at other points make smaller rents—not a deep one which will endanger the lower uterine zone.

The natural dilator of the cervix is a fluid wedge. If we can imitate it we respect all the physiological requirements, we help nature after her own dictates, and exactly to the measure of her needs. We use no violence, and such a measure ought to be very effective.

Dr. Robert Barnes thought by his fiddle-shaped rubber bags to have solved the difficulty. They have been in use since 1860. They are certainly of advantage in many cases, but their field of usefulness is limited. They expand the cervix in some cases; gripped in the os, they exert an eccentric force which might wear out a muscular resistance. They often start pains and accelerate labor, acting as an intra-uterine irritant, a foreign body. They will induce labor, but not surely. They will soften a cervix, preliminary to a resort to the forceps or version, but not regularly. They might stop a hemorrhage in placenta prævia, but not certainly. They are not used extensively, therefore, and why? (1) It is difficult to introduce them into a cervix admitting less than two fingers; there is so much bulk. (2) Their shape is incorrect. It is of a sort one often sees in a breech or shoulder presentation—an hourglass constriction—

[1] Awarded the Stevens Triennial Prize by Columbia University, June 13, 1900.

which does not dilate the cervix. They slip either into the uterus or vagina without accomplishing anything. (3) The material is wrong. Nature's bag is inelastic. They are very distensible. In filling them one cannot regulate the pressure. The dilatation may be too forcible, consequently they burst. They soon

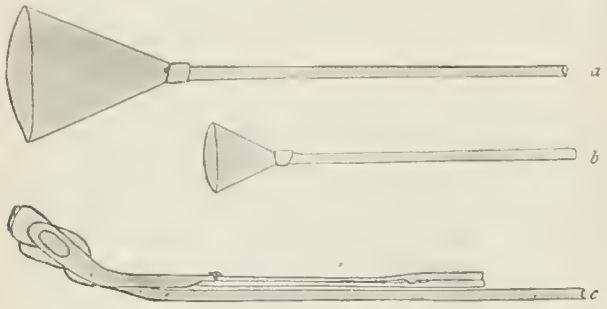

FIG. 1.—*a*, Largest bag; *b*, smallest bag; one-quarter actual size; *c*, bag rolled up in the introducing-forceps.

crack and rot, and therefore are often useless in an emergency. (4) They are not reliable in induction of labor. (5) They are too slow a dilator in eclampsia. (6) In placenta prævia they do not surely stop the hemorrhage.

Champetier de Ribes in his early experience used a rubber bag of Tarnier, a small ampulla attached to a tube. He found that this rubber bag did well as a cervical dilator in some cases, but not in all. He therefore determined to make a better one. It was to be longer, conical, impermeable, and inexpansible beyond a certain volume. It was to be strong to resist uterine and abdominal contraction, and long enough to fill the cervix. He devised a long conical balloon with a slight constriction forming a neck. To it was attached a tube in which was a stop-cock. To be inexpansible it was made of fine silk, and to be impermeable it was covered with thin rubber.

Champetier's balloon has been quite extensively used in Europe, but not very much, so far as I can learn, in this country. Pinard has used it in forty cases to induce labor, with most rapid results. In twenty-three, labor was completed in six to twelve hours; in seven, in seventeen to twenty-four hours; and in ten, in twenty-four to forty-eight hours. Herman and Spencer have also used it successfully to induce labor. G. F. Blacker[1] reports twenty-two cases in which the balloon has been used in placenta prævia with good results. Of these one mother died, and she of sepsis, which had been manifest at the beginning of the labor; of the children fourteen were alive; of the still-births, six were premature. In all

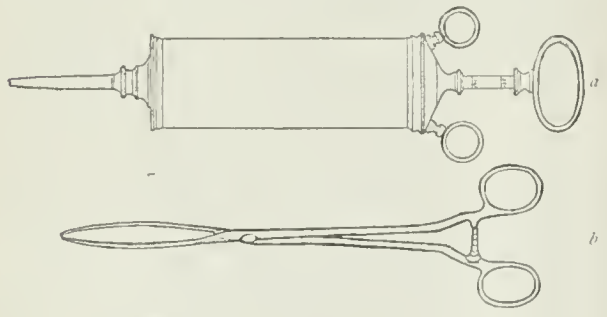

FIG. 2.—*a*, Syringe; *b*, forceps; one-quarter actual size.

cases hemorrhage was controlled by traction on the balloon.

All of the above men used Champetier's large balloon. Lately he has made them of six different sizes, ranging from a cone whose base is 3 cm. in diameter to one whose base is 8 cm. in diameter. These are more generally convenient and easier of introduction when the os is small.

In the fall of 1897 Dr. James W. McLane, the attending physician to the Sloane Maternity Hospital, began to use Champetier's balloons. At once we found that they were not so strong and durable as they were supposed to be. They would hold only so much fluid and no more. If the tension was too great, they would burst in the seams. They would stand but little traction on the tube. So having only one set, my supply soon gave out.

The balloons were expensive—$1.50 singly and $9 the set. As Colin's in Paris was the only place where they could be bought, it took a long time to get them. To make them more available and to remedy their faults, I suggested to a rubber manufacturing company of New York to make one for trial. It was to be made of thin canvas and covered by a thicker rubber. This was done and a sample sent. It proved very satisfactory. This original one is now intact after a number of trials and two years of service. A set of four was then made. Not one of them has burst. They are inexpensive—only $1 a set.

Description of the Balloon and Forceps.—(1) The balloon is conical in shape. For best results it must be impervious and inexpansible. It must be strong enough to resist uterine and abdominal contraction, also to stand traction on the tube. It is therefore made of thin canvas, firmly sewed, and covered by a rather thick rubber, carefully cemented. Everything must be of such material as can be readily boiled and then kept for a short time in some antiseptic solution; also a material which will stand the action of the liquor amnii and vaginal mucus.

There are four sizes: No. 1, diameter of base of cone, 3 cm.; capacity, 10 c.c. No. 2, diameter of base of cone, 5 cm.; capacity, 50 c.c. No. 3, diameter of base of cone, 6 cm.; capacity, 100 c.c. No. 4, diameter of base of cone, 8 cm.; capacity, 200 c.c. No. 1 dilates, therefore, to two fingers plus; No. 2 to three fingers; No. 3 to four fingers; No. 4 to four fingers plus—almost five fingers. The size used at first depends on the size of the os. The balloons are best kept in talcum or lycopodium.

(2) The Forceps (see Fig. 1, *c*; Fig. 2, *b*): This instrument is not absolutely necessary. Any dressing-forceps or sponge-holder will do, or one can use the fingers alone. The most convenient one is a forceps with a clamp. It should have a slight pelvic curve; the blades should diverge and meet again at the tips. The blades should be smooth—no serrations—so as not to bring out the bag on removal of the forceps. A small fenestra in the blades holds the bag firmly in its grasp. The length is 25 cm.

The Operation.—(1) The instruments necessary are: set of balloons, introducing-forceps, tape, scissors, and syringe.

(2) Solutions: Some antiseptic solution in case the bag ruptures, *e.g.*, lysol (one-half per cent.), carbolic acid two per cent., bichloride of mercury 1:5,000.

(3) Assistants: One to inject, the operator holding the bag in position; another to give chloroform. An anæsthetic is not necessary but makes the introduction easier. If the woman is brought down to the edge of the bed two assistants are necessary for the extremities. Yet you can get along with only one.

(4) Preparation of the instrument, patient, and operator: (*a*) The balloon, forceps, scissors, tape, and syringe are boiled for five minutes and then kept in carbolic-acid solution five per cent., or in lysol solution one-half per cent. (*b*) The patient is prepared as for induction of labor or for delivery. She is given a cleansing bath and an enema. The vulva, groin, and thighs are scrubbed carefully with green soap, and

[1] Transactions of the Obstetrical Society, London, 1898, vol. xxxix.

then irrigated, first with alcohol and after with bichloride solution 1:5,000. A sterile pad is put on the vulva and kept there until time of introduction. The woman has on sterile leggings. She is brought to the edge of the bed or table. Under her buttocks is a perineal or Kelly pad, covered by a sterile towel, and a sterile towel is placed over her abdomen. Assistants may hold the extremities. She voids her urine or is catheterized. The vagina is thoroughly irrigated and cleansed by a lysol one-half-per-cent. douche. Some cases need an anæsthetic. If a preliminary dilatation by means of a divulsor is necessary, if the cervix is high up, if the patient is nervous or is a primipara with a small vulvar orifice, light chloroform narcosis can be induced.

(5) The operator: His hands and forearms are thoroughly sterilized. He has on a sterile gown.

Method of introduction: If the cervix is undilated, a Goodell dilator or the finger must be forced through as a preliminary measure. Then, if the membranes are unruptured, they are to be separated as much as possible about the os. Remove all the air from the syringe and fill it with the antiseptic fluid. Fill the bag first to see that it is intact. The balloon to be used depends upon the size of the os. Remove all air and solution from the bag. Tuck in its base, roll it up, and clamp it tightly in the forceps (see Fig. 1, *c*). Then dip it in lysol. Two fingers of the left hand are now carried into the vagina as far as the os. On them the bag in the forceps is guided into the opening. With the base well inside the forceps is unclamped and removed. The bag is then held in place by the fingers while an assistant, or the operator with the other hand, slowly and gradually fills it with fluid. The amount necessary is determined by the resistance or by feeling the tension of the bag. The tube is securely tied by the tape and then put into the vagina. A sterile pad is now put over the vulva. The bag cannot get out until the cervix has dilated to admit its base. If the pains are weak and infrequent or the dilatation is slow, from time to time traction can be made on the tube until the balloon comes through. Then if things are not progressing, if the cervix is unsoftened and the pains are weak, a larger balloon can be inserted. No balloon should be left in longer than eighteen to twenty-four hours, as the danger of infection is great. When a bag comes out an examination should be made to see that the cord has not come down.

Results.—I publish all cases in which the balloons have been employed. These, seventy-two in number, are not selected. They are those in which the indication was certain, and, in almost all, other methods had been tried and failed. All were not successful, but certain advantages were obtained and the field of usefulness of the bags was more definitely determined. The cases are taken from 2,113 during the past two years to September 1, 1899, in the writer's experience at the Sloane Maternity Hospital. I did not insert all the balloons myself. Some were introduced by my assistants, who have kept exact records.

1. Dry Labors: (*a*) Vertex cases; no pains. During this time there were three hundred and fifty dry labors, but the bags have been used in only twenty-seven. There were eleven primiparæ and sixteen multiparæ; three had justo-minor pelves; one a flat pelvis with an internal conjugate diameter of 8.25 cm.; the other pelves were normal. In four the position was posterior; the head was engaged in six; in twenty-one it was above the brim. In nineteen oxytocics, quinine and strychnine, had been given without starting the pains. The time from rupture of the membranes until the introduction of the bag varied from three to forty-eight hours; the average time, eighteen hours one minute. In nineteen cases the cervix was tough. In one case three bags were used; in three, two bags were used; in twenty-three, only one.

Pains started earliest—immediately; latest, after sixteen hours thirty minutes; average, one hour one minute. The bag was in the cervix—longest, thirteen hours fifty-five minutes; shortest, one hour five minutes; average, four hours fifty-three minutes. In twenty-two cases pains were strong, and in five they were weak. The cervix admitted three fingers when the bag came out, seven times; four fingers, fourteen times; five fingers twice; it was fully dilated four times.

After the balloon came out, the cervix was found to be soft in twenty-five cases. The longest time till complete dilatation after the introduction of the bag was fifteen hours thirty-eight minutes: shortest, one hour forty minutes; there were only five cases over ten hours; average, five hours forty minutes.

The child was in bad condition three times when the bag was put in; six children were asphyxiated at birth, three slightly, two moderately, one deeply. One child was still-born; the cord had prolapsed, and through carelessness it was detected too late. There was no sepsis. Four patients had temperatures from 100° to 100.8° F.

All births were spontaneous but three; one was a case of high-forceps operation in the flat pelvis; one of a medium forceps; and the other of a low forceps. The last was done to deliver quickly in the case in which the cord prolapsed.

(*b*) Breech cases: During the two years there were one hundred and two breech cases, and the bag was used in only six. Two were primiparæ and four multiparæ. One had a flat pelvis with previous difficult births. Two were over time and had large children. In two, pains had started but were weak. In one the membranes had ruptured thirty hours before the bag was put in. In two, pains started immediately, and in two after thirty and forty-five minutes respectively. In one the umbilical souffle was present; and in four the fœtal heart was slow and irregular. Bags were in the cervix from five minutes to two hours forty minutes. Shortest time from introduction of the bag until complete dilatation, one hour twenty minutes; longest, six hours thirty minutes. Four children were delivered spontaneously, two by extraction; four children were born asphyxiated, three moderately. There were no cases of high temperature in the puerperium. The cervix was only slightly torn in all cases.

2. Protracted Labors: In the two years at the hospital there were fifty-six protracted labors. The balloon was used in twenty-two. Ten were primiparæ and twelve were multiparæ. There were ten posterior positions. In only three cases was the head engaged at the beginning of labor. Two patients had flat pelves, and two justo-minor. In fifteen the pains were weak. In all oxytocics had been used; in twelve, chloral. In three there was some manual dilatation. In all, the membranes had been ruptured before the bags were introduced. The shortest time of pains before the bags were used was eight hours; longest, forty-eight hours; average, twenty-three hours thirty-nine minutes. The cervix admitted one finger plus in two cases; two fingers in nine; and three fingers in eleven, at time of introduction. The cervix was tough in all but one; in one it was cicatricial, and in another cartilaginous. One bag was used in fifteen cases; two bags in seven cases. The shortest time of bags in the cervix was one minute; longest time seven hours thirty minutes; average, two hours fifty-five minutes. Dilatation when the bags came out—cervix admitted three fingers, three times; four fingers, eleven times; five fingers, eleven times. Shortest time from introduction of the balloon till complete dilatation was thirty minutes; longest, twenty-

three hours thirty-five minutes; average, six hours thirty-six minutes; one never fully dilated (cartilaginous).

The condition of the child when the bag was introduced was good in fourteen cases. There was an umbilical souffle in one; in three the fœtal heart was slow and irregular; in one the child was passing meconium.

Twelve cases terminated spontaneously; two by high forceps (one after replacement of the cord and the other after a symphyseotomy); four by a medium forceps; two by a low forceps; one by a version and craniotomy.

Only one child was still-born. This one had its after-coming head perforated, as a cartilaginous cervix held it, and the child died. Ten children were not at all asphyxiated at birth, four slightly so, four moderately, four deeply; but in all cases they recovered and survived.

Five women had fever; one had a temperature of 100° F. on the third day, due to the breasts; one 101° F., reactionary after symphyseotomy; one 101° F., reactionary after a severe hemorrhage; another 101–103° F. for seven days, due to a cystitis and ureteritis; and one died of a virulent sepsis on the sixth day. She was anæmic, underfed, and had attempted abortion. She had a long, dry labor, with many examinations. Her placenta was retained and she had an extensive tear. Autopsy showed a suppurative metritis, chronic nephritis, and miliary tuberculosis.

3. Induction of Labor: In the 2,113 cases, labor was induced fifty-five times, a bougie being the method usually adopted. During this time there had been twenty-six cases of eclampsia—accouchement forcé being the usual method of treatment. In inducing labor, the bag was used alone in eight cases, in one after rupturing the membranes, and in seven after the bougie had practically failed. Seven patients were primiparæ and nine multiparæ.

The indication for five was a contracted pelvis; three were cases of eclampsia; two had albuminuria; two were cases of chronic endocarditis; one had a large ovarian cyst, one severe asthma and emphysema, one accidental hemorrhage, and one was a woman who had the history of two previous still-births. Four were occipito-posterior positions, two breech presentations, one twins. The membranes had ruptured in seven—the shortest time twenty minutes, and the longest fourteen hours fifty-seven minutes. All the children were premature, seven and three-fourths to eight and three-fourths months. Pains had started slightly in two; no pains in fourteen; in seven a bougie had been in the uterus from five hours nineteen minutes to twenty-seven hours. All the cervices were tough, five immature and long. The cervix was closed in one, admitted one finger in ten cases, two fingers in five cases. One bag was used in four cases, two in ten cases, three in four cases. The shortest time a bag was in the cervix was one hour fifteen minutes; longest, thirteen hours thirty-five minutes; average, ten hours fifteen minutes. Pains started—shortest time, immediately; longest time, three hours thirty minutes; average, two hours twenty-seven minutes. There were no pains in one case, terminated by accouchement forcé in a bad case of eclampsia. The time from introduction till complete dilatation was, shortest, two hours one minute; longest, twenty-nine hours thirty-one minutes; average, fourteen hours two minutes.

Nine patients were delivered spontaneously; two breech cases by extraction; one by version; two by forceps; one by basiotripsy, as the forceps failed and the child died; and one by a perforation of the after-coming head after the child had died. Nine children were not asphyxiated at birth, two were moderately so, and three deeply. Three were still-born—two were perforated in cases of eclampsia as above, and the third was the second child of twins.

Four women had fever. One had 102° F. on fourth day, the cause of which is unknown. The other three died; two were cases of eclampsia, and the third a case of acute yellow atrophy of the liver.

4. Placenta Prævia: In the two years there were fourteen cases of placenta prævia, but the balloons were used in only three. All were of multiparæ. One patient had had three hemorrhages before admission; she was very anæmic, pulse slow but small. Another had been bleeding continuously for four days; she was anæmic, but pulse was good. The third had had three hemorrhages, but her condition was good. The first was almost at term; the second, seven and one-half months along; the third, seven and one-fourth months. The presentations were L.O.P., L.D.A., and R.O., respectively. No pains had started. The cervix was firm in one, tough in the other two. The cervix admitted one finger in all; the membranes were intact. Pains started almost immediately in the first, in twelve minutes in the second, and in seven minutes in the third—after the introduction of the bags. Nos. 2, 3, and 4 were used in the first case; they were in the cervix thirty-one minutes. The patient lost twenty ounces of blood between the introductions. In the second, Nos. 2 and 3 were used. They were in the cervix three hours forty minutes. Two ounces of blood were lost between the introductions. In the third, Nos. 2 and 4 were used. They were in the cervix three hours seventeen minutes. Two ounces of blood were lost between introductions. There was no hemorrhage while the balloons were in. Tractions on the tube were used in all. All the patients were finally delivered by version and extraction. All had pulses below 100 after delivery. The children of the second and third were deeply asphyxiated. The first came around all right, but the other was very premature, weighing three pounds thirteen ounces, and lived only seven hours. The child of the other was still-born. The cervix gripped the neck and delayed the delivery enough to kill it.

The first patient had a fever of 101° F. on the fourth day—a mild absorption; the second, 101° F. on the first day—reactionary; the third, no elevation of temperature.

Action of the Balloon.—With the membranes intact, the distention of the balloon shoves them up and separates them below near the internal os. The cone shape keeps the bag in the uterus. The apex fills the cervix. It cannot get out. With the membranes ruptured, the balloon plugs the cervix, taking the place of the natural bag. The rest of the liquor amnii cannot escape; it therefore protects the child, and so is especially advantageous in breech cases. The bag is a foreign body in the uterus, therefore an irritant to uterine contractions. It pushes up the head or presenting part, increasing the intra-uterine pressure. In this way it stimulates the uterus to contract. The weight of the child drives the balloon down into the cervix, causing an eccentric pressure and so dilating the cervix. Again, there is nothing like a body in the cervix to start labor pains reflexly.

If no contractions begin, traction on the tube may start them and at the same time dilate the cervix. If the uterus contracts, the cone is driven down and opens the os. If the cervix is in spasm, the constant pressure of the bag will tire the muscle and it will relax. While in the uterus, it also causes a physiological softening. If the cervix is long, the internal os is first acted upon.

In some cases the pains start immediately, ordinarily in three or four hours. They may be weak and infrequent at first, and later strong; or they may be strong and frequent from the beginning. Often when

successive balloons are used, in the interim the pains cease, but start up again as soon as the next size of the balloon is introduced. Whether the pains start soon or late, or are strong or weak, generally depends on the time of pregnancy, the condition of the os, or the duration of labor. With the contractions of the uterus and dilatation of the cervix, the bag descends and passes through the os into the vagina. Sometimes the bag remains there. It will do so unless the vagina expels it, or the head, in its advance, drives it out of the vulva. After balloon No. 4 comes through the cervix, unless the brim resists, the head dips into it and completes the dilatation. The labors then generally terminate spontaneously. In this way the cervix is gradually opened without violence, and no deep lacerations, which later bother the patient, result. Quite different is a cervix after a manual dilatation.

In dry labors, the balloons surely start pains when oxytocics fail. They dilate the cervix rapidly and diminish fœtal mortality. This is very remarkable in breech cases. In them you do not have to pull down a foot so early, and thereby save the child from prolonged pressure. The bag also prepares the cervix for the after-coming head.

In protracted labors the birth is hastened, saving the mother untold suffering. The balloons dilate the cervix when other measures fail, and many labors terminate spontaneously which otherwise would require manual dilatation, with laceration of the cervix, and instrumental aid. However, if forceps or version is necessary, the cervix is softer and the os is wider and so in better shape for these operations.

The balloons certainly start labor, even when a bougie has failed. They are especially advantageous in those cases in which the membranes have ruptured early.

In cases of contracted pelvis, ordinarily the dilatation is slow. The bag makes it more rapid, allows the head to engage, and sooner prepares the case for major operations if they are necessary.

In albuminuria and eclampsia, the uterus is not very irritable, so that dilatation is slow. Often no pains start at all, and the only advance we can get is by traction on the tube.

In placenta prævia the balloons can be used with the membranes intact or ruptured. If they are intact, they perhaps separate the placenta a little more, but as few attachments are directly central, this makes little difference. The bag is an excellent tampon and will stop all active bleeding. It presses directly against the bleeding sinuses. Again, if the membranes are intact, a subsequent version is more easily accomplished. With the membranes ruptured, the bag is in the amniotic cavity and presses the separated portion of the placenta against the uterine wall. If the bag itself does not stop the hemorrhage a little traction on the tube will always do it. By starting uterine contractions, by softening and dilating the cervix, the bag accomplishes much in placenta prævia.

Also by not being required to use the child's foot to do this we diminish fœtal mortality; besides, the bag is a much better plug for the cervix than the half-breech. Then, with the cervix so prepared, the ease of delivery after the expulsion of the largest bag is remarkable—quite different from a delivery through a tough cervix after a Braxton-Hicks version.

Advantages of the Modified Champetier de Ribes Balloons over Others, i.e., Barnes' Bags.—(1) They are easier to introduce, less bulky. (2) The shape is more like that of nature's bag. (3) They are inexpansible and cannot burst. (4) They cannot get out through the cervix without dilating it. (5) They are more reliable in starting labor pains. (6) They keep in the liquor amnii. (7) They do not rot. (8) They surely stop hemorrhage in placenta prævia. (9) One can pull on the tube. (10) They are less apt to displace the presenting part.

Objections to the Balloons.—(1) They may rupture the membranes. This happens rarely, and it makes little difference if they do. The fœtus suffers some, but little, as the waters cannot all drain away. If the fluid does escape, the dilatation is rapid enough to do little harm.

(2) They may separate the placenta—only in placenta prævia. But the bag either arrests the hemorrhage on being filled or when traction is made on the tube.

(3) They may increase the tension in the interior of the uterus. It is not great and no harm is ever done. It is not painful to the patient and never ruptures or weakens the uterus.

(4) They may displace the presenting part. This is possible, but by slow distention of the bag and by watching the presenting part during the distention, we can keep it in place. This accident occurred only once in the seventy-two cases. It was in a contracted pelvis, and perhaps would have occurred spontaneously. If it does occur, it can be easily rectified, for the conditions are very favorable for a version.

(5) The cord may prolapse. For this accident to occur, the cord must be long or about the neck. It happened twice in my cases. In one it was immediately replaced, forceps applied, and a living child delivered. In the other, the condition was not discovered until too late—the caput was in sight with the cord. The bag had been out three hours. Although the forceps was applied and the child quickly delivered, it was still-born.

Rule: Always examine when the balloon comes through the cervix.

(6) Sepsis. Balloons can be boiled. If the aseptic technique is correct there should be no infection. In my cases ten patients had high temperatures; one had a mild sapræmia; one died of a virulent sepsis. She was probably infected before treatment. She had many other causes than the bag for infection.

Indications.—(1) To start pains, when the membranes have been long ruptured, especially in breech cases; (2) in dry labors when the child is in bad condition—there is an umbilical souffle, or it is passing meconium, or the heart is slow or irregular; (3) in prolonged and protracted labors, oxytocics and chloral failing; (4) in rigid cervices of all kinds; (5) in hydramnion, when it is necessary to rupture the membranes; (6) in cases of twins, when it is necessary to rupture the membranes; (7) in shoulder presentations, when a Braxton-Hicks version cannot be easily done; (8) to induce labor: (*a*) In cases in which a bougie fails or when the membranes are ruptured in its introduction; (*b*) in albuminuria; (*c*) in contracted pelves—to let the head down against the brim to engage; or preparatory to forceps or version; (*d*) in case of a dead fœtus; (*e*) in chronic endocarditis; (9) in placenta prævia, especially those cases in which the cervix is tough, or in which the placenta is over the os and one cannot turn easily, preparatory to version.

Conclusions.—1. Dilatation of the cervix is readily accomplished by a hydrostatic bag.

2. The best balloon for it is the modified Champetier de Ribes—it being inexpansible, impermeable, strong, and inexpensive.

3. The Barnes bag is unsatisfactory.

4. The operation is easy and not dangerous.

5. The dilatation is rapid.

6. The uterine contractions always start after its introduction into the uterus.

7. Labor is hastened, and almost always terminates spontaneously after expulsion of the balloon, or the easy extraction of the child is possible.

8. The balloons control hemorrhage in placenta prævia, and diminish fœtal mortality.

9. The balloons meet all the indications before mentioned.

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126 WEST FIFTY-EIGHTH STREET.

OBSERVATIONS ON THE GASTRIC FUNCTIONS BEFORE AND AFTER GASTRO-ENTEROSTOMY.*

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THE cases presented in this paper are representative of certain benign chronic diseases of the stomach for the relief of which the operation of gastro-enterostomy has frequently been resorted to in the past few years. The results obtained by this operation in such cases have formed the basis for much discussion and many statistics.

The following cases are few in number, but they have the advantage of having been carefully studied for periods of months and years previous to operation and for the same length of time afterward. It has been possible to note the very gradual changes which took place in the motor and secretory functions of the stomach before operation, and to observe the effect of operation upon these functions. The apparent tediousness attendant upon the presentation of so many analyses is counterbalanced by the necessity of their presence in order to explain the causes which led to operation and the results obtained by the same. All the ordinary symptomatology has been eliminated in these cases, for as clinical types they are well known. These observations are directed entirely to the functions of the stomach and its size and position before and after operation. The surgical side of these cases has already been presented by Dr. Robert F. Weir,[1] by whom all the operations were performed.

CASE I.—Benign pyloric stenosis with dilatation, peripyloritis, posterior gastro-enterostomy. A. P——, cigarmaker, aged forty-one years, came under observation in December, 1895. His principal symptom at that time was pain of such an intense, spasmodic, and remittent character as to simulate hepatic colic at times. At other times it resembled a crise gastrique. It occurred independently of all food taken, and seemed to be more or less dependent upon those movements which brought into play the abdominal muscles. The patient suffered from no gastric symptoms and had been perfectly well previously. He was well nourished, gave no specific history, no objective or subjective symptoms of gall stones, but had suffered from an attack of peritonitis some years before. He had been troubled with constipation for one year. Several analyses of gastric contents and physical examinations were made with the following results:

December, 1895: Trial breakfast; one hour's digestion. The gastric contents were normal in appearance and character; free hydrochloric acid, 0.7–1.0 per 1,000; total acidity, 40–60; organic acid, traces; albumen and starch digestion, normal. Repeated examinations on an empty stomach revealed the size, location, and motility of the organ as normal. The greater curvature did not reach the umbilicus.

The patient was kept under observation for a time, but finally disappeared until October, 1897. He had been treated for hepatic colic in the mean time without benefit. His pain had increased in intensity and frequency, and in addition he was suffering from most pronounced dyspeptic symptoms. The following results were obtained by repeated examination:

October, 1897: Trial breakfast; one hour's digestion. The gastric contents large in quantity, fermenting and rancid; free hydrochloric acid, 1.5 per 1,000; total acidity, 120–140; organic acids in quantity; peptic ferments normal; yeast and sarcinæ in abundance. Physical examinations by lavage many hours after meals always revealed large quantities of fermenting food residue, and the greater curvature was located two inches below the umbilicus.

This condition of pyloric stenosis, hyperacidity, and dilatation existed practically at the time of operation, March 26, 1898. The patient made a good recovery and has been free from pain ever since. He has had no treatment beyond dietetic precautions. On February 27, 1900, I began the following series of examinations:

February 27, 1900: Trial breakfast; one hour's digestion. Gastric contents normal in appearance and consistency, but containing considerable bile; free hydrochloric acid, 2 per 1,000; total acidity, 86; organic acids in small quantities; albumen digestion, 81 per cent.; starch digestion delayed; no yeast or sarcinæ.

February 28th: Riegel meal; two and one-half hours' digestion. Gastric contents normal in consistency, green color; free hydrochloric acid 0.5 per 1,000, combined hydrochloric acid 1.6 per 1,000, total hydrochloric acid 2.1 per 1,000; total acidity, 92; organic acids, 32; albumen digestion, 79 per cent.; starch digestion normal; no yeast, etc.

March 5th: Trial breakfast; one hour. Gastric contents of normal character but green; free hydrochloric acid, 1.8 per 1,000; total acidity, 84.

* Read before the American Surgical Association, May 2, 1900, at Washington, D. C.

March 6th: Riegel meal; three and one-half hours' digestion. Gastric contents green and well digested; free hydrochloric acid, 1.4 per 1,000; total acidity, 92, organic acids, traces; albumen digestion normal.

March 9th: Physical examination. Leube's meal; seven hours. The stomach contains no food residue, but 50 c.c. of a green, acid fluid; free hydrochloric acid, 1.3 per 1,000; total acidity, 96. The greater curvature was located at the umbilicus.

From the results obtained by these analyses it appears that the hyperacidity existing at the time of operation has not disappeared at the end of two years. The free hydrochloric acid after trial breakfasts ranges from 1.8 to 2 per 1,000, with a fairly constant total acidity (86–96). The free hydrochloric acid for Riegel meals is somewhat lower (0.5–1.4 per 1,000), whereas the total acidity remains stationary (96). Bile is constantly present. The motor functions have become normal, and the dilatation has been reduced.

Case II.—Benign pyloric stenosis, hypertrophic; gastro-enterostomy and entero-anastomosis by Gallet's method. In this patient, I. W——, tailor, aged thirty-five years, all the symptoms of pyloric stenosis were present from the beginning. Very active symptoms had been noticed for nine months, but a weak stomach had existed for years. There was no indication in the history of a tumor. The following examinations were made:

November 7, 1898: Trial breakfast; one hour. Gastric contents extremely rancid; free hydrochloric acid, 0.8 per 1,000; total acidity, 79; organic acids, fair; yeast and sarcinæ abundant.

November 9th: Trial breakfast; one hour. Same general character as before; free hydrochloric acid, 1.2 per 1,000; total acidity, 90; organic acids, marked.

November 14th: Trial breakfast, one hour. Same as before. Free hydrochloric acid, 1.7 per 1,000; total acidity, 100; organic acids in quantity; albumen and starch digestion normal; yeast and sarcinæ in abundance.

December 9th: Trial breakfast. Free hydrochloric acid, 1.8 per 1,000; total acidity, 140; marked fermentation and organic acids in abundance.

November 9th and 18th: Physical examinations reveal a constant large food residue many hours after meals. The greater curvature was located two and one-half to three inches below the umbilicus.

Further examinations made at the time of operation, December 15, 1898, showed the free hydrochloric acid to have reached 2 per 1,000, with a corresponding increase in the severity of the symptoms. Diagnosis was confirmed by the operation, and the patient made a good recovery. He has been free from pain and dyspeptic symptoms ever since. The general nutrition has improved and he has been able to work. In February, 1900, fourteen months after operation, the following examinations were made:

February 28, 1900: Trial breakfast, one hour. Gastric contents were rancid and in considerable quantity; free hydrochloric acid, 1.3 per 1,000; combined hydrochloric acid, 1.9 per 1,000 (free and combined hydrochloric acid, 3.2 per 1,000); total acidity, 120; organic acids, 30; albumen digestion complete; starch digestion retarded; yeast and sarcinæ in quantity.

March 3d: Riegel meal; three hours. Gastric contents rancid; free hydrochloric acid, 1.5 per 1,000; total acidity, 120; organic acids, fair quantity; albumen digestion, 73 per cent.; yeast and sarcinæ.

March 5th: Trial breakfast; one hour. Gastric contents same as before; free hydrochloric acid, 1.6 per 1,000; total acidity, 115; organic acids abundant.

March 7th: Physical examination revealed the motility of the stomach impaired. Quantities of food were found when the organ should have been empty The greater curvature was located at the umbilicus.

It appears that the secretions, which at the time of operation were in a condition of progressive hyperacidity, are still hyperacid, fourteen months afterward, free and combined hydrochloric acid is present to the extent of 3.2 per 1,00, and the total acidity reaches 120 for both trial breakfast and Riegel meal. The motility of the stomach is still impaired, but its size has been reduced markedly.

Case III.—Hyperacidity, pyloric spasm, moderate dilatation, gastro-enterostomy with entero-anastomosis; Braun's method with Gallet's modification. J. F. S——, salesman, aged forty-four years, came under my observation in April, 1899. He gave a history of functional hyperacidity of a remittent type of two years' duration. Recently his symptoms had become more or less constant. The following are some of the examinations made at intervals from May 1 to December 19, 1899:

May 1, 1899: Trial breakfast; one hour. Gastric contents normal in appearance and consistency; free hydrochloric acid, 2.3 per 1,000; total acidity, 88; organic acids, small quantity; yeast, small quantity.

May 3d: Physical examination reveals normal size, location, and motility of the stomach.

May 8th: Trial breakfast. General appearance of contents same as before; free hydrochloric acid, 2.4 per 1,000; total acidity, 96; organic acids, negative; some yeast.

May 29th: Trial breakfast. Gastric contents show evidence of fermentation; free hydrochloric acid, 2 per 1,000; total acidity, 86; organic acids, fair; yeast in fair quantity.

August 2d: Trial breakfast. Gastric contents rancid; free hydrochloric acid, 2.1 per 1,000; total acidity, 120.

October 2d: Trial breakfast. Gastric contents very rancid; free hydrochloric acid, 2.6 per 1,000; total acidity, 104; organic acids abundant; yeast abundant; fat crystals.

October 11th: Physical examination reveals impaired motility and some dilatation.

November 29th: Trial breakfast. Very rancid contents. Free hydrochloric acid, 2.3 per 1,000; total acidity, 112.

These were the conditions at the time of operation, December 19, 1899. The hyperacidity had been constant and pyloric spasm had supervened, which finally resulted in relative impaired motility and slight dilatation. The patient recovered rapidly after operation and has been free from distress. On the following dates examinations have been made:

January 24, 1900: Trial breakfast; one hour. Gastric contents normal in appearance and consistency; free hydrochloric acid, 1.6 per 1,000; total acidity, 76; organic acids, small quantity; albumen digestion normal; retarded starch digestion; some yeast.

January 31st: Trial breakfast. Free hydrochloric acid, negative; total acidity, 60; organic acids negative.

March 9th: Trial breakfast. Contents normal in appearance; free hydrochloric acid, 2.9 per 1,000; total acidity, 136; organic aids, traces; albumen digestion, 82 per cent.; yeast in small quantities.

March 12th: Riegel meal; three hours. Free hydrochloric acid, 0.1 per 1,000; combined hydrochloric acid, 2.1 per 1,000 (free and combined hydrochloric acid, 2.2 per 1,000); total acidity, 108; organic acids, 44.

March 16th: Trial breakfast. Free hydrochloric acid, 1 per 1,000; combined hydrochloric acid, 1.6 per 1,000 (free and combined hydrochloric acid, 2.6 per 1,000); total acidity, 80; organic acids, 8; no yeast.

March 20th: Physical examination reveals the size and location of the stomach as normal and the motility restored.

In this case the functional hyperacidity, which was constant for months prior to operation, has resumed the remittent type with which it started. For six weeks subsequent to operation the free hydrochloric acid ranged from normal to subacidity (1.6 to negative); total acidity, 120–60. On March 9th, five weeks later, the patient was subjected to considerable mental distress due to business reverses, and upon examination at this time we find free hydrochloric acid, 2.9 per 1,000, with a total acidity of 136. A few days later, March 16th, we find that the free hydrochloric acid has again fallen to 1 per 1,000, with a total acidity of 80. There were no symptoms from this post-operative temporary hyperacidity, except the formation of some gas. There was absolutely no reappearance of the pain.

Case IV.—Dilatation of stomach without pyloric obstruction and with movable kidney; gastro-enterostomy and entero-anastomosis. Observations on the case began in October, 1895. Mrs. B——, aged forty years, had been suffering for years from what was apparently nervous dyspepsia. The following examinations were made at the time:

October 27, 1895: Trial breakfast; one hour. Gastric contents appear normal; free hydrochloric acid, trace; total acidity, 51; organic acids, trace; peptic ferments, normal.

October 29th: Trial breakfast. Same gross characteristics; free hydrochloric acid, 1.4 per 1,000; total acidity, 69; organic acids, traces; physical examinations reveal normal motility, somewhat vertical position of the stomach, with the greater curvature one inch below the umbilicus. Repeated examinations showed a constant fluctuating character in the secretions; free hydrochloric acid ranged from subacidity to slight hyperacidity, and the motility was constantly normal. One year later other examinations were made:

October 28, 1896: Trial breakfast. Fairly normal gross appearances; free hydrochloric acid, 0.2 to 1.0 per 1,000; total acidity, 50–60; organic acids, traces; small quantities of yeast. Physical examination revealed the size and position unchanged. There was, however, a beginning tendency to impaired motility.

From these and other examinations it appeared that the occasional hyperacidity had disappeared. Free hydrochloric acid ranged from subacidity to normal. The beginning impaired motility was accompanied by a corresponding increase in the fermentative organisms found. From this time on the atony was progressive, as the following examination will show:

March 15, 1897: Trial breakfast; one and three-fourths hours. Gastric contents rancid, fermenting; free hydrochloric acid, 0.7 per 1,000; total acidity, 65; organic acids, yeast, and sarcinæ in abundance. Physical examination showed increased atony and the greater curvature extending to one and three-fourths inches below the umbilicus.

February 4, 1898: Trial breakfast and physical examination. A large quantity of fermenting material was constantly present; free hydrochloric acid, 1.1 per 1,000; total acidity, 57; organic acids marked: increased atony, and the greater curvature more than two inches below umbilicus.

These conditions were progressive until the time of operation.

March 7, 1899, one year later: At this time free hydrochloric acid ranged from 0.1 to 1.1 per 1,000; total acidity, 5.5 to 6.5; peptic ferments normal; organic acids in quantity; abundance of yeast and sarcinæ; marked atony; greater curvature two and one-half inches below the umbilicus; freely movable and descended right kidney; considerable general emaciation. The patient made a good recovery, and, with the exception of occasional attacks of fermentation, has been well and has added some thirty pounds to her weight. One year later I had the opportunity to make the following examinations:

November 22, 1899: Trial breakfast. Free hydrochloric acid negative; total acidity, 30.

March 9, 1900: Trial breakfast: one hour. Gastric contents unchanged in appearance; free hydrochloric acid, negative; total acidity, 44; organic acid, traces; albumen digestion, 42 per cent.; starch digestion, normal; yeast, small quantity; marked presence of bile.

March 16th: Riegel meal; three hours. Contents of stomach slightly rancid; free hydrochloric acid, negative; combined hydrochloric acid, 0.1 per 1,000; total acidity, 26; organic acids, 21; some yeast and bile present.

March 17th to 19th: Phsyical examinations reveal some slight food residue seven hours after a meal. Upon early lavage the stomach is constantly empty. The greater curvature is located two inches below the umbilicus. The right kidney is still freely movable.

In this case, notwithstanding the very evident general improvement in the physical condition of the patient, there has been no attempt at repair on the part of the glandular structures of the stomach. On the contrary, the subacidity seems to have gone on to a fair state of achylia. The size and position of the stomach remain about the same. The motility has apparently improved to a great extent.

It would be manifestly impossible to draw very general conclusions from this limited number of cases. It can only be said of them that they represent certain distinct types for which gastro-enterostomy is performed, and that it is in a comparatively small number of cases only that patients can be controlled both before and after operation so as to render the observations conclusive. The immediate effect of gastro-enterostomy in cases of benign pyloric stenosis is relief, which relief, coming naturally as a result of the cessation of the spasm of the sphincter pylori, is apt to produce an exaggerated idea of the ultimate effect of the operation upon the various gastric functions. Hence the real value of this operation can be judged only by a careful study of those cases in which it has been possible not only to observe the functions of the stomach for a protracted period after operation, but also to have been able to follow the very gradual changes which occurred in these functions during the months which preceded the operation. On the other hand, the very relief experienced by the patient after operation is to a certain extent an obstacle to a thorough study of the changes which take place in the gastric functions, for such patients are very apt to overestimate the capabilities of their stomachs, and so deliver themselves over to dietetic excesses, which latter are well calculated not only to influence the expected repair, but in many cases to retard it. Any temporary return of dyspeptic symptoms in these cases is very likely, however, to cause the most intense depression, especially in those whose mental tone has been materially undermined by years of suffering. This mental depression is very antagonistic to the ultimate repair of the gastric function in certain cases. Hence the absolute control of the patient is most desirable.

The two functions of the stomach which are primarily involved in this discussion are the secretion of hydrochloric acid and the motility. The cause for operation in a large proportion of cases is either an abnormal increase of the one or a decided impairment of the other. Of the two functions the one which has engaged the attention of observers most is the secre-

tion of acid, and the reports and statistics of clinics have been devoted to the effect of gastro-enterostomy upon hyperchlorhydria. In this connection a closer study of the first three cases may be of interest.

In Case I. there are many reasons to believe that the cause for the obstruction was located externally to the pylorus in the beginning. Not only the history of the case, but its exceedingly slow course and the findings at the operating-table, are indicative of this. The examination of the gastric functions in December, 1895, gave nothing abnormal. The figures for free hydrochloric acid at that time showed even a tendency to subacidity (0.7–1.0 per 1,000). The other functions were found to be normal. Their conditions very gradually changed until October, 1897, when the examinations revealed a pronounced pyloric obstruction with hyperacidity (free hydrochloric acid, 1.5 per 1,000 and over; total acidity, 120–140). During all this time there never were any symptoms suggesting ulcer or tumor. Two years after operation we find the hyperacidity still present. All examinations give quantities for free hydrochloric acid ranging from 1.5 to 2.0 per 1,000, and for total acidity from 86 to 96, both for trial breakfast and Riegel meal. Only on one occasion, February 28, 1900, did the figures for free hydrochloric acid indicate subacidity (0.5 per 1,000); but the combined hydrochloric acid reached 1.6 per 1,000, and the total acidity 92. If there was any doubt on this score, it was dispelled by the finding of a small quantity of acid fluid on an empty stomach, which gave the figures 1.3 per 1,000 for free hydrochloric acid and 96 for the total acidity. The digestion of albumen was normal (79–81 per cent.).

In Case II. we have somewhat similar conditions, although here, both from the history of the case and the findings at the operating-table, a primary ulcer at the pylorus might be suspected. Actual symptoms of the same never existed, however. From the comparative progressive increase of the acidity (free hydrochloric acid, 1.2 to 2.0 per 1,000; total acidity, 92 to 130) and the severity of the symptoms of obstructions, it could be inferred that the former was due to the latter. Fourteen months after operation it is found that the change in the hyperacidity has not kept pace with the general improvement. Free hydrochloric acid is still present to the extent of 1.3 to 1.5 per 1,000, figures within the normal, perhaps, were it not that the combined hydrochloric acid reaches 1.9 per 1,000, making a total figure for hydrochloric acid of 3.2 per 1,000. The total acidity was correspondingly high (120 for trial breakfast and Riegel meal). The digestion of albumen was normal (73 to 100 per cent.).

Case III. is typical of those conditions in which the hyperacidity is primary or purely functional. The pyloric obstruction and slight dilatation were secondary in this case. Repeated examinations from May 1 to December 19, 1899, showed this plainly. With a constant hyperacidity of 2.3 per 1,000 for free hydrochloric acid, pyloric spasm and obstruction gradually supervened. The examinations after operation are interesting. The hyperacidity steadily decreased until January 31, 1900, when there existed a condition of subacidity (free hydrochloric acid, negative; total acidity, 60). Suddenly, as a result of emotional disturbances, we again find, on March 9, 1900, a most decided hyperacidity (free hydrochloric acid, 2.9 per 1,000; total acidity, 136). As the mental excitement disappeared a decline in the acidity took place, until, on March 12th, we again have normal figures (free hydrochloric acid, 0.1 per 1,000; combined hydrochloric acid, 2.1 per 1,000 after a Riegel meal), and on March 16th the corresponding figures (free hydrochloric acid, 1; combined hydrochloric acid, 1.6 per 1,000; total acidity, 80), after a trial breakfast. The acidity after operation in this case depended upon the general nervous condition of the patient and ranged from subacidity to normal, differing in this respect essentially from Cases I. and II.

The observations in Case IV., which extended over a period of four years prior to operation, made it possible to follow the very gradual changes which took place in the functions and size of the stomach. The case is further interesting in that it represents a class of chronic gastric disease, the existence of which has been denied. I refer to simple gastric dilatation as a result of atony. From the history it can be seen that in October, 1895, there existed a condition of nervous dyspepsia with varying acidity (free hydrochloric acid, traces to 1.4 per 1.000; total acidity, 51 to 68), and a tendency to gastroptosis. This state of things had existed for a long time. In 1896, one year later, during which time the patient's symptoms increased in severity, the acidity had changed to a subacid condition (free hydrochloric acid, 0.2–1.0 per 1,000), at the same time that atony of the muscular structures began to show itself. The changes in the size and motor functions of the stomach were progressive to the time of operation, as was the general relaxation in the abdominal walls and ligaments (freely movable right kidney). The secretions up to the time of operation had remained stationary (free hydrochloric acid, 0.1 to 1.1 per 1,000). Notwithstanding the general improvement in the condition of the patient since the operation, we find upon examination one year later that the dilatation still exists and that the subacidity has progressed to a fair state of achylia (free hydrochloric acid, negative; combined hydrochloric acid, 0.1 per 1,000; total acidity, 21–44; albumen digestion, 42 per cent.). The decrease in the secretion of the ferments has apparently not been so rapid.

The motor functions appear to have become normal in all but one case. The same can be said of the size and position of the stomach. In Cases I., III., and IV. the stomach is empty upon lavage within the necessary time limit. In Case I. a small quantity of acid and green fluid was constantly found after all food had passed into the intestine. In Case II. slight atony still remained fourteen months after operation, which incomplete restoration can be traced to improper hygienic surroundings, indiscretions in diet, and the cramped position required by his work, that of tailoring. It is curious that in this case also the size of the stomach should have as materially decreased as in Cases I. and III., in all of which the greater curvature was located at the umbilicus by repeated and various methods of examination. In one case alone (IV.) did the dilatation apparently persist after operation. The greater curvature was still two inches below the umbilicus one year later. Here, however, in marked contrast to Case II., the motility has greatly improved. This improvement, however, is probably more passive than active, and the location of the greater curvature need not necessarily indicate a marked degree of dilatation, as the stomach in this case was more or less vertical from the beginning. The descended and freely movable right kidney still remained as before. In none of these cases is it possible to note the hypermotility claimed by some to exist after operation. The stomachs are empty within the normal prescribed time limit and not before. On the contrary, in Case II., in which the most active and visible peristaltic activity existed before operation, the motility after operation is the most backward in repair.

In order to find the causes which produced this variety of results, it is only necessary to examine closely the conditions existing before operation. We have represented in these cases three distinct types of benign chronic gastric disease. In Cases I. and II.

we have primary pyloric obstruction with secondary hyperacidity and dilatation. In Case III. we have primary functional hyperacidity with secondary pyloric spasm and dilatation. In Case IV. we have primary neurotic atony with secondary subacidity and dilatation. The repeated analyses in Cases I. and II. show the hyperacidity to have been subsequent to and progressive with the obstruction. In Case I., in 1895, a normal acidity existed. The increase in the quantity of free hydrochloric acid could be observed from year to year. In Case III. hyperacidity was constant from April to December, 1899, and previous to that there was a very good history of periodic functional hyperacidity. In the first two cases the hyperacidity was the result of obstruction. In the third case the obstruction was the result of the hyperacidity. In the first two cases we have great dilatation and in the third comparatively slight dilatation.

In Cases I. and II. the hyperacidity has persisted one to two years after operation. In Case I. it has even increased (free hydrochloric acid, 1.5–2 per 1,000). In order to explain these results it will be necessary to refer to the investigations of Boas,[2] Cohnheim,[3] Hayem,[4] Einhorn,[5] and Hemmeter on proliferative changes in the gastric mucous membrane in hyperacidity. Boas speaks of a gastritis proliferus; Hayem of a gastrite parenchymateuse hyperpeptique chloro-organique. From the examinations made by Cohnheim, Einhorn, and Hemmeter of particles of mucous membrane it was found that glandular proliferation existed in from one-half to two-thirds of the cases of hyperacidity. It is immaterial in this connection to know whether this proliferation is in the tubular or the oxyntic cells. Of greater importance, however, as Kovesi[6] properly remarks, would have been the determination of the nature of the hyperacidity—whether primary or secondary.

This explanation of the nature of hyperacidity in a certain class of cases can be applied to our own cases. In Cases I. and II. we have evidence of prolonged irritation of the mucous membrane of the stomach before operation. That this irritation should have led to glandular proliferation is probable, and that the proliferation should persist after operation is natural. Hence we have persistent hyperacidity. We have as facts justifying this assumption not only the progressive increase of the free hydrochloric acid before and its persistency after operation, but also the very stationary and constant quantitative results obtained by analyses during the last examinations made. These results for the total quantity of hydrochloric acid produced were the same for both slight or great stimulation (carbohydrates and proteids). This constancy in production on the part of the gastric mucous membrane is fair evidence of the capabilities of that membrane and also a determining factor in the estimation of its structure.

The causes which led to and produced the results obtained by operation in Cases III. and IV. are of great interest to the internist, for they represent clinical types in which the question of operative interference is largely one of expediency and not of necessity. We have here represented functional disturbances of secretion and motility, which, while not necessarily involving the life of the patient, serve materially to render that life a misery and a burden. It is in these cases that the advice as to operation depends upon severe judgment not only of the actual disease itself, but also of the occupation, social surroundings, and especially the mental tendency of the patient.

In the absence from the records of Cohnheim, Hemmeter, etc., of the actual causes producing the hyperacidity and the history of each case, it will be necessary to accept those cases in which no structural changes were found as purely functional conditions. In Case III. we have such a condition. Here periodic hyperacidity led to chronic hyperacidity, which finally resulted in pyloric spasm and slight dilatation. The discussion of the effect of gastro-enterostomy upon such cases has been elaborate and has involved two questions principally. The one has reference to the seniority of the pyloric spasm or the hyperacidity. The other deals with the effect of operation upon the secretion of the acid itself. Standing for the defence of hyperacidity as a purely functional neurosis we have Bouveret, Fleischer, Schule, Ewald, Riegel, and Pick. On the other side, standing for the spastic theory, are Hayem, Roux, Robin, Doyen, Carle, and Fantino. Midway between these two we have the investigations of Jaworski, Cohnheim, Einhorn, and Hemmeter on the proliferation of the gastric cells. So far as the neurotic and proliferation theories for simple hyperacidity are concerned, it is conceded by gastrologists that both may exist. The discussion has been greatest in regard to the spastic theory, especially in connection with hypersecretion; but as hypersecretion and hyperacidity are allied diseases, the facts deduced will apply to both.

It will be observed that most of the reasoning on behalf of the spastic theory has resulted from observations made at the operating-table. It is not possible, however, to draw absolute conclusions from such observations. That both spasm and hyperacidity should be found at this time is natural; that the spasm should be relieved by an anæsthetic is also natural; but there is no evidence in this that one existed before or produced the other. Cases of simple hyperacidity do not reach the operating-table until sufficient time has usually elapsed for changes to have taken place at the pylorus. On the other hand, many of the observations have been made in cases in which actual tissue change had occurred (I refer to operations for ulcer); and Cohnheim,[7] in a recent article, goes so far as to assert that no dilatation exists without pyloric or duodenal obstruction, however slight this may be.

There can be no doubt about the primary or functional character of the hyperacidity in Case III. This was fully established by long observation before operation. If any doubt still existed as to the nature of this case it has been dispelled by the results obtained from the operation itself. By reported examinations we find that the free hydrochloric acid gradually decreased for six weeks after operation until, on January 31, 1900, it was decidedly subacid. Suddenly, as a result of emotional disturbances, it again becomes markedly hyperacid. This hyperacidity is temporary and slowly disappars as the mental state of the patient becomes calmer. It is hardly possible that a structural change has taken place in the mucous membrane of the stomach with this history. The operation had simply removed one link in the connecting chain of a vicious circle, namely, the possibility of pyloric spasm, and the patient, so far as the gastric secretions are concerned, is placed again in a condition of neurotic and periodic hyperacidity, without pyloric spasm, however. Had the examinations in this case been made for a few weeks after operations only, the result obtained would have been erroneous.

From these frequent examinations and observations the extreme pertinacity of the gastric secretions is demonstrated. This quality is not limited to hyperacidity, as we can see from Case IV. It is generally agreed that subacid conditions remain so after operation. Here, as in hyperchlorhydria, we have primary and secondary subacidities. Primary or neurotic subacidity does not reach the operating-table. Secondary subacidity is the result of the chronic inflammatory conditions involving atrophic changes in the mucous membrane, and these do not come to operation until sufficient structural damage has been done to ex-

clude a possibility of repair. The investigations of Einhorn, Hemmeter, and Martins[1] have demonstrated that partial atrophy of the glandular structure of the mucous membrane exists in from one-half to two-thirds of the cases of achylia gastrica, even in those cases in which no very active dyspeptic symptoms are present.

It was not to be expected, then, that any change for the better would take place in this case. Of interest, however, is the fact that the subacidity existing at the time of operation should have progressed to a condition of anacidity. The operation appears to have had no influence upon the degenerative changes taking place in the gastric mucosa. These structural changes undoubtedly began years before, as the history of the case demonstrates. In 1895 the acidity was normal, even hyperacid at times. This acidity progressively decreased at the same time that loss of tone in the muscular structures and deficiency in peptic power increased up to the time of operation. After operation we have a general improvement in the health of the patient and a considerable gain in weight and no dyspeptic symptoms. Yet in one year we find that the changes in the mucous membrane have advanced so far as to give a fair condition of achylia. It would be impossible to explain this on the basis of continued irritation due to food stasis, for the stomach empties itself within a reasonable time. The simple conclusion to be drawn is that hypertrophic or atrophic changes of long duration may be progressive after operation.

That the continuous hyperacidity and subacidity in these cases should not affect the general health of the patients is not surprising, for in each case the immediate cause of distress has been removed by the operation. It is a matter of common experience to find hyperacidity and subacidity in stomachs which, so far as any subjective symptoms are concerned, are apparently normal. The distress which may be produced by these conditions is purely relative, and both may exist for years without giving rise to any symptoms whatever. In case of hyperacidity it is largely a question of the irritability of the nervous system, both general and local. In cases of subacidity freedom from symptoms depends entirely upon the activity of the muscular structures. On the other hand, it is possible to have pronounced symptoms of hyperacidity in cases in which the gastric analysis reveals normal figures for the secretions. From this it seems almost right to assume, with some of the French authorities, that the normal quantity of acid secreted constitutes hyperacidity in some persons.

The results obtained for the digestion of albumen in these cases, both before and after operation, coincide with those obtained by other recent experimental investigations, and show that the changes which take place in the peptic cells need not be proportional to those found in the acid-secreting cells. In Cases I., II., and III. we have normal results throughout. In Case I. two years after operation the digestion of albumen does not exceed 81 per cent. with a free hydrochloric acidity of 2 per 1,000. The same can be said of Cases II. and III. for both trial breakfast and Riegel meals. In Case IV. we have the same relations. Here the secretion of hydrochloric acid one year after operation is practically *nil*, and yet we find that albumen is digested to the extent of 42 per cent. It would be difficult to state from these figures, however, whether the apparently preserved peptic power is due to a small quantity of pepsin of good quality, or to a large quantity of poor quality. It is impossible to judge the state of the gastric mucous membrane from digestion tests to the same extent as this is done by quantitative acid tests. The action of the acid in the gastric juice is directly proportional to its quantity, whereas the action of the pepsin depends to a considerable extent upon the quality of the ferment. Hence it is that in many instances the results obtained from albumen digestion are not proportional to those found for free hydrochloric acid, and the 42 per cent. obtained for albumen digestion in Case IV. probably means that a certain quantity of pepsinogen of active quality is still being secreted as a result of the general improvement of nutrition after operation.

The same principle may apply to the conversion of the starches. In Cases I., II., and III. we have delayed digestion; in Case IV. there is complete digestion so far as this is possible in the stomach. These cases, then, have followed the general rule in this respect, but here we have extreme conditions of hyperacidity and subacidity. In a good proportion of cases of subacidity it will be found that the conversion of starch does not pass the erythrodextrin stage, whereas, according to rule, it should have been complete. The contradiction can be accounted for only by the inactivity and poor quality of the diastasic ferment secreted with the saliva, especially as in these cases it will usually be found that the peptic power of the gastric juice is reduced and the general nutrition impaired.

The effect of gastro-enterostomy upon the size, position, and motility of the stomach in these cases coincides with the observations made at the surgical clinics. The organ returns to a normal condition of size and motility in those cases in which the enlargement and impaired muscular activity were relative and due to obstruction. These conditions we have in Cases I., II., and III. The reduction of the dilatation was here accomplished by the inherent power of contraction which still existed in the muscular structures of the stomach at the time of operation. Given an opportunity to do so by the removal of the obstruction, they were fully able to redeem the size of the organ. Only in Case II. we find some atony still present at the end of the year. This patient, however, is compelled by his occupation—that of a tailor—to assume a position which is entirely antagonistic to good motor activity of the gastric muscles. This danger existed in Case I. also, but the patient gave up his trade as a cigar-maker, and thus we have a better result. In Case IV. the size of the stomach has not been affected by operation. This was to be expected from the conditions which existed at the time of operation. The enlargement and atony were positive and part of a constitutional condition which had existed for years. There was no power left in the muscular coats to contract; hence the repair is slow in this case. The stomach, however, even in this case empties itself fairly well. This improvement in motility is probably more apparent than real, and due to a large extent to gravity. An examination of the muscular activity of the stomach before and after operation by the introduction of a Hemmeter intragastric bag would be of interest.

The more or less constant presence of bile in the gastric contents after operation has been noticed by most observers. It is generally acknowledged that it causes no disturbance. It has not in these cases. According to Boas, the objectionable feature connected with the presence of bile in the stomach lies in its alkaline reaction and in the danger of precipitation of the pepsin. In cases of hyperacidity after operation the first property need hardly be feared. In cases of subacidity the conditions are somewhat different. Here the neutralizing effect of the bile might be offensive, but is counteracted in part by the inhibitory action upon the fermentation to which these cases are prone, especially if the atony is persistent.

The regulation of the action of the intestines is one of the best results obtained by gastro-enterostomy. This effect is generally reported in all the statistics. It was very marked in our own cases. The reasons for this relief from pre-existing constipation vary ac-

cording to the conditions at the time of operation. The constipation of the first three cases of pyloric obstruction was spastic in its nature. It was due not so much to the obstruction in the passage of food through the pylorus as to a condition of tonic spasm induced all along the intestinal tract by the spasm at the pylorus and the fixation of the abdominal muscles as the result of pain. We have evidence of this in the small lumpy or lead-pencil character of the stools in the first three cases. It was a condition of secondary enterospasm, so to speak. This tonic condition was removed by the elimination of the pylorus by operation, and in a short time the stools not only became regular but normal in size and consistency.

In Case IV. the constipation was atonic. It was part of a general muscular relaxation. Here the stools were large in calibre and occasionally fermentative diarrhœas would supervene. After operation we find normal and regular stools, due to the general improvement of muscular activity, both voluntary and involuntary, the result of the improved nutrition. This regulation of the action of the bowels is one of the most salutary effects of the operation of gastro-enterostomy, and to it in many cases can most of the benefits of operation be ascribed.

The most complete reports and statistics of the operation of gastro-enterostomy have come from the clinics of Czerny,[9] Mikulicz,[10] Hartmann and Soupault,[11] Carl and Fantino,[12] Doyen,[13] Tricoms,[14] and others. Practically their cases may be divided into three classes: 1st, operations of necessity; 2d, operations of emergency; 3d, operations of expediency. By far the great majority of the cases reported has belonged to the first two classes. The effect of operation upon the subsequent secretory functions of the stomach in these cases, however, is a matter of secondary importance. The life of the patient is involved, and, whatever may be the ultimate result, the pyloric obstruction or gastric perforation or hemorrhage must receive immediate attention.

It is in the third class of cases, as represented in Cases III. and IV. of this paper, that very definite rules for operating are desirable. The results desired in these cases are remote, not immediate. As these results, as we have seen in some cases, depend upon the actual condition of the mucous membrane at the time of operation, and also the course of the disease for a long time before operation, it now appears desirable to eliminate from the statistics all those cases in which it has not been possible to ascertain the actual structural condition of the mucous membrane of the stomach by repeated analyses for months prior to operation. It is unfortunate, therefore, that we should miss from many of the reports the detailed and serial analyses and observations of the internist before operation, for it is only in this way that a definite knowledge of the actual condition of the mucous membrane can be obtained. A few gastric analyses made immediately before operation are of small value in this respect, especially in neurotic cases. The stomach reacts to the emotions somewhat like a lacrymal gland. It either secretes profusely or very little. It is for this reason that I have come to discard the results obtained by a first analysis of the gastric contents. They are generally erroneous. In most cases repeated analyses at stated intervals and after various meals are necessary to secure sufficiently accurate figures which may be used in diagnosis and prognosis. Especially is this the case as most of us have not the time to look for or the courage to scrape off particles of mucous membrane for microscopical examination.

That the results to be obtained by gastro-enterostomy and the prognosis to be given depend upon this knowledge has been sufficiently demonstrated. Whether or not a hyperchlorhydria is to recede after operation depends in a certain proportion of cases upon the structural changes which have taken place in the mucous membrane. It has even been shown that it may increase, and this brings us to the absolutely independent character of the gastric secretions, and the progressive nature of structural changes once begun, even though the cause for the beginning of these changes has been removed by operation. In Cases I. and IV. we have diametrically opposed conditions. In one we have hyperacidity due to cell proliferation, and in the other progressive subacidity due to cell atrophy, and in both the most marked improvement in the general nutrition and local distress; yet in both, one and two years after operation, we find that the abnormal conditions of secretion have progressed in their respective directions. This obstinacy on the part of the secreting cells of the gastric mucous membrane is a matter of common observation in the treatment of a considerable proportion of chronic gastric affections, and continues after the active dyspeptic symptoms have disappeared.

It would be impossible to draw general conclusions from the observation of this limited number of cases. It can only be said that they have been closely followed, and, as representative of certain well-known types of chronic gastric diseases to which gastro-enterostomy is applied, may be of some service in the formation of rules for prognosis and advice.

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A NEW PHYSICAL SIGN IN DISLOCATION OF THE HEART; GASTRECTATIC DYSPNŒA AND PSEUDO-ANGINA.

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Acute or chronic dilatation of the stomach is a frequent cause of dyspnœa and even asthma. An asthma of gastric origin is the asthma dyspepticum of some writers. Asthma of gastric genesis is, however, caused less often by gastrectasis than by the absorption and irritation of products the result of gastric indigestion. The latter observation is based only on my individual experience. In my case-book, I have records of a number of patients, especially children, with asthmatic symptoms in whom gastrectasis did not exist, and who were cured by treatment directed solely to the stomach —systematic lavage and a suitable dietary. I have called difficult breathing sequential to gastric dilatation, gastrectatic dyspnœa. Many sufferers from this form of dyspnœa make no mention of dyspeptic symptoms, the latter being masked by pressure signs. Such individuals are usually recruited from the ubiquitous neurasthenics. Their pneumatosis is sudden in origin and attended by a feeling of weight or pressure in the precordia or sternal region. Eructations of gas mark the relief of the paroxysm. In some instances the symptoms are protracted, the patient being unable to get rid of the gases owing to spasm of the sphincters

of the stomach. Gastrectatic dyspnœa is caused, as I have assured myself after examination of a number of patients, by dislocation of the heart upward by a dilated stomach. Some years ago, I reported a case[1] of gastroptosis and mercycismus with voluntary dislocation of the stomach and kidney. This phenomenal case taught me one fact in particular, viz., the ease with which dislocation of the heart could be induced by a dilated stomach. The individual in question could, by buccal insufflation of the stomach, cause his heart to disappear behind the lungs, so that precordial percussion yielded absolutely no dulness. This case

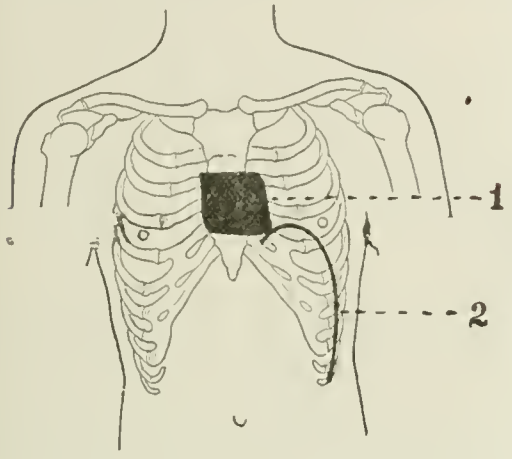

Fig. 1.—Effect of Stomach Insufflation on the Heart; 1, Radioscopic appearance of the heart; 2, Outline of the fundus of the stomach.

directed my attention to a correct investigation of all individuals presenting themselves for the treatment of slight dyspeptic symptoms in whom sternal pressure and dyspnœa, especially in walking, were the chief subjective symptoms. In nearly all such individuals, the diminished area of cardiac dulness with its congeneric sign, viz., enfeebled heart tones, bore a distinct relation to the severity of the pressure symptoms. The removal of the ingesta and gases from the stomach usually restored the heart to its normal position and the feeble heart tones became strong. To detect quickly a dilated stomach encroaching on the thoracic viscera, the percussion method of Ferber[2] is highly recommended, although my experience with this procedure has often been negative. Ferber found that the circular tympanitic stomach-lung region formed

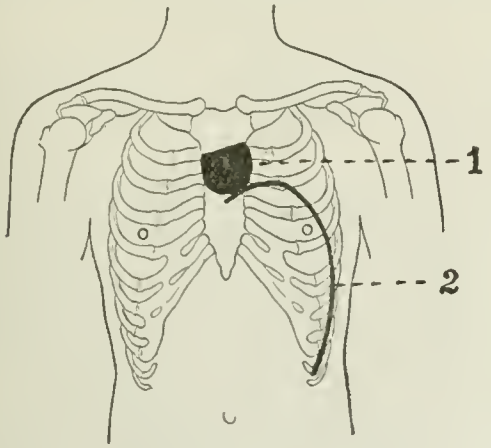

Fig. 2.—1, Radioscopic appearance of the heart after administration of a Seidlitz powder; 2, outline of the fundus of the stomach.

by the stomach beneath the lower lobe of the left lung gradually disappears behind the axillary line if the stomach is normal, but if the latter is dilated it may be traced to the vertebral column. The following illustrations describe more fully than words the influence of a dilated stomach on the position of the heart. They are through reproductions from the fluoroscopic picture. In the average examination of the chest by means of the Roentgen rays, that portion of

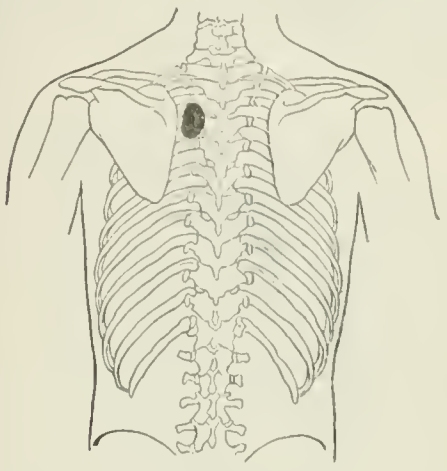

Fig. 3.—Patch of Dulness in Dislocation of the Heart Upward. Patient in the erect position.

the stomach which is in direct contact with the chest wall, occcupying the space of Traube, is obscured by the shadow cast by the spleen. There is a small proportion of cases in which a considerable area of stomach-illumination is shown by skiascopy. This condition is engendered by the favorable position of the spleen, which does not lie sideward and upward from the stomach but downward and outward from the latter viscus. It has been my good fortune to have met with, in my skiascopic examinations, two persons in whom the illuminated stomach area in Traube's space corresponded with the normal dimensions of the stomach in that region, a condition which I attributed to one of four things, viz., favorable location of the spleen, absence or atrophy of the spleen, and the presence of rudimentary splenules. In the examination of one of the individuals, the unusual phenomenon was utilized in studying a case of nervous eructation.[1] In the other patient,

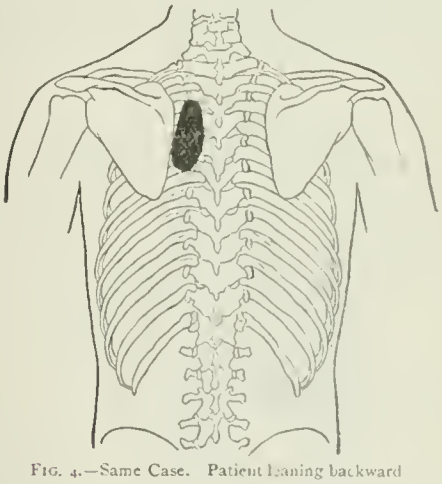

Fig. 4.—Same Case. Patient leaning backward

artificial distention of the stomach was produced by means of a Seidlitz powder. The illustrations (Figs. 1 and 2) demonstrate most forcibly how sudden death may occur after a heavy meal if the individual is a sufferer from indigestion with a weak heart. Little or no detailed reference is made to gastrectasis in the literature as an etiological factor in pseudo-angina pectoris, although in my own experience I have frequently encountered cases of pseudo-angina which were cured by treatment directed solely to the stomach

[1] Medical News, April 13, 1895.
[2] Ewald: "Diseases of the Stomach."

[1] Philadelphia Medical Journal, August 12, 1899.

or to a neurasthenic condition which was primarily a factor in the distention of the stomach by gases. The sign of Ferber has been most unsatisfactory to me in detecting a dilated stomach fundus. Repeated examinations of the thorax after artificial distention of the stomach with air failed in a number of instances to confirm the constancy of this sign. Diminished area of cardiac dulness and enfeebled heart tones which

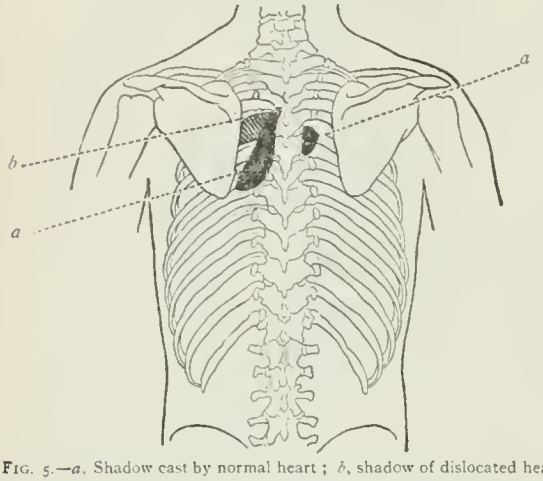

FIG. 5.—*a*, Shadow cast by normal heart; *b*, shadow of dislocated heart.

assume an embryocardial character are more trustworthy objective symptoms.

There is a new sign to which I wish to direct attention. When the heart is dislocated upward by a dilated stomach, a patch of dulness and even flatness may be detected in the interscapular region on the left side, about midway between the vertebral column and the internal border of the scapula. This is the usual site, although the patch of dulness may reach a point on a level with the spine of the scapula. The dull area may vary in size from that of a silver dollar to the entire space between the scapula and spine. It always disappears to be replaced by the normal lung resonance when the patient leans forward, reappears when the erect posture is again attained, and the area of dulness is greatly increased by directing the patient to bend backward. Over the area of dulness, bronchial respiration is heard, but this likewise disappears when the patient

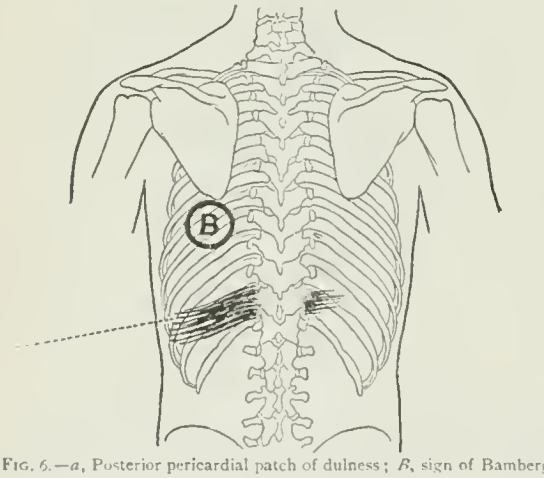

FIG. 6.—*a*, Posterior pericardial patch of dulness; *B*, sign of Bamberger.

bends forward or becomes increased in intensity when the patient leans backward. The accompanying illustrations (Figs. 3 and 4) serve to exemplify the subject-matter. The cause of the dulness is compression of the lung by a dislocation of the heart upward. This sign is constantly present. That the patch of dulness is actually caused by lung compression from a dislocated heart, I have assured myself synthetically by introduction of the stomach tube into the stomach and distending the latter viscus by air, by which means I could invariably reproduce the clinical phenomena, viz., dulness in the left interscapular region disappearing when the patient leaned forward, increasing area of dulness when the patient leaned backward. Corresponding to the percussional sign, bronchial respiration is heard with resumption of vesicular breathing when the forward attitude is assumed. Withdrawal of air from the stomach is attended by a disappearance of the phenomena. One may follow the foregoing procedure by aid of the Roentgen rays, and note the upward dislocation of the heart by the distended stomach. The degree of heart dislocation viewed from the back is surprisingly slight, and it would appear theoretically to be unable to account for the lung compression. If the dislocation is protracted, it will be found difficult to differentiate the shadow cast by the heart and the compressed lung. Fig. 5 represents the shadow cast by the normal heart on the posterior surface of the thorax. The shaded area is the dislocated heart after artificial distention of the stomach.

The patch of dulness caused by upward dislocation of the heart may be confounded with atelectatic zones which are frequently present in this region. I have referred elsewhere to these zones.[1] The zones of atelectasis, however, disappear after repeated forced voluntary inspirations, or by means of what I have called the lung reflex,[2] and are in no wise influenced by the position of the patient. The only two physical phenomena in any way associated with my sign are the posterior pericardial patch of dulness and the sign of Bamberger, signs which arise in pericarditis with effusion and are caused by the exudate compressing the lung. In pericardial effusion the sign of Bamberger is important. When the patient is in the erect posture, an area of dulness about the size of a silver dollar can be outlined at the angle of the scapula, over which increased fremitus and bronchial breathing may be elicited. If the patient bends forward, the signs disappear, to reappear when he sits upright.

TWO CASES OF INTESTINAL OBSTRUCTION FOLLOWING VAGINAL HYSTERECTOMY, AND ONE AFTER PELVIC ABSCESS, WITH A SECONDARY OPERATION IN EACH CASE.[3]

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A VERY good and recent French thesis upon postoperative intestinal obstruction, by M. le Dr. E. Lenclos,[4] enumerates cases of ileus as follows: 57 after ovariotomy; 16 after salpingectomy; 8 after abdominal ablation of uterine fibroids; 6 after abdominal hysterectomy; 7 after radical cure of hernia; 4 cases after cœliotomy for strangulated hernia; 3 after operations for appendicitis; 1 each after hysteropexy, Cæsarean section, and transperitoneal nephrectomy; and 37 cases of ileus after vaginal hysterectomy. Of the last-named number evidently the largest proportion of cases have occurred in the French-speaking countries or after French technique of vaginal hysterectomy.

[1] Philadelphia Medical Journal, November 26, 1898; the Medical Standard, January, 1900.

[2] New York Medical Journal, January 13, 1900.

[3] Read at a meeting of the Illinois State Medical Society, at Springfield, Ill., May 16, 1900.

[4] Gazette hebdomadaire de médecine et de chirurgie, 1900, t. 47, pp. 37–44.

But the following isolated and interesting cases, among others, in the literature of this subject, in which a secondary operation for relief of the obstruction was performed, are certainly also included in that collection: L. Landau[1] reported a case in 1888 done with clamp forceps, and the associated intraperitoneal gauze drain. It was progressing normally. The forceps were removed after one and two days. The patient got up on the fourth day and walked about for a drink. Soon after symptoms of ileus and peritonitis followed, and progressed. On the seventh day a loop of ileum was found adherent in the funnel of the wound, and was liberated by abdominal section. But the patient died next day.

P. Reichel[2] records three cases of ileus after vaginal hysterectomy, occurring in 1887 and 1888, in Olshausen's clinic. No clamps were used in these cases, but the peritoneal cavity was left open and drained by gauze. In two of these a secondary cœliotomy was done, but the first patient died on the table on the seventh day, and the second one died twenty hours after the operation on the eighth day. Neither of them had passed gas or fæces, aside from the contents of the colon, since the first operation. No rhythmical colic pains were mentioned, nor was there any pyrexia or marked tenderness of the distended abdomen. The first had a rapid pulse from the beginning, and both were nauseated or vomited early.

In 1887 A. P. Dudley[3] (New York) did a vaginal hysterectomy for carcinoma. Hæmostasis was secured by ligatures, and an intraperitoneal gauze drain was inserted. Six months later, while exerting herself, the patient felt something give way in her pelvis, and thereafter suffered from intestinal obstruction of variable degrees for four months, until a fecal fistula into the vagina developed spontaneously. This was successfully cured, one year after the vaginal hysterectomy, by abdominal section and resection of the injured small intestine, performed by a California surgeon.

In 1889 H. C. Coe[4] performed vaginal hysterectomy for an adherent cancerous uterus associated with a small ovarian cyst. Hæmostasis was secured by four pairs of forceps, left in for forty hours, and an intraperitoneal and vaginal gauze drain was placed. The patient took fluids by mouth from the beginning, and was in good condition until the fourth day, when distention and rise of temperature occurred. These became less the next day after cathartics and enemata, but returned more severely, together with an accelerated pulse, on the sixth day, when the abdomen was opened and a portion of the ileum found adherent to the right edge of the wound and severely kinked. There was no extensive peritonitis. The intestine was liberated, the abdomen irrigated, gauze drainage renewed into the vagina, and the abdomen closed. The patient died next morning from shock.

In 1896 John A. Prince[5] (Springfield, Ill.) did vaginal hysterectomy for chronic ovarian and tubal disease. Hæmostasis was secured by forceps, removed on the second day. The patient passed gas freely from the first day, and had two good bowel movements on the fourth day. But tympanites developed on the eighth and complete obstruction on the ninth day. On the tenth day the doctor passed his hand (in narcosis) up the vagina, and the fingers into the pelvis, breaking up the adhesions, which appeared to be composed entirely of omentum. He came upon a collapsed portion of small intestine, and made a lateral anastomosis between this and an adjacent distended portion of small intestine by means of a Murphy button within the vagina. Natural evacuations followed, but a free fecal fistula supervened. However, a spontaneous recovery resulted finally.

In a somewhat hasty review of the literature of the past twelve years, I have found only this one case (of Dr. Prince), in which a secondary operation was performed for ileus successfully within ten days after vaginal hysterectomy, and not merely for this condition as a later sequel of that operation. To this case I can add another successful one by abdominal section, and also two unsuccessful ones.

Case I.—Mrs. F. S——, aged thirty-four years, multipara; total vaginal hysterectomy for chronic metritis (fibrosis uteri); pyosalpinx of one side, and cystic ovary of the other side. The uterus was high up, anteverted, and the broad ligaments were difficult of access. Therefore a broad-ligament forceps was left on the upper portion of the broad ligament of one side, but in its base and in the entire opposite side preventive or antecedent[1] hæmostasis was secured by ligatures, with difficulty. The patient bore the operation well, and continued to be in a satisfactory condition for two days, except that the much-desired passages of gas failed to come after the usually very effective enemata that were begun after twenty-four hours, and repeated at intervals of four to six hours. The forceps was removed after forty-eight hours, and about ten small, hourly doses of calomel and soda were next given, followed by several doses of magnesium sulphate. These things started the vomiting, but did not secure the needed evacuations nor reduce the rising tympanites. There were no decided tenderness of the distended abdomen at this time (third and fourth days after operation), and no colicky pains, but much discomfort from the distention. The temperature during the first two days did not rise over 101° F., and the pulse ranged from 90 to 110. After the first nausea from the anæsthetic passed off, there was no vomiting, and liquid food was taken satisfactorily up to fifty-six hours after the operation, when the vomiting began and continued, with growing tenderness of the tympanitic abdomen, with some rise of temperature and a greater acceleration of pulse. A high and somewhat forcibly retained half-gallon enema of water, with essence of peppermint, afforded no real improvement. Hot fomentations and turpentine stupes gave only slight and temporary relief, and did not improve the general condition, which was rapidly growing worse, with the signs of peritonitis supervening upon those of ileus. Therefore I opened the abdomen eighty-four hours after operation. The small intestine was severely distended and intensely injected, with loss of lustre, and some threads of fibrin upon the loops nearest the pelvis. There was a small amount of fluid exudate. A loop was adherent in the bottom of the cul-de-sac, where it appeared to have been compressed by the gauze drain, but it was not completely occluded and was easily raised. Through drainage from the abdominal incision into the vagina was introduced. The patient was now severely shocked, but hypodermics of strychnine and camphorated oil, given alternately and liberally, afforded temporary improvement. But no satisfactory evacuations from the bowels were obtained, notwithstanding numerous colonic flushings. The signs of general peritonitis grew continually, and terminated in death about thirty-six hours after the ventral section.

Case II.—Mrs. P. P. C——, aged forty-three years. The patient was fairly nourished and vigorous, but had some albumin in the urine, and had had a rise of temperature recently from the intrauterine septic

[1] Berliner klinische Wochenschrift, 1888, No. 10.
[2] Zeitschrift für Geburts. und Gynäk., Bd. xv., S. 37.
[3] New York Medical Journal July 9, 1887, p. 35.
[4] American Journal of Obstetrics, February, 1890, p. 144.
[5] Medical Record, 1896, vol. l., p. 209.

[1] Antecedent as distinguished from consequentive hæmostasis, as is the case in the technique of Doyen, in which the uterus is drawn down into the vulva and is "pedicled" upon the broad ligaments before the latter are clamped or tied off.

condition. On January 25, 1900, a large metritic and severely adherent uterus, containing a necrotic and suppurating submucous fibroid, the size of a large hen's egg, was removed by the vagina, together with the very adherent and degenerated adnexæ and an ovarian cyst of the left side. (The patient had had repeated attacks of pelvic peritonitis previously.) The uterine arteries were secured by two ligatures on each side, and the upper portion of each broad ligament and the ligamentum infundibulo-pelvicum beyond the tube and ovary of each side were secured by a curved broad-ligament forceps. A small forceps was also allowed to remain upon a branch of the right uterine artery, that was not caught in the ligatures. These forceps were removed after forty-eight hours. The raw wound surface in the pelvis was very large, and the opening in the vaginal vault was carefully sponged out, while the patient's body was placed in a moderate Trendelenburg position to cause the small intestines and omentum to recede, and not to become entangled with the sponges and the subsequent gauze packing or drain which was introduced before the patient was returned to the horizontal position, thus giving the least possible chance for the intestine or omentum to become mingled with it. The general condition of this patient was absolutely perfect for eight days. Very satisfactory passages of gas and stool came after enemata after twenty-four hours, and on every day after that until the end of the eighth day. Up to that time her pulse ranged between 75 and 90, and the temperature between 98.6° and 99.8° F., reaching 100° F. only once in the first forty-eight hours, with a pulse of 100. The excretion of urine was ample. After the immediate effects of the narcosis, there was no vomiting, and the amount of nourishment taken and relished was very satisfactory. But with the ninth day some distention and rhythmic colicky pains and some tenderness of the lower abdomen and nausea and vomiting began, with a rise of pulse to 100, and temperature to 100.8° F. As a saline, a laxative, vigorous high enemata, and turpentine stupes secured only a temporary improvement, and no gas had been passed for thirty-six hours, while the abdominal distention, colicky pains, and vomiting were becoming worse, I fortunately decided to wait no longer, and performed ventral cœliotomy on the tenth day, although the pulse at the time was only 100 and the temperature 100.8° F. per rectum. More than a pint of free fluid peritoneal exudate at once escaped from the incision. All the small intestines that came into view were intensely injected, and the peritoneal lustre was absent over extensive areas of their red surfaces, which bore strands of fibrin, chiefly along the lines of junction of two opposed surfaces. Two loops of ileum, with a mass of omentum, were adherent to the posterior edge of the vaginal wound, and were severely kinked and drawn upon. Detachment wounded their serous and muscular coats. When these surfaces were repaired by superficial stitches of fine silk, and when the peritoneal exudate had been sponged out and the most suspicious parts had been treated with peroxide of hydrogen, the gauze drain into the vagina was renewed, and three gauze drains from different points in the abdomen, so placed as also to cover the sutured areas, were guided out of the abdominal wound, which was closed only about one-half. The patient bore the operation very well, with camphor and strychnine hypodermically. Satisfactory evacuations came in six hours afterward. The pulse, at first not at all accelerated, rose to its maximum of 115 in eight hours, when the temperature was 99.8° F. A slight rise of temperature with a pulse near 100 continued for about five days. A large amount of fluid was discharged by the vaginal and the abdominal gauze drains. The abdominal wound was closed completely under anæsthesia, about twelve days after it had been made, but the gauze drain beneath the bladder into the vagina remained a few days longer. The patient left the hospital and the city thirty-two days after the first operation, with all wounds closed, and in the best of spirits.

Case III.—Mrs. A. J. S——, aged twenty-seven years, IIpara, with one induced abortion at three months, six months ago. Before that she had been generally healthy, and without hereditary taint. The patient submitted to instrumental interference on the part of a notorious midwife, for supposed pregnancy, soon after one cessation of menses. This was followed by a continuous and profuse bleeding for three weeks, with constant pain; and after fever, vomiting, and persistent constipation had supervened. Dr. H. S. Barnard, succeeding a former attendant, recognized a large pelvic abscess and transferred the patient to the Post-Graduate Hospital. On March 9th I made a two-and-a-half-inch transverse incision in the posterior vaginal vault, back of the uterus, with a Paquelin cautery, opened into the large multilocular abscess with my fingers, broke down some septa, and evacuated at least a gallon of pus. The abscess cavity and the vagina were then packed with sterilized iodoform gauze, which was renewed in the vagina every second day, and was all removed after a week, when a double soft-rubber drainage tube was introduced into the abscess cavity, extending within the vagina almost to the vulva, so that an irrigator tube could be inserted into one of its terminal openings, and the cavity irrigated daily. Sixteen days after operation, when her general condition had become quite normal, although still quite feeble, a difficulty arose with the bowel evacuations. Calomel and salines were followed by nausea and vomiting, and the high enemata were often mostly retained, or came away in a drizzling manner, which, together with the contour of the abdomen, suggested a filled colon and an obstruction at the sigmoid flexure. This I thought to be the trouble and to be caused by some involvement of the sigmoid in the retracting abscess walls. This view of the disorder, and the fact that a high rectal tube could, sometimes at least, be run up into or through the sigmoid, as shown by digital exploration in the vagina and the cul-de-sac, induced me to delay interference for about sixty hours after fæces were first vomited. The pulse during this time ranged from 104 to 130, and the temperature from 98.4° to 101° F. On March 29th (twentieth day) I made an incision suitable for left inguinal colostomy, and at once came upon a greatly distended and inflamed small intestine, which led down to an acutely flexed portion whose serous coat was pulled out in form of a band, that was attached to something in the abscess wall below. The obstruction was almost complete; but when the band was severed the collapsed and strictured portion of small bowel could be again distended by compression of the dilated gut; and stitches to repair the wound in the serous and muscular coats were all that were needed. But the sutured part, as well as all the rest of the intestine that came within the wound, was clearly involved in marked peritonitis. As there was no liquid exudate, I placed no drain, but closed the wound entirely. The patient rallied from the severe shock, and satisfactory bowel evacuations came spontaneously after five hours. Nevertheless, coolness of skin and extremities, with a very rapid pulse and other evidence of severe infection and general peritonitis, soon followed, and continued until death—seventy-two hours after the ventral section. Autopsy by Professor Zeit, pathologist of the Post-Graduate Medical School, twenty-four hours after death, showed no free gas in the abdominal cavity. The small intestines were greatly distended and involved in general peritonitis,

being coated with purulent fibrinous exudate. There was no apparent leakage of the ileum at the point of suturing, which looked greenish-black, and was surrounded with a purulent necrotic area. After the intestines were taken out and detached from their mesentery, a perforation, the size of a small coffee-bean, was found six and a half feet from the stomach end. The left side of the pelvis contained a large abscess cavity, with some greenish-yellowish pus that had an ammoniacal odor. In the walls of this cavity the small intestine and also the vermiform appendix were extensively engaged. Professor Zeit says the operation was not successful, because it was done too late, *i.e.*, upon structures already infected.

Observations.—1. According to the showing of Lenclos, ileus is more frequent after vaginal hysterectomy than after other abdominal sections. This is as we could expect, chiefly in all cases in which the abdominal or pelvic cavity is not closed; for in these cases two or three of the chief causes of peritoneal adhesions are quite generally present, *i.e.*, (*a*) raw surfaces, (*b*) infection, and (*c*) a foreign body (the drain).

2. Inasmuch as we know that the physiological economy of the abdomen demands that the different portions of the small intestines shall be free to migrate from place to place, as is painfully illustrated by my third case, therefore any opening of the abdominal or pelvic peritoneal cavity is deplorable, that engages any portion of the small intestine to assist in closing the opening or wound. This is regularly the case in vaginal hysterectomy, as ordinarily performed, and as is necessarily done in all cases of this operation in which there are extensive abraded surfaces, or in which septic features are present in the case. But in all other cases of this operation, when no intraperitoneal drain is needed, it is a just requirement that the peritoneal cavity be sealed by a closure of the wound in the peritoneum by coaptation of its edges; and that the use of hæmostatic forceps or clamps, as far as it interferes with such closing of the peritoneum, should be avoided as far as possible. I do not, from my experience, find it necessary or desirable to close the opening in the vaginal vault, but prefer to let this and the broad ligament wound drain into the vagina.

3. The secondary operation for the relief of post-operative ileus, to be successful, must be performed early, before the mechanical obstruction has caused infection and paralysis of the bowel (peritonitis).

4. When this difficulty arises early—within three to four days after an abdominal or pelvic operation, *i.e.*, the time in which post-operative peritonitis can also be expected—it will often be difficult to exclude the latter, which also causes similar symptoms.

5. The symptoms and signs which speak mostly for ileus are: Abdominal distention without marked tenderness to touch on gentle pressure; the presence of rhythmical colicky pains; a slow pulse that is not wiry; fecal vomiting; vermicular motion of the small intestine, seen or felt through the abdominal wall; increased proportion of indican in the urine.

Incipient Insanity.—T. Outterson Wood describes the disorder characterized by a feeling of unhappiness, a dampening of buoyancy of spirits and healthy, hopeful looking forward, with a loss of power in fighting against the weight of despondency. The expression of the patient's face is that of unhappiness and uncertainty, and the attitude of the body is that of listlessness and want of energy, showing a flaccid condition which distinguishes it from the well-known condition of flexion so typical of the pronounced melancholic. Another striking difference between this state of depression and melancholia proper is that in melancholia there is a characteristic tendency to tears. The danger is in the recurrence and persistence of attacks of depression until they gradually drift into the depths of melancholia. Drugs are useless. The general health should be improved and a healthy action of the various excretions encouraged, with change of scene, change of daily routine and work, open-air living, exercise, and cheerful surroundings.—*Treatment*, July, 1900.

A New Method of Treatment of Initial Syphiloma.—Leone Levi claims that his method is new, the means used for its application not being new, however. He cauterizes the syphiloma, preferably by means of the galvano-cautery. Certain practitioners in the past cauterized a syphiloma perhaps once; the author does it, if necessary, a thousand times, until the treatment determines an intense local inflammation of the tissues. This makes of the syphilide a mere local infection, preventing constitutional infection with all its consequences. He describes his method in detail, and claims absolutely successful results in thirty-two cases.—*La Riforma Medica*, July 19, 1900.

Concomitant Measles, Chickenpox, and Smallpox.—Otto Lerch relates a case which, so far as his search goes, shows no parallel in literature. A twelve-year-old boy, after fever, chill, etc., showed a crop of vesicles; five days later, after headache, nausea, and vomiting, the temperature rose from normal to 104° F., and signs of measles appeared. In another instance there was coexistence of measles and varioloid, and in one family the writer observed cases of measles, smallpox, and chickenpox, and he believes they may all coexist in one individual.—*New Orleans Medical and Surgical Journal*, August, 1900.

Pseudo-Membranous Bronchitis.—A case of this unusual affection is reported by Joncheray, whose patient was a man aged fifty-seven years. The author says that it is necessary to distinguish between the acute and chronic forms of the disease. The membranes may suggest diphtheria, and we must examine for the Loeffler bacillus, look after the lymph nodes, and if necessary make use of serum treatment to clear up the diagnosis. Another form is that due to the aspergillus fumigatus, but examination will reveal the parasite, and it can be cultivated outside the body. When no membranes have appeared, it is necessary to differentiate from foreign bodies, ingestion of caustic liquids, cicatricial contraction, tumors, glottic spasm, and rarely tracheal ozæna.—*Revue Hebdomadaire de Laryngologie*, July 28, 1900.

Typhoid Mastitis.—Luigi Fornaca reports a case in a woman aged forty years. On the twenty-ninth day of the disease, the patient being convalescent, pains appeared in the right breast and soon became extreme, and on the following day the breast was greatly swollen. An exploratory puncture five days later showed the tissues to be hard and resistant; three drops of a sero-purulent fluid were obtained, and cultivated in ordinary broth. The left breast became involved sixteen days after the right, and both tumors became indolent, although remaining enlarged and hardened. The fluid cultivated on bouillon showed a micro-organism which in appearance, reactions to stains, and action upon guinea-pigs in every way resembled Eberth's bacillus.—*La Riforma Medica*, July 27, 1900.

Trinitrin in Melancholia.—Guiseppe Paoli has found this drug to be of great service in the type of melancholy characterized by attacks of "anxiousness," the agony of mind being largely due to vasomotor disturbances. To patients who are periodically subject to grave exacerbations of their condition, whose pe-

ripheral blood-vessels are evidently in a spastic state, which becomes much aggravated during the attack, he gives treatment the object of which is to prevent the attacks and to overcome the permanent constriction of the vessels. With this object in view, he puts them on a milk diet, and prescribes two spoonfuls a day of the following potion: "One-per-cent. alcoholic solution of trinitrin, gtt. 30; water, 300 gm." This is given for the first ten days of each month, a mild iodine treatment being given the other twenty days: "Iodide of sodium, 10 gm.: water, 300 gm.; 2 spoonfuls a day." Meanwhile glycero-phosphates with arseniate of strychnine are given hypodermically to counteract the action of the treatment on the blood corpuscles. The cardiac and renal functions are closely watched during the treatment.—*La Riforma Medica*, July 28 and 30, 1900.

A Disease Resembling Acute Leukæmia.—Stephen reports the case of a middle-aged woman who died after a short illness with every evidence of great prostration, but no focalizing symptoms or physical signs. The microscopic examination of the blood revealed a diminution of the red cells and an increase of the leucocytes; the small lymphocytes being scanty, but the eosinophiles present in abnormally large numbers. The main feature of interest, however, lay in the fact that though many of the red cells contained what were undoubtedly nuclei, others exhibited what the author believes to be amœboid parasites. These were also to be found in some numbers lying free between the cells, and Stephen considers himself justified in regarding them as the cause of the disease, to which he applies the name of proteosomiosis.—*Wiener klinische Rundschau*, July 22, 1900.

Subacute Tuberculosis of the Pharynx in Childhood.—Carlo Comba reports three cases of this affection, which is rare in childhood, only fourteen cases being found in medical literature. In these three cases the process was secondary to tuberculosis of the air passages and the digestive tract. The subjective symptoms are sharp pains in the affected region, which are increased during deglutition, so that swallowing is sometimes absolutely impossible. Should the soft palate be involved, it becomes paralyzed. An examination of the pharynx in the early stages will show grayish-yellow nodules, composed of soft tissue which easily bleeds. At a later stage these ulcerate and leave cavities with irregular margins, containing a detritus of caseous substance and muco-pus. The surrounding mucosa is swollen and red. The cervical glands become swollen and sometimes suppurate. The diagnosis is not difficult, especially when there are marked symptoms of tuberculosis in other organs, and will be materially assisted by bacteriology.—*Lo Sperimentale*, vol. liv., No. 3, 1900.

The Hygiene of Obesity.—K. von Noorden divides the treatment of those suffering from obesity into three headings. First and perhaps most important in preventing and removing abnormal deposits of fat is the matter of exercise, but this requires careful regulation and adjustment according to each individual's needs and capabilities. The best and also the most universally applicable form of exercise for this class of patients is pedestrianism, and especially hill-climbing. It is easy to determine the length of walk to be taken, the character of the ground to be covered, and the length of time consumed; to avoid overtaxing the heart, thorough ventilation of the chest by deep and regular respiration must be insisted on. The second element in the treatment involves the care of the skin. Fat persons are especially liable to some forms of skin diseases, notably seborrhœic and intertriginous eczema. In the treatment and prophylaxis of these scrupulous cleanliness and hydrotherapy are of the greatest value. Regular baths, frictions, and cold douches are useful for the hyperidrosis commonly observed; if these are insufficient, Turkish baths, small doses of atropine, and restriction of the fluids imbibed are indicated. The third therapeutic factor to be considered embraces the question of diet. In addition to a careful selection of the articles of food allowed, it is of greatest service to make each meal very small in quantity, but to give food at short intervals, viz., seven or eight times a day. In this way the stomach is kept busy and the feeling of hunger does not become troublesome, while at the same time the sensation of faintness, which so often is a prominent feature in women, and depends on emptiness of the stomach, is entirely obviated.—*Zeitschrift für Krankenpflege*. July, 1900.

An Unusual Form of Painful Anæsthesia of Hysterical Origin.—Guiseppe Dagnini reports the case of a young woman who exhibited the following symptoms: Total loss of specific sensibility to puncture of the skin and subjacent tissues; loss of cutaneous sensitiveness to thermic and electric stimulation, to space, to recognition of the quality of bodies touching the skin, to the most superficial contact; loss of sense of position of the knee-joint, combined with hyperalgia to the slightest pressure, which became intolerable pain if the pressure were increased. The condition was found to be absolutely of hysterical origin, and was cured by the suggestion that the evacuation of an abscess (due to a hypodermic injection of morphine) done under chloroform, would give relief.—*Rivista Critica di Clinica Medica*, July 7, 14, and 21, 1900.

Five Years' Experience with the Antiseptic Treatment of Typhoid Fever.—J. A. Crook refers to his former communications, in which he showed that carbonate of guaiacol was not taken up from the alimentary canal, but that it passed through as taken in, and hence reached the seat of disease. He believes this drug to be non-irritating to the mucous membrane of the stomach or bowels, and that it may be given in doses sufficiently large to cause disinfection without detriment to the patient. In the past five years the writer has treated one hundred and nine patients, with four deaths. He finds that the strict Woodbridge and Brand methods necessitate worry and annoyance to the patient by the oft-repeated small doses and the too frequent use of the cold bath, when sponging would accomplish what is desired. Intestinal antiseptics are rational and scientific; the course of the disease is shortened, and the mortality is lessened.—*Memphis Medical Monthly*, August, 1900.

Abnormal Electrical Storage in the Human System.—Sir James Grant says that for many years he has been in the habit of treating cases of supposed muscular rheumatism by the insertion of small (No. 8) fine steel needles, the number varying according to the extent of the affected parts, and, as a general rule, the seat of pain will indicate the precise place and extent to which the needles should be used. They remain stuck into the muscles for from one to two minutes. The previous hard, tense condition approximating one of tetany relaxes, the needles are removed without force, and the patient is able at once to use the muscles. Experiments point to an abnormal storage of electricity in the tissues. It may be stored as a result of sudden draughts and cold. When the inserted needles are touched, the electrical accumulation is simultaneously discharged, passing through the body of the operator without any serious result. There is almost immediate relief in lumbago from this acupuncture. Cases are cited.—*Montreal Medical Journal*, July, 1900.

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THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH.

THE prospects of ever attaining comparative success in the surgical treatment of carcinoma of the stomach have come to depend not so much upon surgical skill and technical efficiency as upon early diagnosis, and the term early has now a different significance from what it formerly possessed. At present, if a diagnosis is to be designated early, it must be made very much sooner in the course of the disease than would have been considered early a few years ago, when a diagnosis made before a tumor could be palpated was not looked upon as trustworthy. The surgical side of the question of the treatment of this disease is now in a satisfactory condition as far as technique is concerned, and when it is possible to operate upon patients who are in reasonably good condition the immediate results can fairly be called excellent; but unfortunately very few patients are operated upon in a stage of the disease which, in view of our present knowledge, can be called the most suitable and most promising as to final result.

It is safe to say that the prospects of obtaining a real cure when a tumor is palpable, no matter how movable, are very poor, for there are exceedingly few patients operated on under such circumstances who have survived long enough to be looked upon as safe from recurrence, and, furthermore, we know that patients may reach a very advanced stage of the disease, or may die, without ever having given palpable evidence of a tumor. We certainly cannot use the presence of a tumor as a safe means of diagnosis, if we are seeking information to guide our therapeutics to permanent success. There seems, however, to be hope that we may arrive at a state of knowledge which in many cases will allow us to make a diagnosis of strong probability at least, at a much earlier stage in the disease than heretofore; but to make this possible the clinician is the one who must get the evidence and draw conclusions, and then call upon the surgeon for the performance of an operation which may be only exploratory. We need not always expect to make positive early diagnoses, but we may hope to collect enough evidence from observation and experiment upon which to base a diagnosis of such strong probability that under reasonably favorable circumstances an exploration will often be justifiable and perhaps be followed by a successful operation for radical cure.

In gathering evidence for an early diagnosis, one of the first points to consider is the age of the patient, in reference to which we may say that most cases occur in those who have passed the age of forty-five years, though exceptions to this general rule are frequent enough. Sex does not seem to be of much significance, though if anything the disease occurs oftener in men than in women. A history of chronic gastritis or dyspepsia which does not show signs of amelioration under treatment is always suspicious, and when this condition is associated with a constantly diminished amount of free hydrochloric acid we may make at least a provisional diagnosis of carcinoma of the stomach, and expect by further investigation to disprove or substantiate it. It has been observed that, in connection with the gastritis occurring in the presence of carcinoma, there are certain irregularities in the life-processes of the epithelial cells of the gastric mucous membrane, the so-called atypical and irregular mitoses seen in these cells when they are collected from the stomach washing either with or without the preliminary scraping of the mucous membrane with the end of the stomach tube in order thus to increase the number of dislodged cells. These appearances are practically always demonstrable and occur early in the disease, before the mucous membrane is actually involved in the carcinomatous process, and though perhaps not pathognomonic are certainly of great importance.

The Oppler-Boas bacillus seems to occur regularly in stomachs which are the seat of carcinoma, but, as a rule, too late to influence the making of a really early diagnosis, and the presence of lactic acid has about the same diagnostic value. It does occur in carcinomatous stomachs, but usually too late in the disease to be of assistance in making the kind of diagnosis which will be of much use to the patient. However, the presence of lactic acid and of a tumor, though not early signs, does not necessarily in all cases preclude the possibility of operative cure, though the chances of real cure are much diminished by such signs, in the case of the first because the functions of the stomach must be gravely disordered if it is constantly present in any quantity, and in the case of the second because the disease must have reached very considerable extent if it is possible to feel a tumor through the abdominal walls. Only freely movable tumors need be considered in this connection at all. The discovery of true carcinomatous tissue in the stomach contents undoubtedly makes a diagnosis, but not an early one. A point to remember is that the progress of a case of carcinoma of the stomach will vary according to the site of the growth in the gastric wall and its histological character, so that an early diagnosis in one instance might offer a quite different prospect from what it would in another. Fortunately, the so-called scirrhus type, intrinsically least malignant, is the commonest, and is most frequently located in the pylorus, where it soonest gives symptoms. Hæmatemesis is undoubtedly a symptom of gastric carcinoma, but there are several other conditions which cause vomiting of blood, sometimes in the "coffee-ground" condition, so that at best its presence can afford us only corrobora-

tion, often too late to be of any use, in outlining our treatment. The great aid to early diagnosis is exploratory incision, though even this does not enable us to say positively every time whether carcinoma is present, but it does give us evidence as to whether we are called upon to deal with a lesion amenable to operative treatment, so that what to do next is easily decided. Just when and upon what evidence to make an exploratory incision, and whether to proceed at once with a radical operation, are questions which at present must be answered largely from individual experience and opinion; but the exploratory incision is gaining in favor steadily, and justification for its use is sought in the result of formulating facts such as we have mentioned, in its practical freedom from danger, and in the important knowledge which we gain by it. There is room for a judicious extension of its use.

CHYLOUS ASCITES.

An effusion of fluid into the peritoneal cavity may exhibit a milky appearance from the presence of fat or of chyle. Fatty ascites has been observed in association with tuberculosis or carcinoma of the peritoneum, large numbers of endothelial cells in a state of fatty degeneration being desquamated and partly mixed and partly dissolved in the fluid poured out. Chylous ascites, on the other hand, is dependent upon obstruction to the flow of chyle or rupture of a lacteal, the thoracic duct, or the receptaculum chyli. A case of the latter variety has recently been reported by Croon (*Lancet*, June 23, 1900). The patient was a woman thirty-nine years old, who presented symptoms of carcinoma of the omentum and the mesentery, with resulting ascites. On aspiration three hundred and eighty ounces of fluid resembling pus were removed. This was of pale yellow color, and at first quite homogeneous, but on standing for twenty-four hours a slight creamy layer appeared upon the surface. The fluid had a sweetish, milky odor. It was found to consist partly of finely emulsified fat, but more largely of granular débris, constituted mainly of leucocytes in a state of fatty degeneration. A movable tumor was now found in the region of the gall bladder, and an indefinite, irregular, solid mass in the situation of the greater curvature of the stomach.

Although temporary improvement ensued, the fluid reaccumulated, and after an interval of some three weeks about three hundred and fifty ounces of fluid were additionally removed. Death, however, resulted in the course of a few days. On post-mortem examination, the subpleural lymphatics were found studded with minute carcinomatous nodules. The small intestine was the seat of commencing peritonitis. The mesenteric glands were generally enlarged from malignant infiltration.

A large carcinomatous neoplasm grew from the inner surface of the anterior wall of the stomach, extending from an inch beyond the pylorus for four inches along the lesser curvature. The gall bladder was distended with bile, and the glands and tissues along the larger bile-ducts and in the portal fissure of the liver were extensively infiltrated with new growth. The liver itself contained one small carcinomatous nodule. The small intestine was thickened and contracted throughout its entire length. It contained an immense number of small carcinomatous nodules surrounding and extensively occluding the lacteals, close to the mesenteric attachment. The thoracic duct as well as the receptaculum chyli was healthy, although a mass of infiltrated glands was found lying close beside and pressing on it.

HOSPITAL ABUSE.

That abuse of the privileges intended by hospital authorities only for the worthy poor is not confined to any state or country is amply shown by statements made in an address delivered by Thiery (*Lancet*, July 28, 1900) at the First International Congress on Medical Ethics held recently at Paris. So rapidly is the use of hospitals by those who can afford to pay for medical attention increasing that it has been declared that, in spite of all efforts to the contrary, the time will come when bread and medical aid will be given gratuitously to all who apply, and that the time is not far distant when the medical practitioner will be a paid functionary of the state. The following instances of hospital abuse were cited: That of a jockey who was earning $5,000 a year and went to a hospital to be treated for a sprain; a lady who was able to pay for her journey from America in order to obtain advice at the same hospital; a cashier in a commercial house earning a salary of $4,000; a young lady from Russia who was operated on gratuitously at a hospital and then went for her convalescence on a journey to Italy; a celebrated singer who wanted the hospital surgeon to come to her own house because she did not like to go to the hospital, and who strongly objected to paying any fee whatever. Further, of about fifty thousand births that occur annually in Paris, eighteen thousand take place at public expense. It will thus be seen that, unless the predictions made are to be verified, some steps will be necessary to curtail an abuse that has already attained enormous proportions. The remedy proposed is that clerks or janitors at hospitals should, in addition to taking the names and addresses of patients, make inquiries as to their means of subsistence. An inspector should then institute an investigation for the purpose of verifying the statements made. The very least that can be done under present conditions, is to ask each applicant for gratuitous treatment whether he can afford to pay, and to inform him that the gratuitous services of the hospital and dispensary are only for the worthy poor. The individual should be permitted to decide for himself if he wishes to be made an object of charity.

Typhoid Fever in Newark, N. J.—Numerous cases of typhoid fever occurring among the factory hands in several thread mills have been traced to the use of well-water. Examinations of the water of the wells in the mill yards have shown the presence of typhoid bacilli.

News of the Week.

The Rocky Mountain Inter-State Medical Association.—The second annual meeting of this association was held at Butte, Mont., on Tuesday and Wednesday, August 28th and 29th, under the presidency of Dr. C. K. Cole, of Helena, Mont. There was an interesting programme of papers. A luncheon was had at Columbia Gardens on Tuesday, and the annual banquet at the McDermott Hotel on Wednesday. After the close of the meeting a number of the members joined in an excursion through the National Park.

Yellow Fever in West Africa.—It is reported in Paris that a terrible epidemic of yellow fever is raging in Senegal. Nearly all the French troops, the physicians, the nurses, and others of the civil population have been attacked, and since the rainy season set in the mortality has been about eighty-five per cent. The churches have been closed, and the white troops will be withdrawn at the earliest possible date, their place being taken by native soldiers.

Mortality Statistics of Philadelphia.—For the week ended September 1st there were reported to the Philadelphia bureau of health 413 deaths, 41 more than for the preceding week, and 77 more than for the corresponding week of the previous year. The principal causes of death were as follows: Pulmonary tuberculosis 49, cholera infantum 42, heart disease 35, marasmus 24, pneumonia 19, inflammation of the stomach and bowels 17, nephritis 15, diphtheria 13. Seven deaths were due to sunstroke.

A Ten-Thousand-Dollar Fee.—It is stated that one of the largest fees ever paid for medical services in a single case will be received by Dr. J. N. McCormack of Bowling Green for his attendance upon William Goebel, of Kentucky, after the latter was shot at Frankfort. Arthur Goebel, brother of the dead governor, has accepted a claim against the estate of Governor Goebel for $10.000 for Dr. McCormack's services. It is said that Goebel's life was prolonged by Dr. McCormack until the legislature could meet and elect him governor of the State.

Typhoid Fever in Paris.—The recently published statistics of the health authorities of Paris show that typhoid fever prevails in an almost epidemic form. There were recorded, from the beginning of the year to August 13th, thirty-one hundred and forty-eight cases, of which five hundred and sixty-eight resulted fatally. This is a considerable increase over the records of previous years. Paris is never free from this disease, but until 1898 the number of cases for the corresponding period never exceeded seven hundred. The prevalence and spread of typhoid fever are attributed entirely to bad water. One of the sources from which Paris is furnished is known to be contaminated with the typhoid bacillus, though the water from all the others is comparatively innocuous. The authorities say they are obliged to furnish the bad water with the good owing to the inadequacy of the supply, and the only remedy they suggest is that the inhabitants boil all the water they use, or else drink only natural mineral waters.

Prizes for Charitable Institutions and Health Boards.—The Department of Social Economy at the Paris Exposition embraces a great variety of exhibits, including labor unions, charitable organizations, health boards, department stores, etc. The awards in this section have been announced, and we learn that grand prizes have been bestowed upon the following: Tenement-House Committee, Associated Charities, New York City; State Board of Health, Massachusetts; State Bureau of Charities and Correction, Albany; State Bureau of Charities, Massachusetts; Lunacy Commission, State of New York, Albany; St. John's Guild, New York City; Charity Organization Society, New York City; Association for Improving Condition of the Poor, New York City; and the Children's Aid Society, New York City. Gold medals have been awarded to the New York City Street-Cleaning Department; the Loomis Sanitarium; the Bureaus of Charities of Michigan, California, Illinois, Indiana, Ohio, Pennsylvania, Wisconsin; the Public Charities and Charities Association of Boston; the Lunacy Commission of Massachusetts; the Massachusetts General Hospital, Boston; St. Mary's Hospital for Children, New York City; Johns Hopkins Hospital, Baltimore; Pennsylvania Hospital, Philadelphia; Presbyterian Hospital, New York City; Boston City Hospital, Boston; Hospital for Aged and Married Couples, Boston; Institution for the Assistance of Children, Glenmills, Pa.; Columbia Institution for the Deaf, Washington, D. C.; New York Institution for the Deaf, New York City; Society for the Assistance of Children, Boston; Five Points House of Industry, New York City; Society for Prevention of Cruelty to Children, Brooklyn; State Charities Aid Association, New York City; Mount Sinai Hospital, New York City, and the Association for Improving Condition of Poor, Brooklyn; public baths, New York City. Also to the boards of health of Brookline, Mass., Cambridge, Mass., Chicago, New York City, Philadelphia, Pittsburg, Providence, Boston; and the State boards of health of California, Illinois, Michigan, New York, Pennsylvania, Rhode Island, and Vermont. The following received silver medals: public baths of Boston and Brookline, Mass.; the boards of health of Baltimore, Buffalo, Charleston, N. C., Cincinnati, Cleveland, Detroit, Milwaukee, Minneapolis, Newark, New Orleans, St. Louis, St. Paul, San Francisco, Washington, D. C., Worcester, Mass.; and the State boards of health of Connecticut, Delaware, Florida, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Minnesota, Missouri, New Hampshire, New Jersey, Ohio, Oklahoma, South Carolina, Wisconsin. A bronze medal was given to Dr. W. B. Atkinson.

A Cattle Disease in Eastern Pennsylvania.—An epidemic prevails among the cattle in Monroe and Wayne Counties, Pa., and Sullivan County, N. Y., which is causing the death of large numbers of animals. The chief symptoms are colic, prostration, and petechial hemorrhages on the mucous membranes, followed by death in from a few hours to several days.

Dr. Edwin Klebs, who was for several years professor of pathology in the Rush Medical College and director of the pathological laboratory in the Post-Graduate Medical School of Chicago, has resigned these places and has returned to Germany to reside permanently.

Sanitary Barber Shops.—At a labor meeting on Sunday last it was announced that an agitation for antiseptic barbers' shops is to be started by the walking delegate of the Journeymen Barbers' Union, who is now engaged in a fight to have the Sunday-closing law observed in the barbers' shops.

Congratulations to Major Ross.—The Section of Bacteriology of the International Medical Congress in Paris during its sessions sent a telegram to Major Ronald Ross, of the Liverpool School of Tropical Medicine, extending to him hearty congratulations upon his discoveries regarding the parasitology of malaria.

The Cholera in India.—A despatch from Bombay states that official returns show that there were seventy-nine hundred and sixty-nine deaths from cholera in the native and British states during the week ended August 25th. The number of relief works is decreasing and the numbers receiving gratuitous relief are increasing.

The New Jersey State Board of Health.—Governor Voorhees, of New Jersey, has appointed Mr. George P. Olcott, of East Orange, to succeed the late Dr. Gauntt, of Burlington, as a member of the State board of health. The other members of the board are physicians. It was their wish to have associated with them a sanitary engineer, and Mr. Olcott fulfils this requirement.

The Plague in Glasgow seemed at the beginning of this week to have got beyond the control of the health authorities, but later reports have been less disturbing. One hundred and three suspects were under observation on September 4th, and the disease had spread to Govan, a suburb on the left bank of the Clyde. The number of cases of the disease thus far is sixteen. It has not been officially determined how the disease gained a foothold in the city, but it is not improbable that an efficient quarantine, against which British trade rages so furiously, might have prevented the invasion. Denmark, Belgium, and Austria-Hungary have declared a quarantine against Glasgow, and the port authorities at Liverpool, Southampton, and elsewhere in England have instituted a special medical inspection of vessels from the Clyde. A report was current on Tuesday that two cases of the plague had been discovered in the vicinity of the London Docks. But the medical officer, when questioned on the subject, said he knew nothing about the matter. A case of plague has been officially reported at Buenos Ayres.

A Commission for the Study of Dysentery and Typhoid Fever.—Drs. W. J. R. Simpson, of London, J. Lane Notter, of Netley, and David Bruce, of the British army, have been commissioned by the British government to proceed to South Africa and inquire into the nature, causation, pathology, and modes of prevention (more particularly as affecting armies in the field) of dysentery, and its connection, if any, with typhoid fever. Dr. Simpson is professor of hygiene at King's College, London; Dr. Notter is professor of military hygiene at Netley; and Surgeon-Major Bruce is well known for his discoveries regarding Malta fever and the tsetse-fly disease. It is hoped that something more practical than usually comes from such official investigations will be the result of the labors of this commission.

The Sick and Wounded in China.—A despatch to the surgeon-general from Major Perley, surgeon in charge of the American army hospital at Taku, states that there are one hundred and twenty sick at Pekin and two hundred at Tien-Tsin, many only slightly ill. All the wounded have been brought from the front, and the hospital ship *Relief* will take the more severe cases.

The American Ambulance Corps in China.—A Japanese paper says that "the American ambulance corps has done some excellent work. Their stretchers are the best in the field and show the wonderful inventive faculty of the Americans. The handles of these stretchers are so arranged that they can be formed at once into supports by a clever mechanical contrivance, so that the stretchers can be used as beds or benches for surgical operations. The advantages of this system cannot be too much commended, for on ground so swampy and hot as the soil of Pe-Chi-Li the wounded men cannot safely lie long pending the treatment on the spot; and this inconvenience is removed by the American invention. Sixty men were thus treated directly where they fell, who otherwise would have died. The Japanese medical staff refer to the fact in most praiseworthy terms."

State Hospitals for Consumptives.—No less than twenty-two sites for the proposed hospital for tuberculosis have been inspected by the committee without a decision having been reached as to the most desirable location.

Examination for Senior Assistant Physician at the Government Hospital for the Insane, Washington, D. C.—The United States Civil Service Commission announces that on October 23 and 24, 1900, an examination will be held in any city in the United States where it has a local board of examiners, for the position of assistant physician, senior grade, Government Hospital for the Insane, Washington, D. C. The examination will consist of the subjects mentioned below, which will be weighted as follows: 1, letter writing, 5; 2, anatomy and physiology, 5; 3, general and special pathology, 20; 4, obstetrics and gynæcology, 10; 5, surgery, 10; 6, chemistry, materia medica, and therapeutics, 10; 7, bacteriology and hygiene, 15; 8, mental diseases, 25. It is desired that applicants shall have had at least five years' actual experience in a hospital or institution for treatment of the insane. The age limit is twenty years or over. The salary of the senior physician is $1,200 per annum. This examination is open to all citizens of the United States who are graduates of reputable medical colleges and who comply with the requirements. Per-

sons who desire to compete should apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375.

A French Hospital Ship in China.—The French Red Cross Society has decided not to send any ambulances with the French troops to China, and has confined its energies to the equipment and sending out of the hospital ship *Nôtre Dame de Salut*, which left France for China on August 10th. The medical staff of the ship consists of nine surgeons, two apothecaries, and twelve hospital orderlies. Three of the surgeons and ten of the nurses belong to the French navy. The vessel has accommodations for three hundred patients. The amount raised by the Red Cross Society for the equipment and maintenance of the vessel was upward of 1,000,000 francs.

The Clarence Barker Memorial Hospital, which was erected at Biltmore, N. C., in memory of Clarence Barker by his sisters, was formally opened on Tuesday of this week. A fund has been started for a permanent endowment of the hospital.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 1, 1900. August 30th.—Medical Inspector P. M. Rixey commissioned medical inspector from August 24, 1900. Surgeon G. T. Smith commissioned surgeon from August 24, 1900. Passed Assistant Surgeon A. M. D. McCormick detached from the *Chicago* and ordered to the *Montgomery*. Assistant Surgeon J. R. Whiting detached from the *Montgomery* and ordered to the *Chicago*. August 27th.—Passed Assistant Surgeon M. R. Pigott ordered to the Naval Academy immediately. Assistant Surgeon C. A. Crawford detached from the *Chesapeake* and ordered to the *Eagle*. August 30th.—Passed Assistant Surgeon L. W. Spratling detached from the naval hospital, Yokohama, Japan, upon reporting of relief, and ordered to report to the commander-in-chief of the Asiatic station for such duty as may be assigned. Assistant Surgeon F. L. Benton detached from the naval hospital, Cavite, P. I., and ordered to the naval hospital, Yokohama, Japan, for duty.

Mrs. Fannie Lamar Rankin has been chosen as delegate from Georgia to the annual convention of wholesale druggists to meet in Chicago September 15th. This is the second time that she has been selected for this duty.

Promotion for British Acting Assistant Surgeons.—It is announced that the civilian surgeons at present serving with the troops in South Africa are to be offered commissions in the Royal Army Medical Corps, by which means it is hoped to fill some, at any rate, of the numerous vacancies in that discredited service. It is questionable whether the vacancies can be filled even by giving the positions away without examination, and it is certain that the prestige of the service will not be enhanced by introducing possibly unfit men.

Another Great Question Settled.—The International Congress of Animal Protection Societies was held in Paris in July. On the fourth and last day of this congress, July 21st, there was a debate on the subject of vivisection. Almost all the societies represented opposed, to a certain extent, the practice of vivisection, and were willing to vote in favor of restrictive laws tending to diminish and control experiments on living animals. But the antivivisectionist societies were in the majority, and a resolution was passed after an acrimonious debate affirming that "vivisection is a crime, unworthy of the toleration of any people calling themselves civilized." The New York State Antivivisection Society was represented at the congress by a Boston man.

Obituary Notes.—Dr. James Stoughton, surgeon United States navy, was drowned on August 5th in the harbor of Shanghai. He was returning to the United States steamer *Castine* late in the evening, and in stepping into a sampan he slipped and went overboard. A strong ebb tide was running, and he was swept under some junks. The officer with him dived after him, but without success. The body was recovered the following morning, and was buried in the cemetery there.

Dr. Easton Burchard, assistant surgeon United States army, died of dysentery on September 2d on the transport *Grant* at Nagasaki. He was born at Bonnot's Mill, Mo., on March 29, 1865. He was graduated from the Kentucky School of Medicine in Louisville in the class of 1886, and practised for several years in Kansas City. He entered the army as assistant surgeon of the Fifth Missouri Volunteers on May 4, 1898, and was appointed first lieutenant and assistant surgeon in the Fortieth Infantry on August 17, 1899.

Obituary.

WILLIAM SPENCER WARD, M.D.,

NEWARK, N. J.

Dr. William Spencer Ward, who died at the home of his son in Newark on September 1st, was born in Bloomfield, N. J., on July 13, 1821. He was the son of Dr. Eleazar Dodd Ward. The father practised medicine in Bloomfield for a period of fifty years, and his son had been in active practice for nearly the same length of time. He entered Princeton College in 1838, and was graduated in 1841. For five or six years after graduation he was classical and mathematical preceptor in the Bloomfield Academy, and afterward in Montclair. During the latter portion of this time he commenced the study of medicine, with his father as preceptor, and entered the College of Physicians and Surgeons, in New York, in 1847, being graduated from it in the class of 1849. He began his career as a physician in Newark in August of his graduation year, and lived there continuously in active practice up to about two years ago. During the Civil War Dr. Ward was in the government service as an acting surgeon, and was stationed at the Ward General Hospital, in Newark, from 1863 to 1865. He was on the medical staff of St. Michael's Hospital during 1877 and 1878, and from 1881 to 1885 on that of St. Barnabas' Hospital. He was also attending physician to the Protestant Foster Home for over thirty years.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 30, 1900.

The Injurious Effects of Improperly Constructed School Chairs.—J. S. Stone says that lateral curvature of the spine is a disease originating almost always during school life, and is much more frequent among girls than among boys. The ordinary type of lateral curvature is that of the writing position. In Nuremburg twice as many incorrect postures were found among children writing the oblique as among those writing the vertical script, in Munich two and a half times as many, in Fürth and Würzburg four times as many. The chair back has always been the great problem. There are two essentials to a proper back. In the first place, the shoulders should never be forced forward, and in the second, the physiological anterior lumbar curve should be maintained. It has been found a matter of commercial value to provide the typewriter with an adjustable automatic spring back constructed on hygienic principles. Are not the health and well-being of the growing children of the community of as great consequence as the comfort of the typewriters, in whom, because of greater age, deformities are much less likely to occur? No attitude, no matter how good in itself, can be long maintained without fatigue. Professor Mille has devised a chair to allow a change of distance, to allow an upright and a reclining position, and to allow for some changes in the antero-posterior curves of the spine, while at the same time always giving a firm lumbar support.

Results of the Operative Treatment of Cancer of the Breast.—Homer Gage says that although the results are by no means what they ought to and might be, they are sufficient to convince him that in the thorough, complete removal of the cancerous breast we have a means of offering a long immunity from cancerous infection to a large proportion of these patients, and a considerable hope that the immunity may be permanent, a hope which, in the absence of any alternative, is so strong that it certainly ought not to be smothered by a refusal to interfere. To have reduced the mortality to almost nothing, the local recurrences, that is, the external recurrences, from sixty-seven per cent. to less than twenty per cent., and to have increased the number of those who pass the three-year limit free from any recurrence from ten per cent. and fifteen per cent. to more than forty per cent., would seem to be a sufficient justification for the operation. But it must be remembered that these results are to be obtained only by a most thorough and extensive operation, and it is fair to hope that if such an operation can be performed when the growth is discovered early, while the external manifestations are limited to the breast itself, even better results may be expected.

A Case of Parovarian Cyst with Twist of the Pedicle Occurring during the Fourth Month of Pregnancy; Operation; Recovery; Normal Delivery at Term.—By F. B. Lund.

The Surgeon in the Nineteenth Century.—By Frederick Treves.

The Philadelphia Medical Journal, September 1, 1900.

The Etiology of Tropical Dysentery.—Simon Flexner formulates the following conclusions concerning the parasitology of tropical dysentery: (1) No bacterial species yet described as the cause of dysentery has an especial claim to be regarded as the chief micro-organism concerned in the causation of the disease. (2) It is unlikely that any bacterial species that is constantly and normally present in the intestine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as the probable cause of epidemic dysentery. (3) The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause. (4) The pathogenic action of amœba coli in many cases of tropical, and in certain examples of sporadic, dysentery has not been disproved by the discovery of amœbæ in the normal intestine and in diseases other than dysentery. While amœbæ are commonly present and are concerned in the production of the lesions in subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries even in the tropics. In the former varieties, bacterial association probably has much influence upon the pathogenic powers of the amœbæ.

On the Teaching of Pharmacology, Materia Medica, and Therapeutics in Our Medical Schools.—By John J. Abel.

Comparative Pathology: its Relation to Biology and Medicine.—By Theobald Smith.

On the Practical Clinical Teaching of State Medicine.—By Wyatt Johnston.

The Method of Teaching Physiological Chemistry.—By R. H. Chittenden.

The Master of Medicine as a Teacher of Medicine.—By Bayard Holmes.

The Unit System of Laboratory Construction.—By Charles S. Minot.

The Teaching of Physiology.—By William Townsend Porter.

Methods of Teaching Gynæcology.—By Howard A. Kelly.

Methods of Teaching Hygiene.—By Victor C. Vaughan.

The Teaching of Anatomy.—By William Keiller.

Teaching Obstetrics.—By J. Whitridge Williams.

On the Teaching of Pathology.—By J. G. Adami.

Medical News, September 1, 1900.

Differential Diagnosis of Chronic Rheumatism.—J. J. Walsh points out many of the conditions which may be and are confounded with chronic rheumatism. The class to which the name really belongs shows joint lesions which have occurred during an attack of rheumatism and persist even, becoming worse by reason of secondary degenerative processes extending over years. Many others should be called cases of pseudo-chronic rheumatism. Flat-foot, writer's cramp, brachyalgia from carrying loads, umbrellas, and holding up heavy skirts, etc., are forms spoken of. Traumatic neuroses, varicose veins, meralgia paræsthetica, etc., are some of the conditions the writer has found being treated as chronic rheumatism.

The Essential Conditions for Habitation to Develop and Maintain Healthful Family Existence.—Rosa Engelmann makes a plea for the detached suburban home with its wholesome atmosphere as compared with even the model tenement of the city. No parks, public baths, or playgrounds can take the place of the open life out of town. Rapid and cheap transportation is one of the crying problems of the day and should be made a political issue just as much as are sanitary environment, shorter hours of labor, etc. The dwelling-places of the poor of Chicago are described and contrasted with what might be offered outside the city and its slums.

Gastroptosis with Special Reference to a New Mechanical Support.—By H. W. Lincoln.

Improved Technique for the Cure of Ventral Hernia.—By M. M. Johnson.

The Advances in Medicine.—By Martin M. Kittell.

Journal of the American Medical Ass'n, Sept. 1, 1900.

The Relation of Surgery to Diabetes.—C. P. Gildersleeve believes that in aseptic surgery we do not possess the means of preventing gangrene after operations upon diabetic patients, as some authors teach. Cases are cited. The following rules are observed by the writer. (1) He would not operate on any patient suffering from diabetes without first explaining either to the patient or some one in authority the possibilities which might follow. (2) He would refuse to operate on an elderly diabetic subject for any of the simple affections, such as benign tumors, etc., unless there was some special reason for operating, and it is certainly a good rule always to examine the urine in any case of gangrene occurring in elderly people. (3) In the painful, rapidly spreading gangrene which often occurs in these cases, and which is bound to cause death if left alone, he believes in prompt and high amputation. As a rule, he waits until a line of demarcation forms; but in some cases, although the line has not formed, one can judge fairly well about how high it is going by the appearance, and in such a case he would operate before the line had actually formed. Some of these cases are inoperable; there may be complete gangrene of the foot, and the leg may be in good condition. Again, the leg may be indurated and boggy, and this condition may extend as high as the knee or above it, and it would be poor judgment to operate on such a case. Another class of cases is that of dry, comparatively painless gangrene which often affects the toes. These cases will often run their course, the dead parts being cast off, and as a rule they should be left alone, so far as operations are concerned.

The Physiological Training of the Feeble-Minded.—S. J. Fort reviews the history of American institutions and methods. The physiological system as formulated by Seguin is considered, and the kindergarten is thought to be of value. There seems to be no reason to doubt the efficiency of physiological training. The following can be urged for the future. (1) The State owes its mental defectives proper care and training, and a proper consideration of the normal and subnormal demands life-guardianship of those unable to support themselves in the outside world and a bond on the part of the well-to-do that provision shall be made for the support of their feeble-minded progeny. (2) The enormous increase in the number of this class of incompetents urges a closer attention to the proper enumeration of all such defectives in each State.

their registration on the files of State boards of health, and penalizing both parties to a marriage contract in which one is known to be feeble-minded.

Fracture of the Superior Maxilla in a Man Seventy Years Old, with Recovery.—V. A. Latham finds little in the literature relating to the subject, and gives cases with illustrations to show some of the difficulties in treatment and points of interest to the general as well as to the dental surgeon.

Pelvic and Nervous Diseases. The Third Element in Equation between Pelvic and Abdominal Disease in Women and Disturbance in the Nervous System.—By H. A. Tomlinson.

The Causal Relation Intra-Abdominal Diseases Bear to Nervous Disturbances Recognized by Gynæcologists, Ignored by Neurologists.—By Henry O. Marcy.

Traumatisms and Malformations of the Female Genital Apparatus, and their Relation to Insanity.—By George Henry Noble.

Pelvic Disease as a Factor of Cause in Insanity of Females and Surgery as Factor of Cure.—By Eugene G. Carpenter.

Gall Stones and Diseases of the Gall Bladder and Nervous Symptoms Resulting Therefrom.—By Edwin Ricketts.

Autointoxication from Defective Menstruation.—By Arthur W. Johnstone.

Tubo-Ovarian Adhesions—their Reflexes.—By A. L. Beahan.

New York Medical Journal, September 1, 1900.

A Case of Acute Glaucoma with Sub-Hyaloid Hemorrhage Supervening upon Unilocular Retinitis Albuminurica.—D. Webster and E. S. Thompson report the case of a man aged fifty-six years, who in January of the current year began to have difficulty in seeing with his left eye. He was treated for "cold" without benefit. Three months later his eye began to swell, and an oculist found all the symptoms of acute glaucoma. Myotics failed to give relief, and as the tension of the eyeball threatened permanent loss of sight, iridectomy upward was done under cocaine and suprarenal extract. Immediately after the excision of the iris the whole pupillary area was obscured by blood, which also spread itself over the anterior surface of the iris. He remained in the hospital a period of eighteen days, during which he had treatment with a view to getting rid of the blood in the anterior chamber, but without effect. The hemorrhages were renewed as fast as the blood was absorbed, and the anterior chamber was always from a quarter to half full of blood. His urine was examined and found to be loaded with albumin and with casts of various kinds. His diet was regulated accordingly, and he was treated locally and internally, but still unsuccessfully. Two weeks later, inasmuch as all perception of light was lost, and the eye remained painful and inflamed, enucleation was performed. Some bleeding followed a few hours after the operation, but was controlled by pressure. He was discharged in about ten days with the orbital cavity in good condition and the other eye unaffected.

Fibroid Tumors of the Uterus Complicating Pregnancy.—L. S. McMurtry gives a brief review of this condition, discussing the various problems which it presents. The clinical history is recorded of a case occurring in a woman aged thirty-four years, who gave the evidence of a pregnancy of five months' duration except that the enlargement of the abdomen corresponded to the eighth month. Much difficulty was experienced in emptying the bladder and rectum. Vaginal examination showed the entire pelvic basin to be packed with a hard mass; the cervix could not be felt; the tumor when examined through the abdomen was soft and yielding, almost to the impression of fluctuation; diagnosis, pregnancy with fibromyomata in pelvis, displacing uterus upward. A hysteromyomectomy was done, the mass being amputated from the cervix at the vaginal junction, the cervical stump stitched and dropped, and the peritoneum closed over it and across the pelvic floor by continuous catgut suture. The abdomen was closed in the usual way without drainage. A five-months' fœtus was removed from the uterus. There was an uninterrupted recovery, the patient returning home from the hospital in four weeks.

Atrophic Rhinitis.—J. E. Logan reviews the various theories which have been put forth to explain this condition. He is personally inclined to attach much value to the views of Michel and Grünwald, who attribute to accessory-sinus disease the principal etiological rôle in the affection, especially suppuration of the ethmoid cells. Illustrative cases are given.

Report of a Case of Nephrectomy for Ascending Tuberculosis, with Some Remarks on Cystoscopy and Catherization of the Ureters in Women.—By H. N. Vineberg.

The Treatment of Tuberculous and Purulent Joints with Large-Glass-Speculum Drainage and Pure Carbolic Acid: with a Report of Seventy Cases.—By A. M. Phelps.

The Lancet, August 25, 1900.

The Cellular Pathology of To-Day.—J. Burdon-Sanderson says that the word "cellular" has now a wider signification than when it was first introduced into pathological nomenclature, for it comprises not merely histological changes, but the chemical reactions which subsist between the cell and its environment. Formerly we regarded each kind of cell as having a single special function proper to itself, but the progress of investigation has taught us that each species of cell possesses a great variety of chemical functions and that it may act on the medium which it inhabits and be acted upon by it in a variety of ways. Thus, for example, we think of the colorless corpuscles of the blood (or, as we now call them, leucocytes) not merely as agents in the process of suppuration or as typical examples of contractile protoplasm, but rather as living structures possessing chemical functions indispensable to the life of the organism. Similarly we have come to regard the blood disc, which formerly we thought of merely as a carrier of hæmoglobin, as a living cell possessed of chemical susceptibilities which render it the most delicate reagent we can employ for the detection of abnormal conditions in the blood.

Diphtheria in the Horse.—From one case coming under observation, L. Cobbett is led to believe that it is perfectly possible for the horse to suffer from nasal and laryngeal diphtheria. This fact is of importance because it shows another possible channel of contagion to man, and because it has a direct hearing on the origin of antitoxin. It has been shown that the serum of a horse which has never been immunized with the diphtheria bacillus or its products often has the power of neutralizing the diphtheria toxin. The fact that all horses do not possess this natural antitoxin is doubtless to be explained by the fact that it is present only in those who have accidentally contracted the disease.

The Microscopic Appearance of the Motor Ganglion Cells in Five Cases of Peripheral Neuritis.—The exciting cause of the neuritis in the cases reported by W. K. Hunter was alcoholism in four and chronic interstitial nephritis in the fifth, a man who had previously suffered from lead palsy. In general the changes consisted in a granular degeneration with more or less fatty material, giving when faint the impression of a mere yellow stain. In some instances the granular contents of the cells had almost entirely disappeared, leaving the cells "ghost-like," and in many the nucleus was peripheral. Colloid degeneration was frequently present in the coats of the vessels.

Notes on One Hundred Cases of Enteric Fever Treated at the Military Hospital at Naauwpoort, South Africa.—The point of special interest in the article by Derwent Parker is in reference to the value of anti-typhoid inoculation. The general mortality was about ten per cent. It was 2.3 per cent. lower among the inoculated cases than among the cases uninoculated. The average temperature in the first group was nearly a degree lower, but about five and a half days elapsed before it finally became normal. All the inoculations were recent, none being more than six months old.

The Increase and Distribution of Cancer in Eastern Essex.—By G. M. Scott.

The Pathology and Therapeutics of Scurvy.—By A. E. Wright.

The Pathogeny of Gout.—By Dyce Duckworth.

Eye Disease in Egypt.—By K. Scott.

Münchener medicinische Wochenschrift, August 14, 1900.

Furring of the Tongue in Health and Disease.—J. Müller believes that the coated tongue so often observed in perfectly healthy individuals is largely due to excessive proliferation of the hairlike appendages of the filiform papillæ rather than to any extraneous deposit. Some persons have a greater tendency to this overgrowth than others, and it is found less frequently with advancing years. In disease it is not to be regarded as an indication of the condition of the alimentary tract as popularly supposed, though it is nearly always present in acute diseases, whether involving the digestive system or not. In chronic cases it is not nearly so constant, being often absent even in chronic gastritis. On examination of the deposit from a large number of cases it was found that there was no appreciable variation in character in different diseases, and that the average proportions of epithelial cells, bacteria, mould, portions of food, and leucocytes in the mixture were fairly constant. In two diseases, however, viz., pulmonary tuberculosis and gastric carcinoma, the number of leucocytes is uniformly so large as to be a characteristic sign. The causes for the formation of this deposit are numerous. The mechanical element is of importance, for most patients are taking greatly decreased amounts of nourishment or subsisting largely on fluids, so that the normal scouring of the

tongue through mastication and deglutition is interfered with. In many diseases there are increased formation and death of epithelial cells as a result of local congestion and serous infiltration—in fact, a desquamative catarrh which contributes largely to the coating. Changes in the bacterial flora of the mouth, as well as reflex nutritive and vasomotor impulses, also play their part, and, lastly, individual idiosyncrasies and the predisposition to increased growth and size of the filiform papillæ must be taken into account.

The Suture of Arteries (Conclusion).—R. Seggel is of the opinion that in view of improvements in technique and the favorable results obtained in what is now a large number of cases, the ligature of large vessels after injury should not be resorted to until after an attempt at suture has failed. This is especially the case in wounds of the carotids, when, if the artery be tied, everything depends on the almost instant establishment of a collateral circulation, with the result that the death rate is thirty-one per cent., the fatal termination being nearly always referable to the disturbance of the cerebral circulation. It is much wiser to clamp temporarily the vessel above and below, and close the wound by means of fine sutures of silk, or if necessary a portion may be resected and one cut end invaginated into the other according to the method of Murphy. In a case of attempted suicide which involved a good-sized transverse wound of the carotid, the author sutured the artery with three fine silk sutures, piercing the adventitia and media but not touching the intima. The wound was packed and the patient made an uneventful recovery.

Treatment of a Typical Case of Pachydermia Laryngis with Salicylic Acid.—J. Fein reports remarkably good results in the treatment of this refractory condition by means of twenty-per-cent. alcoholic solutions of salicylic acid. In the case cited the immediate relief to the subjective symptoms was very gratifying, and after the treatment had been continued for several months the local appearances had so far approached the normal as to obliterate all the diagnostic features. A year later the patient returned to be treated for another trouble, when it was found that the laryngeal picture was still the same as at the last observation.

The Indications for Surgical Interference in Extra-uterine Pregnancy (Conclusion).—By L. Prochownik.

A Case of Echinococcus of the Liver with Rupture into the Gall Passages.—By W. Althaus.

The Establishment of Sanatoria for Tuberculous Children.—By A. Baginsky.

A Case of Foreign Body in the Left Bronchus.—By Hecker.

Deutsche medicinische Wochenschrift, August 16, 1900.

A Case of Gastric Carcinoma with Unusual Symptoms, and a Contribution to the Question of Œsophageal Atony.—R. Schütz's patient, a woman aged seventy-five years, gave a history of cachexia and emaciation with dysphagia, and the feeling that food was arrested at the lower end of the œsophagus. During the entire illness no vomiting occurred, and no resistance was offered to the passage of œsophageal bougies. The necropsy revealed a pylorie cancer which had so far invaded the neighboring tissues as to have transformed the stomach into a thick-walled rigid tube about six inches in length, and which was held in a perfectly perpendicular position by peritoneal adhesions. It is to this extensive structural change that the absence of the usual signs of dilatation is to be ascribed, while an increase in the lumen of the œsophagus just above the cardia had undoubtedly served to receive a portion of the food for which there was no room in the very contracted stomach, inducing a secondary atrophy.

A Group of Clinically and Etiologically Related Cases of Chronic Disease of the Upper Air Passages.—E. Neisser and Kahnert report five cases of disease of the upper respiratory passages, of which the most striking feature was the essentially chronic course and the tendency to remissions in summer. In several of these the trouble seemed to be secondary to some acute disease. The mucosa of the entire naso-pharynx, of the pharynx down to and into the larynx, and of the upper portions of the nose is affected, presenting atrophy and swelling of the follicles with a tendency to the copious production of mucus and subsequent desiccation and formation of crusts. Hoarseness and dryness of the throat amounting almost to pain are the principal subjective signs. A bacteriological examination of the secretion revealed the presence of almost pure cultures of organisms resembling diphtheria bacilli in every particular. The blood of the patients was also found to be rich in diphtheria antitoxin.

The Symptomatology and Diagnosis of Membranous Colitis.—By I. Boas.

Is Alcohol a Food or a Poison?—By Kassowitz.

Berliner klinische Wochenschrift, August 13, 1900.

Charcot-Leyden Crystals and Spermin Crystals.—Benno Levy contrasts these two microscopic crystal forms, which are considered identical by many observers. In his opinion they are entirely independent of each other and have nothing in common except a superficial resemblance in form which vanishes on closer study, for then it is seen that they represent different groups, the one belonging to the monoclinic system and the other to the hexagonal. They also differ in their reaction to iodine, which imparts a characteristic violet hue to spermin crystals, but not the Charcot-Leyden form. The former are highly refracting, the latter weakly so, while the Charcot-Leyden crystals have a very important relation to the eosinophile cells which is not observed with the spermin crystals, for, according to the author, whenever the eosinophiles are increased there will also be found Charcot-Leyden crystals, and, on the other hand, the presence of the crystals is always an indication of eosinophilia.

The Stomach Pump as a Peristaltic Stimulant.—Oswald Ziemssen has had recourse to lavage with excellent results in cases of obstinate constipation. Within one-half to one hour it is usual for the procedure to be followed by one or more pultaceous stools, while it frequently happens that after a short course of treatment patients who formerly suffered from the most obstinate constipation have a regular morning movement before the tube is introduced. The cure is usually permanent, no cathartics being required even after years have passed. The operation should be conducted as follows: the tube is introduced into the empty stomach and one to two pints of water are allowed to flow in and quickly siphoned out again, the manœuvre being repeated fifteen or twenty times. The treatment is given every day and the amount of water used increased at each sitting. It is important that the washing be done with a 0.6 per cent. salt solution and not with plain water.

Blood-Pressure Estimations with Gaertner's Tonometer.—By Schüle.

Neuro-Fibromata of the Posterior Cerebral Fossa.—By Monakow.

The Therapy of Impotentia Virilis.—By J. Zabludowski.

French Journals.

Aspergillosis.—Louis Rénon treats of this affection as a primary disease attacking the lungs, due to the action of the aspergillus fumigatus upon the respiratory tract. He reviews his early work and the confirmation it has received from subsequent observations. At the present time all that is known about the affection as a primary disease can be encompassed in the following conclusions: (1) Aspergillosis is a spontaneous disease common to man and animals. (2) In animals it attacks mammifers and birds; it develops in eggs in incubation and may contaminate the embryos contained in these eggs. (3) In man it develops upon the cornea or the skin, but has its special evolution in the respiratory apparatus, creating pulmonary mycoses resembling tuberculosis and pulmonary gangrene, but without the fetid odor. It may coexist with tuberculosis. Occasionally it is fatal after the formation of cavities in the lungs. It may invade the bronchial apparatus alone, causing membranous bronchitis, of special form and of long evolution. (4) In the etiology and pathogeny of this mycosis, contamination by grain plays a capital rôle, those handling various grains being much more likely to be affected than others. (5) Experimentally in animals the lesions are almost always pseudo-tuberculous, and at times necrotic and ulcerative. (6) Primary aspergillosis is relatively frequent. It is distinctive and absolutely specific.—*Journal des Praticiens*, August 18, 1900.

The Erythemas of Tuberculosis.—Paul Raymond considers it an error at the present day to look upon erythemas as morbid entities. They are only the external evidences of generalized toxic infections. The various infectious processes in which such skin lesions appear are cited, and the latter are regarded as the effect of the products of secretion. In tuberculosis we have all the forms, macular, papular, nodose, and polymorphous. Examples from practice are given. Generalized erythematous lupus is for the writer only the outbreak of persistent tuberculous erythema, as are also plaques of Cazenave's lupus. Transition forms show that erythematous lupus, the persistent erythema of tuberculosis, may be set down against the evanescent forms mentioned. He agrees with Malcolm Morris that lupus erythematosus is an erythema, and should not be classed with cutaneous tuberculosis; it is an erythema of tuberculous essence. Cazenave's lupus should be described as a variety of erythema in tuberculosis and placed in the large class of tuberculous erythrodermias.—*Le Progrès Médical*, August 18, 1900.

Treatment of Hepatic Colic.—A. Mesnard gives a *résumé* of modern treatment, and concludes that the best plan to

pursue is, first of all, to inject morphine from a solution containing atropine, then to cover the painful region with a large hot poultice sprinkled with laudanum, then to give 150 or 200 gm. of anisetted olive oil, or in case of repugnance two soupspoonfuls of pure glycerin. If the crisis is beginning, administer six capsules of amyl-valerianic ether, two at a time at three-hour intervals. If the crisis is established, from time to time a soupspoontul of chloroform water should be given. For persistent vomiting give ice pills, champagne frappé; and as alimentation iced milk, vichy, lemonade with seltzer, cold consommé, all in small and frequent doses. No purgatives should be given and no baths taken during the crisis.—*La Presse Médicale*, August 18, 1900.

American Journal of the Medical Sciences, Sept., 1900.

A Case of Ligature of the Abdominal Aorta Just Below the Diaphragm.—W. W. Keen operated upon a man for ruptured aneurism. The patient survived forty-eight hours. The author gives a *résumé* of all the recorded cases of ligation of the aorta, including one by Tillaux, done since his own. He proposes an instrument for the treatment of aneurisms of the abdominal aorta by temporary compression, and describes one which avoids all danger of pressure on the thoracic duct, and requires only the opening of the abdomen and its application to the vessel. It is possible that the patient might not have to be anæsthetized during the entire sitting. Very possibly, when the aorta has been occluded, the anæsthetic might be withheld and renewed only when the instrument has to be withdrawn. With the modern antiseptic methods he believes it would be possible to retain the instrument in position for two or three days, and reapply the pressure at any time, removing the instrument entirely when the attempt has either been successful or would be best abandoned. The author describes experiments upon animals with the instruments just described.

Idiopathic Dilatation of the Œsophagus.—Max Einhorn by this term means those conditions in which there is dilatation of the œsophagus without any mechanical obstacle within or outside of the œsophageal walls or cardia. He describes ten cases seen by him, and refers to two seen previously. The condition may be the result of paralysis (or atony) of the œsophagus, spasmodic contraction of the cardia, or a lack in the reflex relaxation or opening of the cardia during the act of swallowing. It will be diagnosticated when dysphagia of long standing exists, the swallowing sound is found absent, no organic stricture is encountered, and the œsophagus is found partly filled with unaltered food. Prognosis is good as to life, but bad as regards complete recovery. Treatment should consist of liquid, semi-liquid, and solid foods rich in nutriment. After each meal the patient should perform exercises compressing the chest after deep inspirations for a few minutes; this forces the food down. The œsophagus should be emptied and washed by means of a tube every evening. Bromides, iron, and arsenic may be of benefit.

Myositis Ossificans.—Lydia M. DeWitt reports two cases of this comparatively rare disease. Münchmeyer has described it as a constitutional affection of slow course with periodical exacerbations. There is first infiltration of the intermuscular connective tissue, then a stage of connective-tissue induration, and finally ossification, which begins in the centre of the affected muscle, in the connective-tissue ground substance. The disease usually begins in the neck and back muscles, spreading and producing ever increasing deformity. The etiology is very obscure. Cold, unsanitary surroundings, trauma, and irritation have all been held to be exciting causes, but these are often so slight and trivial that they cannot be sufficient to produce the disease in a normal individual. Virchow believes in an ossifying predisposition in these individuals: others ascribe it to a congenital, not hereditary predisposition. Maunz suggests a disturbance of embryonic development. Brennsohn and others suggest the idea that the disease is due to atavistic influence. The author gives reasons for non-belief in these various hypotheses.

Granular Degeneration of the Erythrocytes, and its Significance in Clinical Pathology.—By Ernst Grawitz.

Sarcoma of the Small Intestine.—By E. Libman.

The Journal of Tropical Medicine, August, 1900.

Cerebro-Spinal Fever on an Emigrant Ship.—C. P. Lucas forwards an extract from a report by the immigration agent-general, dated May 16, 1900. There were six deaths on the ship *Clyde*, due chiefly to cerebro-spinal fever. There was nothing in the weather, so far as the surgeon could see, to cause the disease. There was not the slightest evidence of contagion. There was no relationship or communication between the people affected, and as soon as a case was discovered it was isolated in the hospital, and the place previously occupied disinfected with perchloride solution. There was no sanitary defect on the *Clyde*, which was well ventilated, not overcrowded, and was cleaned and disinfected daily. Treatment in this disease is discouraging. If ice could be had it would do much good, applied to the head. In treating the symptoms bromide of potassium in large doses and morphine hypodermically afford most relief. In reference to the question of ice, in 1880 the surgeon-superintendent of the ship *Allenshaw* expressed the following opinion in connection with an epidemic of cerebro-spinal fever which occurred during a voyage, with a result of ten deaths: "One of the modern small, inexpensive ice machines would probably have saved several lives."

Bilateral Typhoid Gangrene.—M. T. Sarr, writing from Bloemfontein, says that there has been a case in the hospital due to enteric fever. As only eight cases of this disease from this cause are on record, he describes it in full. The patient was a weakly man, aged twenty-three years, whose fever ran a moderate course. Convalescence appeared to be established when he began to be troubled with cold feet. On examination, the right lower extremity was found to be of corpse-like coldness up the junction of the middle and lower third of the thigh, without the slightest pulsation in any part; the left lower extremity was cold as high as the middle of the leg; a feeble pulsation could be felt in the femoral artery down to Scarpa's angle, none in Hunter's canal or below. Operation was out of the question, as it was evident that the blood clot extended far into the right external iliac artery. The patient died about four days after the onset of the gangrene. At the autopsy the right femoral artery was found filled with blood clot, which extended up the external and common iliac to the aorta; the left was filled with clot up to within an inch of Poupart's ligament; no sign of endarteritis could be detected, but the case was evidently thrombosis, not embolism.

A Contribution on the Question of Yaws and Syphilis.—A. B. Duprey holds that yaws is not a form of syphilis, and has nothing in common with it. When calm judgment and a critical professional mind are brought to bear on the subject, there is no reason at all why the malady, however horrible it may appear to the sight, should be thought contagious. Mistakes do occur, especially with papular yaws, but under the lens the papules are seen to be different in appearance from those of syphilis. The author suggests that the cause of yaws, as the disease is known in the West Indies, is the abuse of a mango diet. Arsenic is the drug which answers best in the treatment of this disease.

Upon the Part Played by Mosquitos in the Propagation of Malaria (Continued).—By George H. F. Nuttall.

On Peculiar Conditions of the Hair.—By Irving P. Lyon.

Goundon or Anakhre (Gros Nez).—By John C. Graham

Notes from Lagos, West Africa.—By Henry Strahan.

Camp Fevers.—By Filippo Rho.

Pinta.—By James Cran.

Zeitschrift f. Tuberkulose u. Heilstättenwesen, July, 1900.

The Early Diagnosis of Tuberculosis.—S. A. Knopf writes an interesting article under this heading, and discusses briefly the various means at hand for early recognition of the disease. The bacteriological examination of the sputum when it gives positive results is conclusive, but it is precisely in the early cases in which the expectoration is scanty that it is hardest to find the bacilli; the tuberculin reaction is unreliable and not free from risk, the fluoroscope as yet is not able to reveal anything not appreciable to the educated ear, and the latest aid, the agglutination reaction of Arloing and Courmont, gives far too contradictory results to be relied on; so that it is still the physical examination that must bear the crux of the diagnosis. The author considers the various predisposing factors, the points of importance in the history, and finally calls attention to several comparatively little-known physical signs which are of help in making an early diagnosis.

Syphilis and Tuberculosis.—Portucalis draws the following conclusions from an extended period of clinical observation: (1) Syphilis when it is contracted by a phthisical patient arrests the course of the earlier disease. (2) When contracted by a patient already suffering from phthisis, syphilis runs a mild course. (3) The antagonism between the microbes of these two diseases produces a neutralization of their toxins. (4) When the microbe of syphilis has been discovered and its cultivation made possible, we shall be able to prepare a serum with which consumptives may be inoculated and their disease arrested. (5) Inoculation with the blood serum of syphilitics in the third stage would be of great advantage to consumptives.

Education in the Sanatorium.—In Moeller's opinion the beneficial results of sanatorium treatment are entirely due to the summation of many minor curative measures, each of which taken by itself has but slight effect, but combined with others may be productive of greatest good. This

means that the patient must follow implicitly his physician's directions to the minutest detail, and involves a relationship of absolute trust and confidence between the two, to establish which should be the physician's first aim. It is important to keep the patient constantly busy doing nothing, *i.e.*, to occupy all his time without allowing him any definite pursuit which might tend to cause excitement or fatigue.

The Prevention of Infection with Tubercle Bacilli in Schools, the Public Highways, and Railroad Cars (Conclusion).—Mosler's article is a plea for greater care in the disposition of the sputum of consumptives. Experience has shown that this is dangerous only when allowed to desiccate and be diffused through the air as dust, hence adequate provision should be made in all public places for its reception in suitable vessels containing water. Railroads should furnish special cars for the transportation of invalids, and these should not be allowed to make use of the cars in general use.

Preliminary Report upon the Use of Palladium Chloride ($PdCl_2$) Internally in the Treatment of Tuberculosis.—Cohen reports favorably upon the use of this drug, which he was led to investigate on account of its great affinity for hydrogen and its consequent oxidizing and antiseptic power. Patients to whom it was administered for a long period improved in weight, and in a number of cases there was disappearance of the fever and cough with physical signs of active destruction of lung tissue. The dose for an adult is gtt. v.–x. of a three-per-cent. solution, well diluted.

A New Diagnostic Sign in Pulmonary Tuberculosis.—Ferran describes a saprophytic form of the tubercle bacillus which accompanies its growth in the lungs and generates spermin in sufficient quantities to be recognizable by its characteristic odor. Experimenting with this, he has found that it grows best in the serum of sheep at about 37 C. The presence of this odor in cultures made from sputum is sufficient to confirm a diagnosis of pulmonary tuberculosis even if the bacilli themselves cannot be found.

Some Remarks on the Rest and Open-Air Treatment of Consumptives (Conclusion).—Dettweiler sketches briefly the history of the development of the out-door treatment for tuberculous patients, and recapitulates the benefits resulting from it. Properly graduated breathing and gymnastic exercises form an important factor.

The Early Diagnosis of Pulmonary Tuberculosis.—Klynens and Van Bogaert discuss the symptoms and signs of the early stages of the malady and the various other aids to diagnosis, such as the tuberculin reaction, the Roentgen rays, and the serum reaction of Arloing and Courmont.

Tuberculous Gastric Ulcer, with a Case of Chronic Ulcerative Tuberculosis of the Stomach with Fatal Perforation Peritonitis.—By Struppler.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PUBLIC HEALTH—WAR HOSPITALS COMMISSION—THE PRINCE'S CONVALESCENT HOME—ECHOES FROM IPSWICH—DEATHS OF SIR WILLIAM STOKES, DRS. SIMPSON, O'CALLAGHAN, AND ANDERSON.

London, August 24, 1900.

The weather has not settled down since the storms I mentioned, so we did not get a share of your hot wave, but have had some fine warm days with the proverbial thunder to follow. The public health does not seem to have been affected by the unsettled meteorological conditions. The diseases prevalent are those of our summer and their incidence is about the same as the average. The mortality returns include a death from glanders at Guy's Hospital. It is a year since the last death from this cause was registered. A death also is registered from typhus—the first of the kind since February, 1899. Two deaths are also recorded from anæsthetics, making twenty of these fatalities this year. The London death rate has crept up to 20.5; that of the provincial towns is 20.2. The increased rate is largely due to zymotic diseases.

The commission on the war hospitals has arrived in South Africa, and already has begun to take evidence, notes of which reach us by telegraph. Professor Dunlop told them that the soldiers in the Wynberg hospital were as well treated as his own patients in the Glasgow Royal Infirmary. He was perfectly satisfied with the arrangements, but said there was too much red tape. Professor Chiene, who has inspected all the military hospitals during his stay in South Africa, also expressed satisfaction with everything, especially in the Natal hospitals, which were almost perfect. Generally the evidence shows a lack of complaints. Professor Chiene has made a proposal for the creation of an imperial medical reserve, consisting of one thousand surgeons with a due complement of nurses and other officials. He thinks hundreds now in South Africa would be glad to join such a reserve and bind themselves to serve whenever or wherever wanted, without pay.

The invalided officers who are enjoying their sojourn in the convalescent home established at Sandringham by the Prince and Princess of Wales have much to be thankful for. They drive about in the royal wagonettes and dog-carts, play billiards on the prince's table, or repose in comfortable lounge-chairs in the smoking-room. The home was specially established for colonial officers, and before leaving for the continent the prince and princess personally satisfied themselves that every comfort was provided.

The time limit is an important element in considering papers for such assemblies as the British Medical's annual outing. Discussions of a light nature pass off easily enough, but others are apt either to bore or empty the room. A man should not attempt to do more than make a short communication and one that can easily be grasped on hearing it read. Illustrations of this have been given me by those who attended different sections. Thus Dr. Stacey Watson's paper was too long and too intricate to secure proper attention. He had fifteen minutes and required probably forty-five. He had to sit down after furnishing his facts and compressing them into an impossibly small space. In some other papers elaborate statistics were submitted, a consideration of which restricted to a few minutes might perhaps "prove anything."

Much regret and some disgust have been expressed to me at the attack on Professor Cushny's paper by Dr. Barr. It is certain that the professor would not resent fair criticism, but anything like acrimony should be eschewed, especially toward a visitor who had honored the association by his presence and by submitting his paper. Not improbably the paper will receive the more attention when it is published in full.

The report on scientific grants called forth a little criticism as to their distribution. One member moved that these grants be discontinued, and the money be devoted to prizes for work already done. As the motion found no seconder, it may be presumed the meeting was satisfied with the present plan. A distribution of prizes for work done does not offer an ideal method of encouraging research or securing impartiality.

Prof. Walter Smith in presiding over the therapeutical section took the opportunity of denouncing the rubbish advertised among new drugs and preparations, "used chiefly by those who do not know how to employ the old ones." Each new-comer is soon elbowed out by a fresh arrival. He protested against the manner and matter of the advertisements that appear in our journals, and their plausible pretence of original work and offers of "full literature." But these find their way to the waste-paper basket. He further objected to the visits of agents of drug firms as a growing practice "which should be stamped out by the profession." Many will applaud him for this, but more will probably still be ready to receive the canvassers. I do not object to advertisements of drugs in the journals, but there are too many other announcements which degrade our periodicals.

The death of Sir William Stokes was announced on Monday as having taken place on Saturday at Pietermaritzburg. He went out as consulting surgeon to our forces, and was chiefly at work in Natal, where for six months his services have been greatly appreciated. He was one of the most distinguished Dublin surgeons, surgeon to the Queen in Ireland, and has for many years held a leading position. In 1861 he was awarded the gold medal of the Pathological Society and three years later was appointed surgeon to the Meath Hospital. In due time he presided over the society which in earlier days gave him the gold medal. As president of the Dublin College of Surgeons he had a happy time in the Queen's jubilee year, 1887. He was the son of the eminent physician, William Stokes, whose name you will remember in connection with his work on diseases of the chest. Other members of the family have also achieved distinction in medicine, literature, and science. The late Sir William Stokes was professor of surgery at the College of Surgeons, Dublin, for some thirty years. His pupils are scattered over the world, and all will feel on hearing of his death that an able exponent of their art and an upright gentleman has passed away.

Dr. P. A. Simpson, emeritus professor of forensic medicine in Glasgow University, died on the 11th inst., aged sixty-three years.

Surgeon-General D. J. O'Callaghan died on the 12th, aged eighty-five years.

Dr. John Anderson, who died on the 15th, did not practise medicine but devoted himself to natural history. He

was professor in Edinburgh and also in India. He was employed in various scientific expeditions, his report on that to Western China, published in 1871 by the Indian government, being especially valuable. He retired from the Indian service in 1877. He was M.D., LL.D., and F.R.S. Edin., and received various other honors.

LETTER FROM KASHMIR.

(From our Special Correspondent.)

PREVALE DISEASES—SANITARY IMPROVEMENTS — MEDICAL INSTITUTIONS—SURGICAL WORK.

KASHMIR, July 15, 1900.

KASHMIR is on the whole wonderfully free from sickness dependent on climate. Great tracts of the country lie permanently under water and many large areas are exposed to annual floods. During the summer months the valley is little more than an alluvial plain covered with rice fields and swamps. Mosquitos abound; and yet, owing to the altitude, malarial disease is quite rare. The Kashmiris hardly suffer from it at all. Diseases of the eye are, however, very numerous, especially ophthalmia and entropion. Cataract is much less common than in the plains. Diseases of the skin, especially those which are parasitic, simply abound. Scabies, for instance, is universal. Digestive affections are extremely common and are often due to the great excess of starch consumed in a diet which consists so largely of rice. Dilated stomach is of frequent occurrence. In the winter, respiratory complaints, especially bronchitis, abound, and rheumatism is very prevalent. There is a fairly representative series of the general diseases with which we meet in America or Europe. But the variety is more limited, and some affections are conspicuous by their absence, *e.g.*, scarlet fever and diphtheria. Phthisis is comparatively rare and chiefly confined to those, such as shawl weavers, who lead indoor lives, in impure atmosphere. Pneumonia and pleurisy are seldom met with; rickets is rare.

During the recent appalling distress from famine and plague in India, Kashmir has escaped untouched. The cultivation is carried on chiefly by irrigation, and owing to the proximity of the snow mountains the water supply is abundant. Our immunity from plague is partly due to distance. Should the Punjab become generally affected, Kashmir will be in great danger. The filthiness of the city of Grinagar is notorious. Twice recently we have been visited by epidemics of cholera, viz., in 1888 and 1892. Each time the mortality exceeded ten thousand. The soil of the city and in the villages is sodden with the accumulated filth of ages, to which fresh additions are being made daily. Enteric fever is very common.

After the last cholera epidemic a most important sanitary improvement was effected in the introduction of a new and abundant supply of pure water, brought in pipes from a neighboring mountain stream. Among other improvements may be mentioned the construction of a large number of public latrines, a systematic attempt to remove filth from the city, the levelling and metalling of many roads, and efforts to control cow-houses, slaughter-houses, and offensive trades. An attempt has been made to do systematic vaccination. A good deal has been done, but more efficient control of the public vaccinators and of the calf-lymph stations is urgently required.

There are five medical institutions in Kashmir. Of these, the oldest is the Kashmir Mission Hospital. This contains one hundred and twenty beds and draws patients not only from the valley of Kashmir but from all the districts around, Poonch, Kishtiwar, Ladakh, and Baltistan. The total number of out-patient visits last year was 41,628. The state leper hospital with ninety beds is also under the superintendence of the mission surgeons. The other three hospitals are the state hospital, the Diamond Jubilee hospital for women, and a small hospital for the foreign community. In several of the larger towns and villages there are state dispensaries.

It is astonishing to how large an extent out-patient practice in Kashmir is surgical. And the proportion of surgical patients requiring operative treatment is equally surprising. Last year, in the Kashmir mission hospital 4,148 operations were performed. Of these 856 were for entropion, 240 for pterygium, 93 for cataract, and 250 for bone disease; 304 tumors were excised (including 2 ovariotomies). There were 29 cases of epitheliomata of the thigh and 15 of the abdominal wall. Those which are due to burns and subsequent irritation from the heat of the portable brazier (kangri), which the people carry under their clothes in the winter, are in the early stages absolutely curable. They are often of slow growth, but sooner or later the lymph glands become affected. The case then assumes a much more serious aspect. The immediate risk from operation is small (of more than three hundred operations for epithelioma performed by Drs. Arthur and Ernest Neve since 1890, only one proved fatal). Experience has shown that it is inadvisable to do very sweeping operations when the glands are extensively involved or the skin over them is brawny.

A very cheap dressing is used in the Mission Hospital, consisting of muslin bags of various shapes and sizes filled with cedar sawdust. Before use these are sterilized by heat. Usually a deep dressing of Lister's double cyanide gauze is placed underneath each bag. The economy effected in a large hospital by the use of these bags instead of expensive medicated cotton wool is astonishing.

THE SOLDIER IN THE TROPICS.

TO THE EDITOR OF THE MEDICAL RECORD

SIR: Not long ago I had the privilege of stating in your columns my views regarding the acclimation of the white man in the tropics. I adhere to what I said and indorse every word uttered by Capt. Charles E. Woodruff, M.D., in a recent paper on "Medicine in the Tropics." It is true that the white man can live in the tropics if he is able to surround himself with many precautions; but that is not the kind of life characteristic of the white man and expected of him; that is, not being acclimated, he vegetates and his offspring will be degenerates. If that is true of the white man in general and of the colonist especially, it is much more true, and necessarily so, of the soldier, whose calling imposes on him extraordinary hardships and exertions; and there will always be a great distinction to be made between the soldier in garrison and in campaign. The three points to be considered in making life possible in the tropics are feeding, clothing, and housing.

About housing not much need be said. In garrison suitable barracks will be provided for, and in campaign the soldier must take it as it is. Tents will be quite necessary.

With regard to clothing I wish to say that cases of sunstroke are of rare occurrence among the people of tropical countries, because they are not foolish enough to walk in the hot sunshine, to use tight clothing, to wear heavy covering for the head, or to carry weights which oppress the chest. The commanders of troops are responsible for neglect of these points. We all know that soldiers, when they have to march or to fight in the hot sunshine, gradually throw away everything that oppresses them, such as knapsacks and coats; and they would soon throw off their caps or helmets if they were able to get straw hats instead. The tropical helmet may be very good, but I think that straw hats would be most welcome to the soldier in campaign during the hot season or in hot countries. There must come a day when the question will be not so much how pretty the soldier looks as how he feels and how far he is able to do his duty. Heat weakens man by excessive perspiration, loss of appetite, and loss of sleep; but it is my belief that the most dangerous hours of the day in the tropics are not the hottest ones, but the early hours in the morning before the sun rises, when the air is often decidedly chilly. How many Mexicans have I seen travelling without any other protection against the lower morning temperature than a silk handkerchief wrapped round the neck! Abdominal bandages are not necessary, and the men will soon throw them away.

Finally comes the most important item of feeding. Lately there has been much said and written on this subject, and a "soldier's ideal ration" has been invented and, I am told, has already proven a failure. Suppose now that the home ration of the United States soldier were all right, when the troops are sent to the tropics some change may be convenient in regard to quality, not to quantity. If the soldier is furnished something he will not eat and is expected to sell part of it and buy something he will eat, that is not the so-called "ideal ration." Besides, even if that expedient is admissible in garrison, it becomes at once impossible in campaign.

The soldier in the tropics ought to have more fat than at home, perhaps a trifle less meat, and some alcohol. So far as the latter is concerned, I should prefer wine to whiskey, and much more so if the men can be prevailed upon to take their share of wine mixed half and half with water. It is shocking to all foreigners to see what quantities of fat Mexicans eat with their meals.

For the soldier in campaign we cannot rely upon fresh provisions. We must furnish the men with food easily transportable, not too voluminous, palatable, and quickly made eatable. If the men are tired, they will do as the horses do—drink and lie down and sleep rather than eat or wait for their food to be cooked.

We must, to a certain extent, rely on canned things. The use of canned beef is necessarily limited, as the men soon get tired of it, and salt dry pork or beef will be found

more acceptable. I wonder why dry cheese is not more extensively used, if it is true that 272 gm. of cheese are equivalent to 118 gm. of albumen, and if 1,160 gm. of cheese represent 318 gm. of carbon! I believe that for expeditions of a few days soldiers will be satisfied if they get ham, cheese, hardtack, some alcohol, and coffee.

Now, as to quantities. A man who is doing heavy work, such as a soldier during a campaign, ought to have somewhat more than when he is at home and in garrison. The white soldier in the tropics, as long as he is in good health, will not eat noticeably less than he does in his native country. The war ratio required for the German troops in France was: Bread 750 gm., meat 500 gm., bacon 250 gm., coffee 30 gm., tobacco 60 gm. (or five cigars), wine 500 gm. (or beer 1,000 gm., or brandy 200 gm.). DR. SEMELEDER.

CORDOBA, STATE OF VERA CRUZ, MEXICO,
August, 1900.

EXTERNAL ABDOMINAL EXAMINATIONS DURING PREGNANCY AND LABOR.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I notice in the very interesting "Address in Obstetrics," by Dr. William F. Smyly, delivered before the British Medical Association at its recent meeting, and reported in the MEDICAL RECORD for August 25, on page 310, a statement which I consider unjust and to which I desire to take exception.

The report says: "Next to antiseptics, the author considered the substitution of external for internal examinations the most important advance in modern midwifery. By whom it was introduced he did not know, but its systematization and popularity were owed to Pinard, Credé, and Leopold"; and then the report goes on to give the now well-known advantages and uses of external abdominal manipulations and examinations during pregnancy and labor.

Now, Mr. Editor, I do not care so much for the point of original priority in this matter, for I personally have no such claim to make regarding the discovery and systematization of this most beneficent method of obstetric practice. But I do protest against being left "out in the cold," together with several other colleagues and contemporaries, when the question of having contributed to the "popularity" of the method is considered. Who originated the practice of determining the position of the child in utero by external (abdominal) examinations, I do not know; that it did not originate with Pinard, Credé, or Leopold is, however, certain. Wigand, d'Outrepont, and Busch (all Germans) were generally credited with having first introdnced external version into obstetrics; Braxton Hicks and Wright certainly originated "bipolar" version; Credé undoubtedly devised his method of expressing the placenta. But neither Pinard nor Leopold, so far as I know, contributed anything original or new to these methods; nor did I, Mr. Editor.

But these methods were well known and universally practised and taught in all the maternity hospitals and obstetric clinics in Germany when I became assistant to Professor von Scanzoni, at Würzburg, in 1867, then the greatest authority on obstetrics and gynæcology in Germany. For three years I taught these methods to the students at Würzburg, and no pregnant or parturient woman was ever examined per vaginam in those days until the usual routine external exploration had been made; and so much was I impressed by the simplicity, utility, and safety of this practice that, while in Vienna in the winter of 1871 to 1872, I began to write a paper on the subject for publication in America, where I knew the method was not understood, appreciated, or practised. This paper was not finished at the time, as I left Vienna and travelled for about a year; and in the mean while my friends, Drs. William L. Richardson and James R. Chadwick, of Boston, who had first seen and learned the method in Vienna in 1871, each wrote a short article on it, and, if I remember correctly, a Louisville physician also, whose name I do not recollect—all about the same time. Reminded by these articles of my unfinished paper, I at once resumed work on it, and published it in *The American Journal of Obstetrics* for July and August, 1879, and April, 1880, under the title of "Obstetric Palpation: the Diagnosis and Treatment of Obstetric Cases by External (Abdominal) Examination and Manipulation," from which it was reprinted as a bound monograph of about one hundred and twenty pages, with illustrations. Unfortunately, the edition was small, only one hundred copies, and was soon exhausted, but even up to within a few years there have been calls for it.

Pinard's very elaborate work on the same subject appeared almost simultaneously with mine, although mine was begun seven years earlier. To Leopold belongs the credit of having in recent years emphasized the possibility of avoiding vaginal infection by a thorough carrying out of abdominal examination of pregnant and parturient women to the large exclusion of vaginal touch, certainly a great merit, but in no wise original.

But to Richardson, Chadwick, and myself, I think, belongs the credit of having first written up and popularized the method of external examination of pregnant and parturient women for an English-speaking public, and of these articles mine alone can lay claim to completeness, as it was exhaustive and covered the whole subject, while the others were only short papers. Of course, I do not impute to Dr. Smyly any intention in omitting our names, and I am sure he would gladly rectify the omission were it still in his power to do so. I trust, Mr. Editor, that you will pardon my transgressing so greatly on your valuable space for a personal matter. PAUL F. MUNDÉ, M.D.

HOTEL NEW FRONTENAC, THOUSAND ISLANDS,
August 27, 1900.

Reviews and Notices.

A MANUAL OF OBSTETRICS. By A. F. A. KING, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. Eighth edition, revised and enlarged. With 264 illustrations. Philadelphia and New York: Lea Brothers & Co. 1900.

IT is only two years since the appearance of the seventh edition of King's Manual. The best recommendation any work can have is the rapid exhaustion of its edition. And when a work has been before the public for nearly twenty years, and this rapid exhanstion still continues, nothing further need be said as to the quality of the book. Materially enlarged in every direction, it can contrast with any of the larger standard works. We have no criticism to offer and no major corrections to be made but one; and that is a false interpretation of the Walcher position so far as the plate showing this posture is concerned. The plate is faulty in so far as the patient is not carried sufficiently over the edge of the table. We thank the author for his painstaking revision of his work.

A MANUAL OF OBSTETRICAL TECHNIQUE, AS APPLIED TO PRIVATE PRACTICE: with a Chapter on Abortion, Premature Labor, and Curettage. By JOSEPH BROWN COOKE, M.D., New York, Late Attending Physician St. Mary's Free Hospital for Children, Out-Door Department; Late Attending Physician Northwestern Dispensary, Department of Diseases of Children; etc. Philadelphia and London: J. B. Lippincott Company. 1900.

THE little volume before us can be recommended to the student during his first year's course as well as to the midwife, but it is certainly not a book for the practitioner. It cannot compare with the many we have had the pleasure to review. The plates are good, but many are unnecessary.

GUIDE PRATIQUE D'ÉLECTROTHÉRAPIE GYNÉCOLOGIQUE. Par LE DR. E. ALBERT-WEIL, Licencié ès-Sciences Physiques et Chimiques, Ancien Interne de Saint-Lazare, Préparateur Adjoint à la Faculté de Médecine de Paris, Médecin-Electricien. Paris: B. Baillière et Fils. 1900.

IN the tendency to resurrect electro-gynæcology at the present time, we welcome this work, though small in size, as a useful appendix to the larger and older works. The pictures explain very thoroughly what the text fails to make quite clear. It makes very pleasant reading, and no more profitable hour could be spent than in its pernsal.

CHIRURGIE DU REIN ET DE L'URETÉRE. Par V. ROCHET, Chirurgien de l'Antiquaille, etc. Paris: G. Steinheil. 1900.

THIS is a useful and systematically arranged little volume on the subject of the surgical diseases of the kidneys and ureters, and the treatment of these conditions. There are an introductory chapter upon the anatomy of the urinary organs, and then a series of chapters containing descriptions of the pathological conditions which are met with in them, with detailed accounts of the various forms of treatment. There are enough statistical and bibliographical references to give the book considerable value as a work of reference, and some useful explanatory illustrations.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1899. Vol. XVI. Edited by M. C. O'BRIEN, M.D. Published by the Association.

THE volume opens with the address of welcome by Frederick W. Wiggin, chairman, followed by the address of

the president, Joseph D. Bryant. About sixty papers fill the greater part of the remainder of nearly nine hundred pages, neatly bound to match former reports. A very valuable feature is the alphabetically arranged comments on the materia medica, pharmacy, and therapeutics of the year, prepared by E. H. Squibb, Jr. It takes in over two hundred of the 887 pages contained in the whole report.

Essentials of Medical and Clinical Chemistry, with Laboratory Exercises, by Samuel E. Woody, A.M., M.D. Fourth edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co. 1900.

This little work has long been regarded as one of the best of our text-books on medical chemistry, and it has lost none of its value in the present revision. The author states that it has been largely rewritten and much new matter has been added. The laboratory exercises are inserted as foot-notes. There are seventy-six illustrations.

Golden Rules of Ophthalmic Practice. By Gustavus Hartridge, F.R.C.S., Senior Surgeon Royal Westminster Ophthalmic Hospital; Ophthalmic Surgeon and Lecturer on Ophthalmology, Westminster Hospital. "Golden Rules" Series No. VII. John Wright & Co., Bristol; Simpkin, Marshall Hamilton, Kent & Co., Limited, publishers, London.

This book is about two by three inches in size and contains sixty-nine pages. There are a few paragraphs descriptive of the physiological and pathological conditions of the eye, and some short, pithy admonitions regarding the treatment of ophthalmic cases.

Original Contributions Concerning the Glandular Structures Appertaining to the Human Eye and its Appendages. By Adolf Alt, M.D., Professor of Ophthalmology in Beaumont Hospital Medical College, St. Louis. St. Louis American Journal of Ophthalmology, Publisher. 1900.

This monograph is a most valuable anatomical study of the glands of the orbit, lids, and conjunctiva. It contains only twenty-three pages of text, but is illustrated by thirty-six excellent plates made from photographs taken by the author.

Encyklopædie der Therapie. Herausgegeben von Oscar Liebreich, Dr. Med., Geheimer Medicinalrath, o. ö. Professor der Heilmittellehre an der Friedrich-Wilhelms-Universität. Unter Mitwirkung von Martin Mendelsohn, Dr. Med., Universitäts-Professor, Priv.-Doc. der Inneren Medicin an der Friedrich-Wilhelms-Universität, und Arthur Würzburg, Dr. Med., Kgl. Sanitätsrath, Bibliothekar im Kaiserlichen Gesundheitsamte. Berlin: August Hirschwald. 1900.

This, the third fasciculus of the third volume, completes the excellent encyclopedia of therapeutics, the appearance of the successive parts of which we have noted from time to time in these columns. This number carries the titles from Secale Cornutum to Zymotische Krankheiten, and includes such important subjects as medicinal soaps, septicæmia, scirrhus, spectrum analysis, sputum, sterility, metabolism, strychnine, syphilis, tetanus, inebriety, uræmia, mastoid disease, water, childbirth, and teeth. An index, which is wonderfully complete for a foreign book, adds greatly to the value of the work, especially for a non-German reader who is sometimes at a loss for the German name of a disease and who can find it in the index under its Latin name.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., etc., and F. F. Burghard, M.D., and M.S. (Lond.), F.R.C.S., etc. In seven volumes. Volume III.: The Treatment of the Surgical Affections of the Bones. Amputations. Philadelphia and New York: Lea Brothers & Co. 1900.

We have before us now the third volume of this excellent work, and we might say here that we should be glad to have the remaining four volumes appear at shorter intervals than has so far been the case with the first three. This section contains the subject of fractures and their treatment, and descriptions of the surgical diseases of the bones. As in the previous instalments of the work, it has been the aim of the authors to limit themselves in the discussion of treatment to what they consider best and most suitable, leaving many methods merely mentioned or ignored entirely. This method has made possible a conciseness and practicalness which could not otherwise have been attained, and has obviated much prolixity. The treatment of compound fractures is considered in an excellent chapter, and minute directions are given for securing asepsis at the site of the injury. The authors are believers in the use of silver wire for maintaining apposition of fragments both in compound and in some forms of simple fracture, notably of the patella, in which condition they believe that operation is indicated unless some reason exists for the avoidance of any kind of operative intervention. The objections to the use of silver wire, in the patella especially, are recognized, but the good points of catgut are not mentioned. Tumors of bone do not receive perhaps quite all the attention which the importance of the subject seems to demand, but the subjects of inflammation of various kinds in bone, and its sequelæ, are well covered. There are many illustrations showing the methods of treating different forms of fracture. The last part of the book is devoted to the subject of amputations, and here, too, the illustrations are very good. Descriptions of useless and obsolete methods have been omitted, and some space has been given to a satisfactory discussion of the general considerations of amputations. Lister's tourniquet and Davy's lever are, we think, wisely condemned in disarticulations at the hip.

Diseases of the Chest, Throat, and Nasal Cavities. By E. Fletcher Ingals, A.M., M.D. Fourth Edition. Illustrated by 254 Cuts and a Plate in Colors. New York. William Wood and Company. 1900.

This work possesses a distinct advantage over most treatises on diseases of the nose and throat in that it treats of bronchial, pulmonary, and cardiac affections as well, embracing therefore the diseases of the entire respiratory tract together with the mutually dependent heart troubles. The book is doubtless familiar in one of its earlier editions, but the present edition surpasses the others in that it has been brought fully up to date, much important matter, especially regarding pulmonary affections, having been added. Dr. Ingals has a clear style, and his descriptions are to the point and not too verbose, yet sufficiently full to meet the needs even of the student. The illustrations are good and sufficiently numerous.

Atlas and Epitome of Diseases Caused by Accidents. By Dr. E. Golebiewski, of Berlin. Authorized Translation with Editorial Notes and Additions by Pearce Bailey, M.D., Neurologist to St. Luke's Hospital, etc., New York. Philadelphia: W. B. Saunders & Co. 1900.

This volume is upon an important and only recently systematized subject, which is growing in extent all the time. Accidents are coming to form such a considerable proportion of the causes of human ills that the study of their effects is almost a separate specialty, and the Germans have invented a special term for it, "Unfallheilkunde." This book contains much useful information upon the nature and effects of various forms of accidental injury, and upon percentages of disability as estimated under German law. It ought to be useful as a guide to our own examining physicians and adjusters. The work of the translator and of the editor has been carefully done, and the pictorial part of the book is very satisfactory.

A Text-Book of Practical Medicine. By William Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College, New York City; Physician to the Presbyterian and Bellevue Hospitals, New York. Illustrated with Seventy-nine Engravings. New York and Philadelphia: Lea Brothers & Co. 1900.

The first thought that comes to the mind, as one sees the announcement of a new text-book of general medicine, is: "What's the use of another?" But the answer to this depends largely upon the authorship of the new work. When the writer is one of the ripe experience in practice and in teaching and of the scholarly attainments of Dr. Thompson, then there can be no question of the utility of issuing the work. Every man has some special knowledge of his own, acquired through observation and not from books, and he does a service to his fellows when he shares this knowledge with the world and so adds to the sum of general information. For this reason Dr. Thompson's book is welcome. The weak point in the book is one on which, curiously enough, the author lays special stress in his preface, and that is the treatment of disease. In this department, so far as the reviewer has been able to discover after a pretty careful search, there is little or nothing that is not already the common property of the medical profession, and many methods vouched for as more or less efficacious by competent and trustworthy observers are utterly ignored. For example, nothing is said of Baccelli's treatment of tetanus, of warm baths in the treatment of cerebrospinal fever, of the salicylates and of sudation in pneumonia, or of the so-called eliminative treatment of typhoid fever, and the section on the treatment of neuralgia is brief and unsatisfactory. In other places, however, it is only fair to say that the therapeutic recommendations are excellent. The descriptions of the individual diseases are clear and concise, and the value of the work is greatly enhanced by the incorporation of the results of the author's experiments and studies in his hospital and private practice. The work, even with the drawbacks mentioned, is a welcome addition to our literature and reflects credit upon American medicine.

Therapeutic Hints.

Intestinal Meteorism in Infants.—

℞ Sodii sulpho-carbolat..... 0.25–0.50 cgm.
Syr. aurantii cort amar..... 5 gm.
Aq. menth. pip. dest..... 25 "
M. S. Take a teaspoonful three times a day for two consecutive days.

—Freyberger.

Painful Pharyngitis.—

℞ Morph. sulphat..... 0.20 cgm.
Acidi carbol.,
Tannin.....āā 2 gm.
Glycerin.,
Aq. destil.....āā 15 "
M. S. Apply to the throat.

—Fletcher Ingals.

Chloroanæmia.—

℞ Artemisine..... 0.001 mgm.
Quassine (crystal.)..... 0.001 "
Ferri protoxalat..... 0.10 cgm.
M. One capsule. S. Two twice a day before eating.

—*Le Progrès Médical*, August 11, 1900.

Rosacea.—Apply with a brush for three days; after the paint peels off about the sixth day, reapply:

℞ Resorcin..... 1
Ichthyol..... 2
Collod. flex..... 30

—Petrini and Galsaz.

Conjunctivitis (simple catarrhal).—

℞ Ac. boric..... gr. xl.
Sodii chl..... gr. vi.
Aq. camphor.,
Aq. destil.....āā ʒ ij.
M. S. Apply every two hours.

—*Can. Pract. and Rev.*

Endometritis (chronic).—

℞ Solutio iodi (Lugol) fort..... ʒ iij.
Ac. carbol. (crystal.)..... ʒ i.
Glycerini..... ʒ iv.
M. S. Apply through the cervical canal.

—Spangler.

Chronic Coryza in Infants.—

℞ Bismuth. salicylic.,
Bismuth. benzoat.....āā 4.
Sodii benzoat..... 1.50
Orthoform..... 0.50
Menthol..... 0.50
Talci..... 10.
M. S. Insufflation.

—*Le Progrès Médical*, July 14th.

Terpin Mixture.—

℞ Elix. terpin.,
Terpin.....āā 20
Spt. vini rect. (ninety per cent.)..... 300
Glycerin. (thirty per cent.)..... 670
Tinct. vanillæ..... 10
Dissolve the terpin in alcohol. Add the tincture of vanilla and then the glycerin.

—*Journal des Praticiens*, July 28, 1900.

Hay Fever.—To ward off or to mitigate the attack in rheumatic patients:

℞ Brucinæ phosphat..... gr. iij.
Ext. hyoscyami..... gr. xv.
Quininæ valerianat..... ʒ i.
Camphoræ..... gr. xxx.
M. ft. caps No. xxx. S. One four times a day.

Tablet pulv. adrenals (desiccated).....āā gr. v.
No. xxiv. S. One dissolved in the mouth four times a day.

This gives great relief during the attack.—Solis-Cohen.

Craving for Whiskey is overcome by dropping a few drops of tincture of cinchona far back on the tongue.

Itching Conjunctivæ in hay fever, etc.—

℞ Sodii biborat..... gr. viiss.
Aquæ camphoræ..... ℥ i.
M. S. Bathe the eyes as necessary, and drop in one or two drops several times daily.

Teething Powder.—

℞ Calomel..... ʒ i.
Carmine..... gr. x.
Sugar..... ʒ iv.
Sugar of milk..... ʒ iij.
M. S. From three to six months of age, gr. vi.; from six to twelve months, gr. viii.; from one to three years, gr. x.

Dipsomania.—

℞ Apomorphinæ..... gr. iij.
Tr. calumbæ..... ʒ i.
Tr. capsici..... ♏ xv.
Tr. nuc. vom..... ʒ i.
Tr. cinch. comp..... ʒ iss.
M. S. Small teaspoonful after meals in water.

—*Cronica Medica.*

Bronchitis.—

℞ Terpinol.,
Sodii benzoat.....āā gr. ij.
Sacch. lact..... q.s.
For one pill. S. From six to twelve daily.

—*The Med. Times and Hosp. Gaz.*, July 4, 1900.

Seasickness.—Codeine gr. ¼ in an effervescing mixture. Useful in vomiting from any cause.

℞ Menthol..... 0.1
Cocaine..... 0.15
Syr. simp..... 30.
Spir. vini rect..... 60.
M. S. Teaspoonful every half-hour.

Neurasthenic Headache.—

℞ Zinci valerianat.,
Ferri sulphat.,
Ext. rhei,
Asafœtidæ.....āā gr. xviij.
M. ft. pil. No. xx. S. One t.i.d.

Strychnine in large dose after hemiplegia increases blood pressure and may lead to second rupture of the weakened artery. It is likewise contraindicated in all forms of hemiplegia, and tabes.—*Medicine.*

Digitalis is unsatisfactory and uncertain because its action cannot be controlled. Strophanthus is greatly superior, being more prompt and more permanent.—Upshur.

Freckles.—Lactic acid and glycerin in equal parts.

Butter in considerable quantities added to the food is the best means of preventing constipation in infants.—Doerfler.

As a substitute for cod-liver oil in the treatment of children's diseases.—Wirschillo.

Substitute for the Poultice.—

℞ Kaolin..... 1,000 parts.
Glycerin..... 1,000 "
Ac. boric..... 100 "
Ol. menth. pip..... 1 "
Ol. gaultheriæ..... 1 "
Ol. eucalypti..... 2 "

Heat the kaolin to 212° F. for an hour to make sterile. Add the glycerin and heat for forty minutes. Stir in other ingredients and keep in air-tight jars.—Wilbert.

Ozæna of atrophic rhinitis. Cleanse with an alkaline solution, then with peroxide, and again with the alkaline wash. Apply by insufflation:

℞ Ac. citric..... 75 parts.
Sacch. lactis..... 25 "

—Somers.

Trifacial Neuralgia.—Introduce into the external auditory meatus pledgets of cotton soaked in chloroform and covered with dry cotton wool before insertion.—Bose.

Craving for Morphine or Spirits.—

℞ Ammon. bromidi ..... gr. v.
Ext. bellad. fld.,
Ext. nuc. vom. fld.,
Ext. cannabis ind. fld ..... āā ♏ ij.
Aquæ ..... ad ℥ ij.
At dose four times a day.

—L. V. Weathers.

Parenchymatous Nephritis (chronic).—

℞ Tinct. cantharid ..... ♏ xxiv.
Liq. ferri et ammon. acetat. ....q s. ad ℥ iij.
M. S. Teaspoonful every four hours.

—Salinger.

Stop Coughing by taking in a long breath and holding it as long as possible. The procedure is said to have a soothing effect on the air cells.—*Virginia Medical Semi-Monthly.*

Chancroid.—Cleanse with

℞ Ac. boric. 1
Aquæ 30
Spir. vini rect 60

Apply for twenty-four hours:

℞ Zinci chl. 1
Zinci oxid 10
Aquæ dest ..... q.s.
Ut ft. pasta.

—Hallopeau and Lerrede.

Tremor of paralysis agitans is notably diminished by one or two injections daily of hydrobromate of hyoscine gr. $\frac{1}{200}$.—Erb.

Threatened Uræmia.—To stimulate cutaneous perspiration in Bright's disease:

℞ Pilocarpin. hydrochlor. ..... 0.01 cgm.
Muc. gum. acac. ..... 100. gm.
M. S. From three to six dessertspoonfuls daily.

This small dose acts without causing the inconveniences of larger quantities of pilocarpine.—Lemoine.

Creosote Pills.—

℞ Beechwood creosote ..... 30 gm.
Ol. amygd. dulc. ..... 10 "
Axungiæ ..... 10 "
Magnes. calcin. lev. ..... 10 "

Mix together the creosote and oil, add the axungia in a mortar and then the magnesia. Stir occasionally during the next twenty-four hours and put into a receptacle.—Delestrac.

Ovarian Neuralgia.—

℞ Ext. bellad. ..... 0.25 cgm.
Ext. stramonii ..... 0.30 "
Lactophenin ..... 6. gm.
M. div. in pil. xx. S. Two or three daily.

—C. S. Martin.

Addison's Disease.—Suprarenal extract in dose of gr. ix. produced rapid improvement in a case. In forty-three collected cases so treated there was improvement in thirteen, recovery in nine, death in eleven; no improvement in three, and in seven the result is not recorded.—W. W. Johnston.

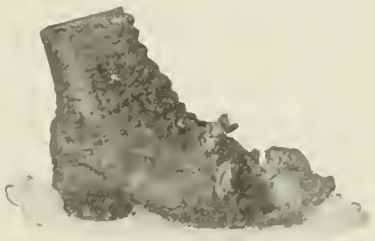
Resorcin in Rodent Ulcer.—There can be no doubt as to the value of resorcin in rodent ulcer. I have lately had a typical case, which was cured in five or six weeks by rubbing in the powder every night after removing the crusted covering, and ceasing the application when the reaction was excessive.—J. E. Blomfield.

Clinical Department.

LIGHTNING STROKE WITH RECOVERY.

By C. Edwards Sharp, M.D.,
Columbus, Ohio.

On May 18th—the eighteenth anniversary of the patient's birth—during a spring shower, Miss L. W—— went to the attic on the third floor of her home to close the windows. A flash of lightning struck her, and she was found with her clothing ablaze and lying unconscious on the floor of the apartment. Strange to state, the building did not catch fire, but a two-by-six rafter in the gable roof was badly splintered and a hole was made through the floor of the attic as if a gun loaded with buckshot had been used. Another member of the family on the second floor of the building was momentarily stunned by the stroke. I was called and reached the patient about ten minutes after the flash, to find Dr. A. O. Bonnet in attendance, but



we had very slight hope of recovery, and he soon left the case. The patient was found, as previously stated, in an unconscious condition; the pupils were widely dilated, there was stertorous and irregular breathing, but the pulse was apparently unaffected or slightly accelerated. The face was burned and the hair singed. The flesh on the chest between the nipples, that covering the anterior surface of the abdomen and mons veneris, the anterior surface of the thighs, and the right foot were burned. For a space just above the knee to the top of the shoe on the right side no marks of injury were visible. The shoe on the right foot was burst open as shown in the accompanying photograph. The crossings of the shoe-lacing were burned on the flesh, probably because the lacing was damp. The lacing itself was entirely missing. Otherwise the foot escaped injury and the left foot and leg were uninjured.

After this hasty examination the patient began to jerk spasmodically—first the right arm and left leg. Morphine and bromide of potassium were administered. The patient was then removed to a bed on the second floor. The spasmodic contractions increased and more morphine was injected. I summoned Dr. I. C. Edwards to the case, and he soon arrived; Dr. H. W. Whittaker also assisted for a few minutes. The pulse remained excellent, and a little chloroform soon quieted the tendency to spasm. The pupils now contracted to pin-head size, possibly due to the morphine.

The burns were dressed with carron oil, after the charred clothing had been carefully removed.

The patient continued in a comatose condition till about 6 A.M. the following morning, when she feebly called for her father. Upon being informed of the nature of her injuries, she said that she remembered nothing about the cause of her condition. She gradually rallied from the shock.

The burns were dressed antiseptically. The temperature at one time was 102.5° F. in the afternoon, but on closer attention to the dressings was controlled. The patient urinated more than usual, probably due to the impaired function of the skin of the burned surfaces.

The bowels were constipated, and cathartics and enemata were given. But on the afternoon of May 23d a moderate diarrhœa set in with bloody or tar-like passages. The temperature at this time was 99 F., and pulse rate 104. This bowel trouble yielded happily to treatment, and the patient at the present time is well both mentally and physically, except for the burns which are healing rapidly.

570 East Livingston Avenue.

SARCOMATOSIS OF THE VERTEBRÆ SIMULATING TUBERCULOUS OSTEITIS IN A CASE OF PULMONARY TUBERCULOSIS.

By T. HALSTED MYERS, M.D.,

NEW YORK.

ATTENDING ORTHOPEDIC SURGEON, ST. LUKE'S HOSPITAL.

PATHOLOGICAL REPORT BY

F. C. WOOD, M.D.,

PATHOLOGIST TO ST. LUKE'S HOSPITAL.

On December 25, 1899, I was asked by Dr. Le Fevre to examine the spine of a man in the phthisical ward at St. Luke's Hospital. I report the case as a contribution to differential diagnosis. He was forty years old, and as he lay in bed was unable to sit up or even turn without severe pain in the interscapular region. There was neither kyphosis nor curvature, but marked muscular rigidity in the upper dorsal and cervical regions. There was also tenderness over the fourth dorsal vertebra, together with some pain in the left mammary region and lower end of the sternum. The ribs were almost motionless and the respiration was abdominal. There were signs of old pleurisy on both sides and of consolidation of the lower lobes of the right lung. Tubercle bacilli had been found in the sputum on every examination. The man was emaciated, losing weight and strength rapidly, and had a hectic temperature. There were no symptoms of pressure on the spinal cord. Malignant disease was at once suspected, on account of the marked local pain and tenderness; but as malignant disease of the vertebræ is nearly always secondary, as we could discover no primary focus, as there was a good family history, and as active tuberculous disease did exist in the lungs, the diagnosis was reserved, as it seemed possible that an abscess about to point posteriorly might explain the local symptoms. A week later, examination showed a slight projection of the fourth dorsal spine and more pain along the intercostal nerves, but there was the same persistence of local tenderness and muscular rigidity. As every motion was exquisitely painful, a spinal brace was ordered. The patient now failed rapidly and the support was never applied, but it was not until February 23d, two days before death, that the diagnosis was made certain by the discovery of a nodule on the anterior surface of the liver.

In a paper on "Non-Tuberculous Inflammations of the Spine,"[1] I found that carcinoma and sarcoma are present in about equal frequency; that both may be primary, but are usually metastatic. Kyphosis is usually not present. The disease may occur at any age, but the average is forty-five years. The average length of life after the onset of vertebral symptoms, Amidon found to be eight months. Pain has been a prominent symptom in all these cases, motor paralysis less constant. The cachexia at times did not appear till late. The spinal nerves are often involved in the new growth. As Hodenpyl has said,[2] speaking of the association of malignant disease with tuberculosis: "The lesions are not antagonistic, though they usually occur at different periods of life. Carcinoma may be grafted on an old tuberculosis, and a tuberculous lesion may act as a predisposing cause in locating this deposit just as a traumatism might." This probably would apply to sarcomata as well. This patient had pleurisy four years ago. Acute pulmonary symptoms began four months ago.

From a point of view of pure pathology, the case is interesting because of the unusual distribution of the sarcomatous nodules and the impossibility of a certain determination of the situation of the primary growth. The kyphosis mentioned above was quite marked post mortem, the most prominent vertebral spine being the fourth. Just at this level and 3 cm. to the left of the spine was a tumor mass lying in the muscles and roughly oval, measuring 3 x 2 x 7 cm. This mass was quite soft and made the kyphosis more prominent by its bulk. The middle and lower lobes of the right lung were converted into a cavity half filled with purulent sputum. The bronchial lymph nodes were enormously enlarged, partly tuberculous and partly invaded by the new growth. The lymph nodes in the mediastinum were enlarged by tumor invasion, and many small, bean-shaped sarcomatous masses were scattered over the inner surface of the pleural cavity, lying just under the costal pleura and easily movable. The liver was 10 cm. below the costal arch in the mammary line. On its anterior surface was a tumor mass of moderate hardness, 8 cm. in diameter, and considerably raised above the surface of the viscus. Throughout the whole organ were numerous smaller nodules of sarcoma. The stomach showed no metastases, though its mucous membrane was covered with small polypoid growths a few millimetres long, and at one place was a small fragment of a pancreas about the size of a pea just under the mucosa, both of which conditions, though interesting, will not be further described, as they were not pertinent to the main lesion.

The spleen contained two moderately large metastases. The left suprarenal body contained numerous small nodules which resembled very closely miliary tubercles, as did also small scattered metastases in both kidneys. The left kidney also had two nodules, measuring about 1 cm. in diameter, lying just under the capsule. In the head of the pancreas was a large tumor, about 5 cm. in diameter, paler than the surrounding pancreatic tissue and shading off gradually into normal gland. There was no capsule or evidence of delimitation of the growth from the gland tissue. Two other nodules lay midway between the head and tail of the pancreas, each measuring about 1.5 cm. in diameter, and sharply marked off from the surrounding gland tissue by the color and texture. The pancreatic duct was patent. The retroperitoneal and portal lymph nodes were greatly enlarged and sarcomatous. The body of the fourth dorsal vertebra was softened and dislocated backward several centimetres, the new growth having invaded and softened it and, to a less extent, the bodies of the third and fifth vertebræ. The spinal cord was compressed slightly, but no changes could be made out microscopically. The spinal nerves at their exit from the canal were surrounded by the new growth.

The microscopical examination of all these growths showed them to be spindle-celled sarcomata.

Primary and, to a less degree, secondary sarcoma in the pancreas is of great rarity. Not over eight primary cases are on record. The rarity of secondary growths is said to depend on two seemingly rather insufficient causes: that the pancreatic arterial supply is derived from small lateral branches, chiefly from the splenic, and the metastatic particles are carried by in the main current; and secondly, that metastases may occur, but do not find suitable soil for development. The same peculiarity has also been observed in miliary tuberculosis; the spleen is very commonly, the

[1] Medical News, May 27, 1899.

[2] Transactions of New York Pathological Society, 1896, p. 20.

pancreas very rarely, invaded, though both are fed from the same vessel. The question of soil is important here also, for the rarity of tuberculosis in similar glandular organs, the parotid and submaxillary, is well known.

Spindle-celled sarcomata arising from the periosteum are not rare, and the probable course in this case was a growth from the periosteum of the fourth vertebra with subsequent invasion of the bone marrow, and thence a flooding of the general circulation with metastatic particles, and a secondary invasion of the pancreas, liver, and other organs.

EMBOLUS AND HEMIANOPSIA.[1]

By GEORGE DACRE BLEYTHING, M.D.,
NEW YORK.

Mrs. C. M. B——, aged fifty-seven years, married. On May 24, 1898, I was called to this patient, who made a statement of finding herself two evenings before, in playing a game of backgammon, unable to put her hand directly on her pieces or dice, her sight failing to guide her as to the location of the object sought. This became so annoying that she left the game and walked about, opened an outside door and stood in the air, and then returning and finding that she was not relieved, she gave up the game and went to bed. She had previously at times been troubled with floating objects in the field of vision, which disappeared after a dose of calomel, and she felt no special concern at these symptoms.

The following day she took her purgative, but on the second day sent for me and narrated this experience, with the additional statement that she could not read, as the page was interrupted by black bars.

Her general condition was found to be fair; the pulse, however, was intermittent, and upon examination the heart was found to have extensive valvular disorganization. There was an aortic direct murmur.

The patient had suffered from dyspnœa upon exertion for some time—a year or more—and now complained of headache localized about the right eye and through the head to the occiput. Ophthalmic examination showed no degeneration of the retina, but the test of the visual field discovered a distinct hemianopsia of the right eye, on the temporal side.

The patient was put to bed with orders for quiet, light food, and a shaded room—the last for relief from the impression of the marked limitations of the visual field.

With slight fluctuations as to digestion, gastric and intestinal, and of sleeping, the patient improved during May and June, the disorder of vision becoming less. The improvement was not alone from the patient's becoming accustomed to and ignoring the limitations, but the use of the perimetric test showed an actually diminished area of insensitive retina. The right eye showed slight outward deflection.

On July 2d Dr. H. H. Seabrook saw the patient and made the following report: "There is at present rapid exhaustion of the macular portion of the retina when the eyes are used, with rather indefinite complaints of metamorphopsia which must be due to cerebral causes, as examination of the refraction and ocular muscles shows: V O.D. = .6 with cylinder + .50 axis 90° = .8 at 20 feet. Orthophoria—abduction 6 . Jaeger No. 1 from 8 to 12 inches with spherical +3.50. Field normal, with the exception of 10° at periphery of temporal boundary of field of right eye."

Dr. M. Allen Starr saw the patient in consultation on May 27th. His diagnosis was central embolism (1) of the post-cerebral artery, involving occipital lobe; (2) of the middle cerebral artery, involving the internal capsule[1] and the motor speech area.

The prognosis was recurring emboli with an ultimately fatal result.

As, however, the hemiopia almost disappeared, and there was for a time no repetition of the former symptoms, I hoped for long relief from the detachment of growths and recurrent arterial occlusion; and on June 25th I left town for the summer, coming once a week only to see my patients.

When I returned on August 9th I found the patient under the ministration of Dr. J. Lee Morrell. Two days before she had attempted a bath, had fallen in the tub, and was unable to say whether a vertigo had caused the fall, or whether she had slipped and the shock of the fall had induced cerebral symptoms. The fall had been heavy and her ribs were injured by contact with the tub. Except for pain in respiration, no trouble followed this accident.

So through August and September such improvement in the general condition took place that the patient became restive, and finally so depressed from confinement in the apartment that she was permitted to go down-stairs every evening when she felt disposed to dine with the family.

On October 20th she was taken to her daughter's house in the suburbs for a change, and experienced little fatigue from the effort; on the contrary, she had increased appetite and better spirits.

The hemianopsia now ceased to be troublesome; the patient read and played cards and backgammon with ease.

On November 29th she came home, showing distinct loss of power in her right arm and hand. It was described as coming so gradually that she had not noticed a change from day to day, but felt now that it had begun about two weeks before. This paralysis showed that the blood supply of the motor areas was cut off by a new embolus, or that softening had supervened upon the first embolus and slowly extended.

On December 2d I was summoned early in the day to the patient, who had difficulty in calling words and was herself greatly alarmed at the symptoms. All signs of cerebral impairment now increased, the right leg becoming involved and the power of speech being gradually entirely lost.

During this time the patient was in an increasing degree emotional, and upon the first appearance of the various failures of functions showed mental distress, but at no time lost consciousness, with the possible exception of the time of the fall in the bath. The hemianopsia and the aphasia only were sudden in their onset.

On December 21st Dr. Starr again saw the patient, and his prognosis giving no hope, a daughter-in-law urged the services of her physician, who was a homœopath, and I withdrew from the case.

I was so interested in the patient as a friend and anxious for the best treatment for her, that I met the doctor and explained the case, the theory we had gone upon, and the treatment, giving symptoms as they had occurred, but leaving the new attendant to make his diagnosis. He saw her, felt her pulse, looked at her tongue, and without further examination of heart, urine, vision, or sensation, left the room with me and pronounced the case "sclerosis." He informed me the

[1] Read before Lennox Medical Society.

[1] The internal capsule consists of white fibres passing between the caudate nucleus of the thalamus opticus and the lenticular nucleus. The anterior portion consists of fibres from the anterior lobe, and the posterior portion of motor fibres from the operculum on their way to the anterior pyramid of the medulla oblongata. The lenticular nucleus of the corpus striatum is the largest portion and is lodged within the white substance of the hemisphere, being separated from the caudate nucleus by a layer of white matter—the internal capsule. The caudate portion is in the lateral ventricle.

case was hopeless, and he had taken it only at the solicitation of his patient.

His prognosis was verified four days later. There was no autopsy.

Undoubtedly the first lesion in this case was in the cortex of the calcarine fissure, now proved to be the site of the primary visual centres, and showing, as Dr. Starr had declared, that some branch of the posterior cerebral artery passing into the base of the occipital lobe was the seat of the embolus. The median cerebral artery (or a branch) supplying the inferior frontal convolution (Broca's convolution), now localized as the speech centre, must also have been in turn occluded, as softening would not extend from the posterior to the anterior lobe of the brain. The centre for movements of lips and tongue is placed in that relation to the fissure of Sylvius.

The portion of hemisphere overlapping the central lobe is called the operculum or lid. The fissure of Sylvius forms the boundary of this opercular lobe, which includes the central fissure of Rolando, and is demonstrated to be the controlling centre of the movements of the limbs and is likewise nourished by the middle cerebral artery.

This case is one of few reported, and is interesting in its comparative novelty and also important in its suggestion, in the early history, of apoplexy without paralysis of limbs or impairment of locomotion. Dr. M. A. Starr has reported[1] several such cases of apoplexy—one similar to the one here narrated. As Dr. Starr demonstrates, slight cerebral hemorrhages are often overlooked.

I have a case now under observation, belonging to that class in which numbness of the arm has been attributed to position in sitting or in sleeping, but which has been undoubtedly the result of slight cerebral hemorrhage.

I will quote Dr. Starr's case of hemianopsia: "Male, aged sixty-two years, who has a well-marked mitral regurgitant murmur and extremely rigid arteries, suffered in 1893 from a slight attack of left hemiplegia which passed away gradually, leaving a disagreeable and permanent sensation of numbness in the left hand. During the summer of 1896 he had an attack in which he noticed a headache, a sensation of vertigo, and a sudden obscuration of vision in the left eye. This was attended by a condition of prostration, in which he was seen by Dr. W. C. Campbell, who found his heart very weak and intermittent, but his mind perfectly clear. There were no anxiety, no aphasia, no paralysis, but an examination showed that the supposed dimness of vision in the left eye was really a bilateral left hemianopsia. In the course of two weeks the general symptoms subsided under appropriate treatment, and since that time he has been attending to business. The left homonymous hemianopsia remains, a careful perimetric diagram of the visual fields taken in October, and again in December, 1896, showing the blindness in the left half of both eyes."

27 East Eighty-first Street.

TWO CASES OF SELF-CASTRATION.

By J. E. COURTNEY, M.D.,

Poughkeepsie, N. Y.

Two remarkable, if not unique, cases of this rare form of self-mutilation have come under my observation. I think they deserve recording on account of both their psychological and their surgical interest. There is something at once grimly dramatic and repulsive in an act of this sort, and the literature of such patients, especially in modern times, is small. The motive, the premeditation, the psychological condition, the rough technique, and the ready recovery of the patients are notable. One patient was a religious fanatic and conceived the act from his reading; the other could not have read of any precedent. I have read of but one case nearly similar to these two; that is recorded in Tuke's "Dictionary of Psychological Medicine."

Neither patient was imbecile nor had any anæsthesia.

Case I.—John C——, aged twenty-six years, under commitment for burglary, was transferred to a State hospital for the insane. He was quiet and worked about the grounds. He removed one testicle under the following circumstances: He sharpened an old knife used for peeling potatoes, and made a little reticule bag in which to put the testicle, secured a sewing-needle and ordinary spool of thread, and, excusing himself a moment from his attendant, cut out the testicle and sewed up the scrotum. He asked the attendant to take him to the doctor, but gave no reasons. When seen, he was somewhat pale and laboring under suppressed excitement, and taking the writer aside he announced what he had done, saying that his "nerve failed him" as to taking out the other. There was little time for incredulity. With the utmost sangfroid he produced from his vest-pocket the little pouch containing the testicle. The scrotum was greatly distended with blood. The crude sutures were removed and the wound was dressed. The man quickly recovered. He explained that his purpose was to cure himself of masturbating, to which habit he attributed his crime and all of his troubles; he claimed later that he was "almost cured."

Case II.—O. P. F——, aged forty-six years, shortly before coming under my care removed one testicle, and had no medical attention until the second day after the act. I am indebted to Dr. Bird, of Hyde Park, N. Y., for the following account: "I was called to see O. P. F—— two days after he operated on himself, removing one testicle. There had been oozing of blood, and it was on this account that I was called. I introduced one suture. He said his object was to destroy venereal passion, and that if the loss of one testicle did not suffice he would remove the other. He said it did not hurt much. He recovered promptly."

This case was one of paranoia with hallucinations and delusions pertaining mostly to religious subjects. The line of argument leading to the act was that the original sin was sexual; that there were eunuchs who had made themselves eunuchs; "if the eye offend, pluck it out"; that "the old dispensation was founded on two tablets, two stones, the new on Peter, a rock, one stone," etc. He was quite clever in defending the act from the predication of insanity, and published a pamphlet in which he elaborated his arguments.

Intestinal Paralysis in Typhoid Fever.—E. P. Benoit reports a case which convinced him that the specific lesions of typhoid fever, while locally very dangerous and often determining fatal complications, may frequently cause but a slight ulceration of the intestinal wall and yet induce grave alterations in the coats of the organ by creating an entrance for the toxins of Eberth's bacillus. The danger to the intestine in such cases comes, not from the local ulceration, but from general infection, and the patient who has escaped death from hemorrhage, perforation, and peritonitis may succumb to intestinal paralysis. The author thinks that there is no way to avert the fatal issue. Electricity and other measures may be of use when the paralysis is due to defective nerve force, or to great intra-intestinal pressure, but the function of the organ can scarcely be restored if the muscular tissue is degenerated. One might as well attempt to overcome fatty degeneration of the heart by digitalis. —*L'Union Médicale du Canada*, July, 1900.

[1] Medical Record, November 13, 1897.

New Instruments.

A NEW NASAL-DUCT IRRIGATOR.

By HUGH E. JONES, M.R.C.S.,

SURGEON TO THE LIVERPOOL EYE AND EAR INFIRMARY, LIVERPOOL, ENGLAND.

The accompanying woodcut represents a cannula for irrigating the lacrymal sac and nasal duct. It has been used in its present form for two years and has given perfect satisfaction. The chief points about the instrument are the following:

1. It is made of silver.

2. The cannula is closed at the distal end and two

catheter eyes are cut as near the end as possible. In this way the use of the stylet is avoided, while it is practically impossible to injure the delicate mucous membrane of the duct while passing the cannula.

3. The outside diameter does not exceed that of Bowman's original No. 6 probe, so that it is necessary to divide only half the length of the canaliculus in order to pass the instrument.

4. There is a tap at the proximal end of the instrument whereby the flow from the irrigator (which should be at least six feet above the patient's head) may be controlled by the hand which handles the instrument. If preferred the cannula can be obtained without the tap, and a clamp used on the irrigator tube.

A NEW CURETTE.

By E. W. PEERY, M.D.,

RURAL RETREAT, VA.

The instruments now in use for curetting the uterus are inconvenient and unsatisfactory. They are inconvenient because the patient has to be placed before a light, a speculum must be adjusted, and often it is necessary to call assistance. The methods are unsatisfactory because, in using them, the hand is some distance from the uterine cavity and the sense of touch is necessarily in great measure lost; after the operation one is not sure that all retained portions have been removed; and in cases of uterine flexure it is almost impossible to reach and curette the whole endometrium. One is really groping about for the retained portions of placenta, and the scraping process is usually prolonged by the operator so that he may feel more certain of the complete removal of adherent portions. This is likely to cause injury, especially when the sharp curette is used. For these reasons most physicians remove retained portions with the finger when it can be done, and it is only in cases in which this is not possible that the long-handled curettes and forceps are used.

The curette here shown is more efficient than the finger, and it has not the disadvantages of the long-handled curettes. This instrument is to be worn on the finger, and may be used in those cases in which the cervical canal is already open, or after its dilatation. While the instrument is especially useful in cases of incomplete and induced abortion, it may also be used in cases of fungous and decidual endometritis, in cases of multiple polypi of small size, and of polypi arising from placental tissue; in obstetrical cases to remove portions of placenta, and in the puerperal state to curette the uterine cavity when there are symptoms demanding such a procedure.

The advantages claimed for this little instrument are these: 1. As the blade is broad and round, and the cutting edge semi-sharp, as the sense of touch is better, and as the finger is within the uterine cavity gauging its depth, there is not so much danger of injuring the parts.

2. Being placed on the finger, it enables the operator to reach easily the fundus uteri, and the retained portions or other abnormal tissues hanging from this or other parts of the uterine walls are easily scraped away.

3. By its use the finger is lengthened so that the fundus can be reached in most cases by introducing two fingers, and in every case can be easily reached by inserting the four fingers up to or a little above the metacarpo-phalangeal joints, so that the whole hand need not be introduced; consequently there is not so much stretching of the vaginal walls, and therefore less pain.

4. It enables the physician to do the work in half the time required without it, thus lessening the danger of prolonged hemorrhage and the suffering of the patient.

5. By its use portions of decidua which may adhere high up in one or the other cornu can be removed more easily than by any other means at our command.

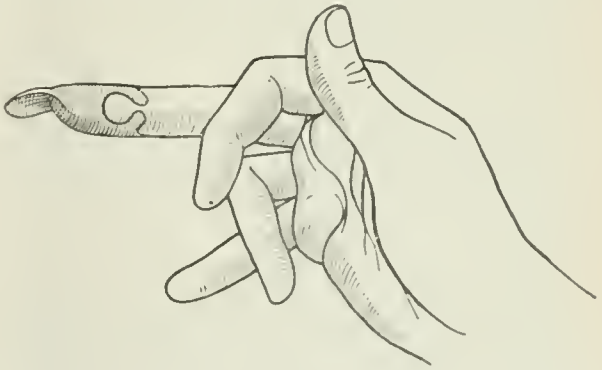
6. The finger-nail which must enter the cavity of the womb is practically sealed, doing away with another possible source of infection.

7. It not only separates the adherent decidua or placenta easily, quickly, and safely, but the cup-like portion makes it easy to withdraw pieces from the uterine cavity, which is often difficult with the finger alone, especially in cases of unyielding or of hour-glass contraction.

8. Its employment does not necessitate the use of speculum and light, and as a consequence a certain amount of exposure which every woman dislikes.

We see, then, that this little instrument, applied to the finger, supplies a long-felt want, and is a most efficient means of curetting in nearly all cases. We also see that it has great advantages over the old curette, even in cases in which the latter can be most efficiently used. Then we meet some cases in which the older instruments are almost entirely useless. In cases of abortion when the womb is flexed or impacted below the sacral promontory, it is almost impossible to reach adherent parts with them. With the finger-curette they can be easily reached and separated, regardless of the position of the womb.

Soon after parturition it is often necessary to curette the placental site, but as the uterus usually is



bent on itself, the long curettes cannot be used satisfactorily, and often are of no service at all; while with this instrument on the finger any curvature may be followed; consequently the work is done with ease and certainty.

One should first pass the finger into the uterine cavity and note its size; also the size and position of

fungosities or retained portions of placenta; then the instrument may be placed on either the fore or middle finger, but it is most easily introduced on the forefinger. With the curette on this finger and resting against the palmar surface of the middle finger, the two fingers should be passed into the vagina, and then, using the middle finger as a guide, the operator will find the cervix and pass the forefinger around with the curette into the uterine cavity. The other hand should be placed over the upper pelvic strait, pressing the womb down and supporting it while the curetting is being done. In using this curette one need not expect to feel the adherent portions as he would with the finger alone, but he should boldly sweep the instrument around with sufficient force to detect the firm uterine wall. This is not hard to recognize, and one need have no fear of doing damage when this curette, which is semi-sharp, is used.

Surgical Suggestions.

Burns not exceeding degree of vesication.—

℞ Tannin,
Alcohol.....āā 1 part
Sulphuric ether..... 8 parts
—Nikolsky.

To Prevent Sloughing.—Cover by means of a brush the parts threatened, with two coats daily of:

℞ Gutta-percha..... 4
Chloroform..... 30
Balsam of Peru..... 1

Iodine Ointment which does not irritate the skin:

℞ Amyli iodidi..... 3 gm.
Lanolin..... 30 "
Spir. canellæ..... gtt. iij.
M. S. For external use.
—Verbitzky, *Gaz. Hebd.*, August 12, 1900.

Hay Fever.—Cauterize repeatedly the hyperæsthetic areas.—Roe.

Myomectomy for submucous fibroid was done by Braithwaite in an almost bloodless manner. The drainage tube was removed in twenty-four hours. There was uninterrupted recovery.—*Scalpel.*

Shock.—Horizontal position, hot bottles to epigastrium and feet, warm affusion to the head, and warmth generally. Frictions, stimulants (brandy, ammonia), and galvanism to the precordia.—*Medical Summary.*

Fissured Nipple.—Bathe the nipple daily during the last month of pregnancy with tincture of quinine. Avoid all ointments.

Early Tapping is now advocated as giving relief to the patient and tending to prolong life in the ascites of cirrhosis. It is better than to employ purgatives and diuretics. Aseptic precautions do away with the dread of infective peritonitis.

For Disinfecting the Hands.—Tests with spiritus saponis (P. G.) have confirmed its efficacy in the disinfection of the hands. It renders them as free from germs as it is possible to have them with our present methods, while it has no injurious effect on the skin. —Hanel.

Umbilical Infection in the new-born is a not infrequent cause of death. The wound may have appeared healed several days before death occurs. It is never possible to affirm that an umbilicus is entirely healed until from fifteen days to three weeks after birth. Among the affections are primary putrefaction of the cord, fungous growth, tetanus, erysipelas, blennorrhagia, ulcer, abscess, phlegmon, phlebitis, and arteritis.—Audion.

A Chloroform Mask is preferable to a piece of lint or towel end, because of the possibility of burning the nose and lips with the latter.—Gardner.

Medical Items.

Typhoid in South Africa.—A correspondent writing to the London *Lancet* from South Africa says: "By far the largest number of our patients are suffering from typhoid fever of a very severe type. The chief strain seems to fall upon the circulatory apparatus, and weak running pulses of from 130 to 144 are not uncommon. The reason for this seems to be that the patients before contracting the disease have had excessively hard work to do, riding and marching for many hours every day, and this has no doubt weakened the resisting-power of the heart in a disease which is known to severely attack the muscular structures throughout the body. Liberal quantities of champagne and brandy with digitalis and strychnine have to be given to tide the patient over his difficulties."

Increase of Insanity in Great Britain.—There can be little doubt that insanity is on the increase not only in Great Britain but throughout the civilized world. Dr. W. W. Ireland, a British lunacy expert, has recently, says the *Medical Press*, addressed a series of questions to a number of leading men in the country in order to ascertain whether they have observed an increase in the relative frequency of diseases of the nervous system. Several doctors give their opinion that nervous diseases are on the increase, and their testimony is quoted as having an important bearing on the lunacy problem. Undoubtedly there is a great deal of common sense in this view, and there can be but very little question that nervous diseases come more under notice than formerly. Professor Erb gives, as among the factors producing nervous diseases, irritation and depression, the greater anxiety, hurry, mental toil of life, overwork at school, and so forth. It is probable that lunacy is really more on the increase than authorities will admit.

Ruskin's Dislike of Bicycling.—A few days before Ruskin's death a New York editor despatched his London representative to interview the sage of Brantwood on the beauties and benefits of bicycling. Ruskin, following his usual custom, gave the newspaper man so cold a reception that the latter lost no time in making his return trip to London. A few days later the correspondent received a letter from Ruskin in which he said: "Some time ago I put myself on record as an antagonist of the devil's own toy, the bicycle. I want to reiterate with all the emphasis of strong language that I condemn all manner of bi-, tri-, and 4-, 5-, 6-, or 7- cycles. Any contrivance or invention intended to supersede the use of human feet on God's own ground is damnable. Walking, running, leaping, dancing are the legitimate and natural joys of the body, and every attempt to stride on stilts, dangle on ropes, or wriggle on wheels is an affront to the Almighty. You can't improve on God's appointed way of walking by substituting an improved cart-wheel."—*Current Literature.*

The Antituberculous Movement in France.—In consequence of the publication in the *Revue Générale des Sciences* of some articles by Dr. Romme on sanatoria, he was asked not long ago, says the *British Medical Journal*, to deliver a lecture at Versailles on

the same subject to a number of foremen, tradesmen, and employees. So successful was he in impressing them with the practical importance of the question that they resolved to take immediate steps in the matter. They approached the municipal council, then on the eve of a new election, and the reply they got was that means would be sought for the creation of a district sanatorium for necessitous tuberculous patients. This reply being considered somewhat vague, three hundred and sixty electors, represenitng all shades of political opinion, demanded a more explicit pledge, taking the precaution to make the demand public by placarding it all over the town. In deference to this wish the council replied with a placard to the following effect: "Certain electors ask us to give formal promises on the question of a district sanatorium for tuberculous patients. Had it not been our intention to carry out the measure proposed we should have passed it over in silence. In promising to seek for means to realize it, we have, as is fitting, a firm intention of finding them; but a preliminary inquiry, for which we will without delay collect materials, is necessary." At the same time one of the political parties opposed to the outgoing council expressed its adhesion to the manifesto of the advocates of the sanatorium, and the leading members of another local party, certain of whom had signed the manifesto, individually pledged themselves in the same sense. This is said to be the first time in France that the feelings of a municipal electorate have found expression on the question of sanatoria. It is to be hoped that the example of Versailles will be followed in other parts of France.

Sins of Commission are charged against certain Chicago physicians by a Chicago editor. Dividing the specialist's or surgeon's fee with the family physician who refers the case is not looked upon as ethical or strictly honest by New York physicians in general.

The Proper Time to Begin the Treatment of Cross-Eyes.—Vard H. Hulen makes a plea for early attention in strabismus, pointing out the danger of altered vision and incurable defects resulting from neglect in the hope that time will cure the squint. It is a common and grave error to suppose that nothing can be done until the child is six or seven years of age. Many patients can be cured without resort to operation if seen early.—*Occidental Medical Times*, August, 1900.

Hospital Scandals in South Africa.—The following remarks in the *London Daily Graphic* express the opinion of the British public with regard to the charges brought against the methods of caring for the sick in the Transvaal campaign: "Amid the conflict of evidence from South Africa on the question of the hospital scandals, two points seem clear beyond dispute: first, that the individual members of the Army Medical Corps worked with untiring devotion; and secondly, that the corps as an organization was incapable of dealing adequately with the heavy work suddenly sprung upon it. The breakdown is variously attributed to War Office red tape, to the want of independent transport, and to the necessary difficulties of warfare in a huge and generally barren country. It is impossible, however, not to feel that beyond these causes there is also a deficiency in the composition of the corps itself. Every one is aware of the difficulty that the War Office has experienced in recent years in filling up vacancies in army medical service. In spite of concessions with regard to title and military rank, the best medical men have steadily refused to enter the army. The reasons are obvious: in the army a medical man finds neither good professional experience nor good pay. Why, then, should he sacrifice all the chances which civilian life offers? The mere pleasure of filling up War Office returns which nobody reads is not sufficient to attract the man who loves his work or the man who loves his leisure. If the army wishes to get better doctors, it must pay them better, give them larger opportunities of civilian practice and of returning to civilian life, and must worry them less with the tomfoolery of the red-tape system."

Mosquitos and Malaria.—Dr. Irving C. Rosse says: "During a considerable residence in Southern France and in Italy, I had frequent occasion to study this question. Monte Carlo is most prominently associated in my mind with broken sleep caused by mosquitos during an autumnal visit. Yet among those of my personal acquaintance with the same experience, none has since shown the slightest trace of malaria. A similar remark applies to Leghorn and to Rome, where, owing to the most important changes in public hygiene that Europe has ever witnessed, malarial fever is seldom seen except among the poorer classes. Englishmen and Americans, who constitute two-thirds of the foreigners in Rome, now reside there for years without an attack of malaria, in spite of mosquitos and of what the Italians consider their eccentric and independent habits. The old tradition of applying to almost every ailment, from a cold to enteric fever, the general term, 'Roman fever,' a vague disease that has no place on the nosological table, has created a prevailing notion hard to correct. As a matter of fact, the study of mortuary statistics and the sanitary condition of Rome, where I spent some time as sanitary inspector for the government, show that with the exception of London it is the best-watered, the best-drained, and the healthiest capital in Europe; and that a European or native of New England runs greater risks of contracting malarial fever in Washington, where it is more prevalent and where Anopheles are equally aggressive. The latest medical information from South Africa shows the entire absence of malaria in many localities where mosquitos are most troublesome. An old and experienced practitioner of New Orleans tells me that the same is true of Louisiana, notably among residents of the salt marshes, extending from six to fifteen miles inland from the Gulf. On the other hand, I am told that malarial fevers are common in the foothills of Virginia, as at Charlottesville, where mosquitos are such a negligible quality as to be almost unknown."

Lord Lister in Paris.—A pleasing and striking proof has recently been afforded in Paris that race animosity has no place in the realms of science. Notwithstanding the bitter, not to say rancorous, feeling displayed by a portion of the French people and press against everything English, the reception of the British men of science who took part in the International Medical Congress was hearty to a degree. Lord Lister, indeed, was the hero of the meeting, and the welcome he received at the hands of his French brethren could hardly have been excelled in warmth and spontaneity. Dr. Fleury, in *Le Figaro*, comments as follows upon the appearance and character of Lister: "Very tall, with a fine large head, white curling hair, gray whiskers, a smooth upper lip and chin, magnificently clear eyes which are at the same time dreamy and merry, like the eyes of a child; calm, courteous, and good-natured. Such is the impression which the inventor of the antiseptic treatment made on me when I happened to see him at the removal of the ashes of Pasteur. He came then at the head of an important delegation of English savants to pay homage to his real master, thanks to whom it had been possible for him to save hundreds of thousands of human lives and to increase tenfold the domain of reparative surgery. He is seventy-three years of age. If he seems now

somewhat aged and broken since the last few months, it is because he has lost, after a short illness, the admirable companion who was in every sense of the word the half of his life, the *dimidium animæ suæ*. Let us honor and fête Joseph Lister. The opportunity offered us will not be soon repeated. Innovators who bring to a branch of our activity such complete and magnificent reforms are rare. The work of this scientific son of Pasteur is of incalculable scope. Scientific surgery dates from him."

Alleged Poisonous Bullets.—On examining some of the alleged poisonous bullets brought to England by Sir W. MacCormac which the Boers were reported to have used, it was found that the charge was totally untrue. The green coating complained of was not verdigris but a comparatively harmless product of the reaction of the metallic casing of the cartridge upon a wax coating used to prevent damp and wet.—*Tit-Bits*.

Corporal Punishment in Schools.—The question of corporal punishment in schools has been much discussed lately in Germany and Switzerland, and the Canton Berne has come to a decision in the matter. *The Ethical World* considers the new law a compromise between the flagellants and anti-flagellants. It prescribes the use of the cane for "grave faults" such as indicate moral perversion; repeated lying is given as an instance, and it is expressly forbidden to punish for want of application. Girls are not to be punished physically at all.

Delusions.—The fact that emotions often form the starting-point of primary delusions furnishes an important indication as to treatment. As long as we are unable to exert any direct influence on the functional disorder itself, *i.e.*, on the nervous retro-action, our efforts must be directed toward the possible source, the emotion. Every one who is obliged to deal with paranoiacs knows by experience that the best way to get along with these unfortunate patients consists in a careful avoidance of all exciting agents, whether they come from within or without, and that these patients will do best if their minds are absorbed by some mechanical occupation which will guard the moods from injurious fluctuation. The beneficial result of this purely empirical treatment furnishes, therefore, a further support to the theory of nervous retro-action.—"Psychical Mechanism of Delusion," by Dr. Hirsch.

Death from Apoplexy, Not Nitrous Oxide.—At the discussion on anæsthetics before the New York County Medical Association, a report of which appeared in the Medical Record, vol. 57, page 438, Dr. Hobart A. Hare, of Philadelphia, alluded to a case in his city in which death had resulted from the inhalation of nitrous-oxide gas. It appears that this case occurred in the practice of Dr. John D. Thomas, who took occasion, at a recent meeting of the New York Odontological Society, to explain how the case had been misreported in medical literature. This death should not have been attributed to nitrous oxide, according to Dr. Thomas, who writes:

"This was not a case of death under nitrous oxide at all. The gentleman was a personal friend of mine, and had taken the gas upon three previous occasions, and there was no apparent indication that he should not take it again. The gas was given, and the right upper second and third molars were extracted. His recovery was complete in the usual time, and he rinsed his mouth with a tumbler of water while sitting in the chair. I had gone to my desk in another part of the room; and he arose from the chair and walked to the washstand, ten feet away, filled the glass and returned to the cuspidor beside the chair, and continued rinsing the mouth while standing, conversing with me in the mean time. This he repeated until he had used three glasses of water, occupying at least twenty-five minutes, after which he stood before the mirror and with his right hand drew back his lips and endeavored to see where the teeth had been taken from. As he removed his hand he looked at it and said: 'That hand feels numb.' He looked a little pale, and as my first thought was that looking at the wounds had made him feel faint, I directed him to lie down upon the couch while I proceeded to get him some brandy; and then I realized that his speech was thick and indistinct. Physicians were immediately summoned and everything was done to save him, but he died about four hours afterward. The coroner's jury gave the verdict of death from apoplexy, and stated that the gas was not the cause of it, in accordance with the medical testimony given there. The gentleman was certainly in such a physical condition that any exciting cause might have produced the same effect, and his taking the gas was but an incident leading to that effect. When we think of the many cases of sudden death with people in apparently good health which occurs on the street, on the cars, or in their homes, and take into consideration the nervous condition in which the many thousands who are to take the gas approach the dentist, it is really wonderful that there have not been numerous deaths either before or after the operation. I once made an appointment to go to a gentleman's house one morning at nine o'clock to administer the gas, and he died during the night preceding. Another man came to my office while suffering from grippe, and I refused to give the anæsthetic, but advised his return home, and promised to go to his house in a few days, when his physician was to be present. He died the next day. I have notes of another almost precisely similar case."

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 31, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Cape Nome	From beginning of outbreak to August 23d	23	
Colorado, Denver	August 11th to 15th	3	
Garfield Co.	August 4th	1	
Las Animas Co.	August 7th	1	
Louisiana, New Orleans	August 18th to 25th	9	2
New York, New York	August 18th to 25th	..	1
Ohio, Cleveland	August 18th to 25th	4	
Dayton	August 18th to 25th	1	
Portsmouth	August 18th to 25th	2	
Smallpox—Foreign.			
Austria, Prague	July 28th to August 1st	8	
Belgium, Antwerp	July 28th to August 4th	2	
Egypt, Cairo	July 22d to 29th	1	
England, London	August 4th to 11th	5	
France, Lyons	July 28th to August 4th	..	2
Germany, Berlin	August 10th	3	
Gibraltar	August 5th to 12th	2	
India, Bombay	July 24th to 31st	2	
Russia, Moscow	July 28th to August 4th	2	2
Odessa	July 28th to August 11th	108	29
Warsaw	July 28th to August 4th	..	7
Yellow Fever.			
Colombia, Barranquilla	August 5th to 12th	..	1
Panama	August 13th to 20th	4	
Costa Rica, Port Limon	August 22d	1*	
Cuba, Havana	August 4th to 11th	..	18
Matanzas	August 26th	1	
France, Havre	August 11th	1†	
	August 13th	Several.‡	
Mexico, Merida	July 3d	7	4
Tampico	August 16th	..	1
Cholera.			
India, Bombay	July 22d to 31st	..	379
Madras	July 21st to 27th	..	5
Plague.			
Australia, Sydney	To July 28th	302	102
India, Bombay	July 24th to 31st	..	45
Scotland	August 31st	11	
Turkey, Smyrna	From outbreak to August 6th	22	11

* Steamer *Cunard*, from Colon.
† Steamer *Caravallas*, from Lorenzo Marques, via Senegal.
‡ Steamer *Santa Fe*, from Lorenzo Marques, via Senegal.

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Original Articles.

POISONOUS SNAKES AND SNAKE POISON.[1]

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THE zoological order Ophidia is popularly divided into non-poisonous, or harmless, and poisonous snakes. Such division appears quite natural, yet it is neither practical nor is it based on anatomy or biology; for in practice it is impossible to distinguish an innocent snake from a similar poisonous one by easily recognized characteristics. The law of mimicry is quite extensively displayed in reptiles, so that even experts after a hasty examination have been subject to fatal mistakes. Harmless and some poisonous snakes have certain anatomical features in common.[2]

You may remember from the study of comparative anatomy that snakes are provided with two rows of palatal teeth besides the usual marginal teeth of the upper and lower jaws; both run almost parallel. The teeth, solid pointed hooks, are curved backward; they are used for hooking the prey rather than for purposes of attack or defence. When the very dilatable mouth is repeatedly opened, the teeth are at the same time thrown forward so that the prey is gradually dragged down into the widely distensible œsophagus. In the innocent snakes the teeth in both jaws extend back almost to the commissure of the mouth; in the poisonous snakes, however, the strength of the whole row of marginal teeth of the upper jaw is, as it were, concentrated into one powerful tooth, the poison fang, which projects at the distal end of the maxilla. It is true, you will often find two or three teeth at this point; these are succedaneous teeth, which fix themselves into place when the snake has broken the main fang or lost it while shedding its skin. Such a fang is, as a rule, replaced by a new one about every six weeks; the old one is loosened by odontoclasts in Howship's lacunæ, just as are the milk teeth of an infant.[3] The fangs are firmly inserted, standing immovable in one family of the venomous snakes, the Colubridæ venenosæ, to which the cobras and hydrophids belong; in the other, the Viperidæ, including the true vipers and pit-vipers, they are erected for biting and are folded like a pocket-knife when at rest. This mechanism works in this way: the pterygoid muscles act on the shortened and vertically situated maxilla in which the fang is firmly fixed.

Another division is sometimes made by classifying the snakes according as they have short, cone-shaped, furrowed fangs, or are provided with long, pointed, tubular ones. This condition is brought about developmentally in the first instance by the folding of the dentine, which leaves a longitudinal furrow along the anterior surface; and in the second by a complete approximation, which produces a perfect tube. To the first class, the Proteroglypha, belong the Hydrophids and Elapidæ, or cobras; the latter class, the Solenoglypha, comprises the vipers and pit-vipers. The intensity of a poisonous bite is not dependent upon the shape of the fangs, except that a longer tooth, such as that of the viperine snakes, is capable of injecting the poison to a greater depth; indeed, the viperine poison apparatus is the most perfect of any in the venomous snakes.

We have to consider a third class of poisonous serpents, the so-called Opisthoglypha, the furrowed fangs of which, as the name indicates, are situated toward the rear of the mouth. There has long been a doubt as to whether they should be classed among the poisoners; and for this reason they were grouped together under the name of "suspecti." Recent investigations, however, have proven to a certainty that they also poison their prey, which mostly consists of small, cold-blooded animals. Catching them first with the innocuous front teeth, they push them gradually backward into the reach of the poison in the back teeth, to the action of which they soon succumb.

The poison apparatus is completed by the addition of the poison gland, which is closely in contact with either side of the skull, directly behind the eye, and is under the influence of the overlying masseter muscle. In some small East India snakes, Callophis, the elongated glands extend into the abdomen, so that they are emptied by a vigorous contraction of the muscles of the whole body. The efferent duct of the gland does not lead directly into the hollow of the fang; if it were so, every shedding of a fang would necessitate the formation of a new duct; the glandular secretion flows into a groove of the mucous membrane, which adapts itself directly to the base of the fang.

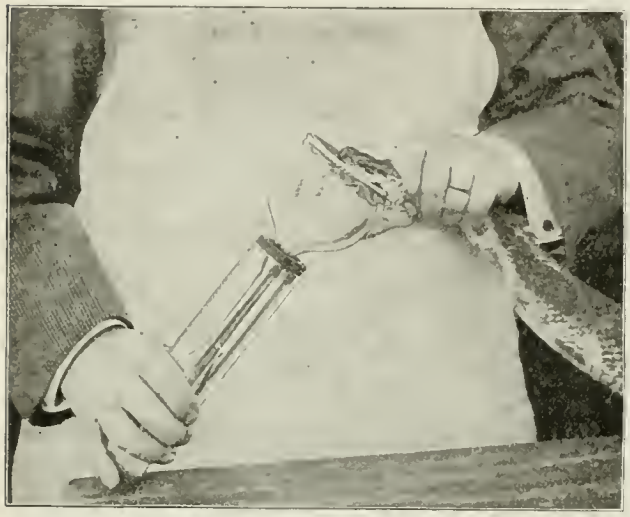
Poisonous snakes are found in all countries of the temperate and more so of the tropical zone. Numerous genera of the Hydrophids, elegant swimmers, with a laterally compressed tail, swarm through the whole intertropical part of the Pacific Ocean; their bite is justly dreaded. The tropical islands, however, and tropical countries of the old continent, are haunted by the worst kind of snakes, the Elapidæ. A large number of genera and innumerable types of every genus render parts of those countries, and especially of the islands, almost uninhabitable. The chief representatives of this genus are the cobra di capello (Naja tripudians) and the somewhat smaller though not less dangerous krait (Bungarus fasciatus), both living throughout the whole of East India. The most formidable is the king-cobra or hamadryas (Ophiophagus elaps), the largest of all poisonous snakes; it attains a length of fourteen feet, and it alone enjoys the reputation of attacking and even pursuing man. Its nearest relative, the aspis of Cleopatra (Naja naje), the symbol of the Egyptian kings, lives throughout almost the whole of Africa. In the western world this genus is represented by the beautiful coral snakes alone: one of them, Elaps fulvius, lives in our

[1] Read before the Academy of Medicine, New York, May 17, 1900. It is impossible to condense the extensive material regarding this topic into the paper of one evening. The paper must necessarily show many gaps and deficiencies, and as such is to be considered merely as an introduction to the study of snake poison.

[2] A fact which is indicated by the usual division of snakes into Colubridæ, comprising all harmless snakes, Colubridæ venenosæ and Viperidæ.

[3] Katharinер: Würzburg. Sitzungsber., 1896.

Southern States, where it is little feared, on account of its alleged good-nature, or rather its lack of irritability; its poison is, however, as active as that of its East Indian relative. Snakes are very numerous in Australia. Two-thirds of these are poisonous, and they belong exclusively to the family Elapidæ; the tiger snake, Hoplocephalus curtus, and the black snake, Pseudechis porphyriacus, have a fearful reputation. Europe has none but various species of vipers: the well-known common viper, Pelias berus, lives in Germany, England, and chiefly in France (Viaud Grand Marais counted in the departments of Vendée and Loire Inférieure alone in six years three hundred and twenty-one cases of bites with sixty-two deaths, in Auvergne fourteen with six deaths); in the south, around the Mediterranean the sand viper (Vipera ammodytes) is found. East India again has one of the most formidable vipers, the chain viper (Daboja Russelii); and Africa there is the very sluggish but very poisonous puff-adder (Clotho arietans). The greatest number of species of vipers are found in America, most of them belonging to the sub-family of the Crotalidæ



or pit-vipers, so called from a deep pit lying between the nostril and the eye.

The object of this pit, which sinks into a cavity of the maxilla—as it were, a reversed maxillary sinus—is entirely unknown. Leydig, of Bonn, calls it the seat of a sixth sense, which means nothing else but that he has no explanation. I have been able to investigate this pit to some extent. The bottom of the pit is covered by a thin membrane, the continuation of the external integument. Under this membrane, which shows abundant ramifications of nerves, there is a cavity which opens by a duct at the anterior margin of the orbit. According to the careful investigations of my friend, Dr. Pollitzer, who followed it up by serial sections, the nerve connects with the auditory nerve. Pricking or any other irritation did not produce any reaction, nor did the destruction of one or both membranes have any effect upon the movements or the hearing of the snake.

The chief representatives of the pit-vipers in the United States are the rattlesnakes. The banded rattlesnake (Crotalus horridus) is present throughout the whole territory from the Atlantic to the Rocky Mountains and far into Canada. Of the remaining six species of rattlesnakes we have to note the largest of all our snakes, the diamond-back (Crotalus adamanteus) of Florida and the South, and the swift prairie-rattler (Crotalus confluentus) in the Mississippi valley and the great Western basin; finally the smallest of all, the massasauga or ground-rattler. To the same sub-family belong the southern water-snakes, the moccasin (Ankistrodon piscivorus)—sluggish animals which are not a little dreaded by the negroes working in the rice-fields; and finally the beautiful copperhead (Ankistrodon contortrix), which is not at all rare in the whole East—in fact, lives almost in the same expanse as the banded rattlesnake. In the tropics almost all species grow to a larger size; thus the copperhead is repeated in the larger *fer de lance* (Bothrops lanceolatus) of the West Indies; the rattlesnakes of Central America grow larger, just as does the Crotalus durissus; and in the Orinoco valley there lives the bushmaster of the Dutch settlers (Lachesis mutus), next to the Hamadryas the largest of all poisonous snakes.

Let us now consider the poison apparatus. The poison glands, button-, tube-, or almond-shaped, with anterior elongated duct, are situated behind either eye, and when extraordinarily developed, as in the Crotalids, give to the head that triangular shape which was erroneously considered the characteristic of all poisonous snakes, and which gave to some species the name Trigonocephalus. The glands are the homologues of the common parotid; of the latter it is also well known that it alone produces an albuminous secretion. As to structure, they belong to the compound racemose glands with elongated acini; the glandular substance has columnar, the duct pavement epithelium. They respond to the action of belladonna exactly like any parotid gland.

A slight thickening of the duct is caused by a circular constrictor muscle, so that the snake is able to retain its secretion at will; and indeed it may be thus retained and not used for months. While the mouth opens, nothing flows out, and only when the masseters in closing the jaw compress the glands a fine stream squirts out of the pointed teeth. The secretion of the other salivary glands and of the mouth is alkaline, while the poison is always acid. The color of the latter varies from a straw or greenish-yellow to a deep orange. The viscous fluid, either clear or turbid (bitter in Naja), is not odorless as often asserted; it has a specific smell for every species, which is not easy to describe, but easy to recognize, thus the odor of crotalus poison may be called "mousy"; its specific gravity varies from 1.030 to 1.077; the solids are variously stated as from twelve to sixty-seven per cent.; my own samples are mostly dried down to twenty-five or twenty per cent. of the original weight. The dry poison cracks in scaly translucent chips of a light yellow or deep brown color, and also has a characteristic odor. Fresh poison under the microscope shows nothing but a few scaly epithelia and a number of finely granulated, amorphous, albuminoid masses, which undergo no change in a hanging drop, even after a long while.[1] It was often and even is to-day asserted that bacteria or cocci exist in the poison. To establish this positively, I sterilized my collecting apparatus thoroughly, and not the least sign of bacterial life was seen in broth or gelatin cultures of the fresh poison; also in acid media in which the experiments were repeated no trace of life was to be found. In order to determine whether the poison which itself destroys life might for that reason be free from mi-

[1] It may be of interest to describe my method of collecting poison. It ought to be said in advance that poisonous snakes, as a rule—at least those of our country—are of a timid and retiring, rather than of an aggressive disposition. They are taken out of their cage with a curved stick on which they remain hanging, afraid to fall. Then they are laid upon a table or upon the floor, and, while they are stretching out to crawl away, their head is tightly pinned down to the table with the stick. The index finger and thumb thereupon grasp the neck of the snake behind its head so firmly that it cannot be turned. A funnel over which a chamois skin or thin rubber is tightly drawn is held in front of the snake, which throws both of its fangs through the cover of the funnel; the poison drops out of the fangs into the funnel and into a glass beneath the latter. While the snake is holding on its glands may be compressed to squeeze out the last drop. The liquid poison is either mixed with equal parts of glycerin or it is dried under a bell-glass with sulphuric acid or calcium chloride.

crobes, I mixed fresh poison with bacillus subtilis and bacterium coli for one-half hour and then inoculated it on gelatin. The growth was lively, even more lively than in the control plates, probably because the gelatin was liquefied at the points of contact with the poison.[1] A bacterial action, therefore, cannot be assumed; the rapidity alone with which the poison acts in the system would exclude bacterial influence. What, then, is its active constituent? The first chemical analysis was made in 1843 by Prince Lucien Bonaparte, who established the albuminous nature of viper poison and called the poison "viperin." Almost twenty years later, 1861, Weir Mitchell found a similar proteid in crotalus poison, which he named "crotalin." Other investigators claimed to have found alkaloids or ptomains, when Weir Mitchell again, in conjunction with Reichert, published in 1883 the results of their studies, that the active principle of snake poison was an albuminoid, but instead of one they had discovered two. One of them, easily dialyzable and coagulable by heat, was called venom-peptone; the other, not dialyzable and not coagulable by heat, venom-globulin. The proportions of both were not alike in cobra and crotalus poison; even among the Crotalidæ they found wide differences. Thus cobra poison had ninety-eight per cent. of peptone and two per cent. of globulin, but moccasin venom had ninety-two per cent. of peptone and eight per cent. of globulin, diamond-back only seventy-five per cent. of peptone and twenty-five per cent. of globulin. Besides the proteid there are a coloring substance, several salts, and some fat. Mitchell's report was mainly corroborated in 1886 by Wolfenden in England, who discovered globulin and several albumins in variable proportion in the poison of cobra and daboja; one of the latter he designated serum-albumin; the other, corresponding to Mitchell's peptone, syntonin or albumose. Kanthack's analyses likewise demonstrated the presence of a proto- and hetero-albumose in cobra poison. Martin and McGarvey Smith found also a harmless albumin and two very toxic albumoses in the poison of the Australian snakes. It may be asserted that in no instance has a definitive analysis of any poison been worked out to this day, but all investigations centre in this one fact, that the active principle in all snake poisons is some form of albumose.[2]

In default of accurate analyses, I will use the convenient terms, venom peptone and globulin, in our further discussion. Not only do the various poisons differ in the percentage of peptone and globulin, but also in the toxicity of the constituents themselves.[3] The venoms retain their efficacy for long periods of time under suitable conditions; poison, when dried or mixed with glycerin, has proved itself as active as fresh poison, even after a lapse of twenty-two and twenty years respectively. Freezing continued through weeks does not alter it; putrefaction destroys it after a long time, but it is soon changed by heating when the temperature is raised to different heights, according to the different chemical composition. The easier coagulable globulins are rendered innocuous at 80° C., while the peptones are destroyed only by applying heat for hours. The coagulated proteids are inert in this condition, but they regain their toxicity when redissolved. It is the more or less evident capability of chemicals to coagulate proteids which determines their relative power of destroying the efficacy of venoms, when they are mixed with the poison in a test tube for experimental purposes. Alcohol renders it inert for a time only. Absolute alcohol seems to coagulate all poisonous ingredients, but the presence of an infinitesimal part of water is sufficient to retain the toxicity of the supernatant fluid. Poisonous serpents, when preserved in alcohol, have to be handled, even after years, with the greatest care, as has been demonstrated by a fatal accident to an assistant in the St. Petersburg Museum.

The physiological effects of both ingredients named, whenever they are tested separately in animals, are widely different. The peptone, though causing some local œdema, is more productive of general symptoms, which, commencing as irritation, twitching, and convulsions, finally end in paralysis; paralysis of the respiratory centre is especially characteristic. The globulin, on the contrary, incites a violent local reaction with hemorrhages around the point of injection, hemorrhages of the mucous membranes, and destruction of the coagulability of the blood. The latter phenomenon recalls to us the results of experiments performed on animals with pure peptones and albumoses of digestion. Kühne, Pollitzer, Schmidt-Mülheim, Shore, and Matthes found in a large number of these experiments not only characteristic hemorrhages and necroses, but also paralyses, the intensity of which was in correspondence with the higher hydrolysis of the albumoses.

You will perceive from what has been said that different cases of snake poisoning cannot have an identical course, and that the numerous contradictions of the mostly incomplete records of snake bites are to be explained only when we consider each type of poisoning separately. Leaving aside the cases of almost instantaneous death which are due to general thrombosis, especially when the venom has been accidentally injected into a large blood-vessel, we usually see about the following symptomatology. We will consider first the less complicated picture of the effects of a cobra bite: two small, scarcely visible punctures in the skin are found, whence radiates a burning and stinging pain with gradually extending œdema. Within an hour, on an average, the first constitutional symptoms appear —a pronounced vertigo, like that of drunkenness, quickly followed by weakness of the legs, which is increased to paraplegia, ptosis, falling of the lower jaw with paralysis of the tongue and epiglottis, inability to speak and swallow, with fully preserved sensorium. A mass of viscous, frothy saliva is constantly dribbling from the open mouth; nausea and vomiting set in; the paralysis becomes general, the patient lies motionless. The pulse, a little accelerated, is somewhat weaker in the beginning, but keeps a moderate strength until even a few minutes after the cessation of respiration. The latter, also accelerated in the beginning, soon becomes slower, labored, and more and more superficial, until it dies out almost imperceptibly. The pupils, somewhat contracted, react up to the last moment. Slight convulsions, which we are accustomed to see in asphyxia, sometimes occur shortly before death. Absorption is exceedingly rapid; already after thirty seconds a distinct areola is visible around the bite. Death occurs at the latest within fifteen hours, in thirty-two per cent. in the first three hours. When the patients do not die of paralysis, they recover remarkably quickly and without later consequences. The autopsy reveals no changes in the skin at the point of injection; the subcutaneous tissue, however, is thickly infiltrated with reddish serum; the surrounding blood-vessels are congested. All the in-

[1] Experiments carried out by Dr. A. V. Moschcowitz with sterile snake poison have demonstrated that it liquefies gelatin like some digestive ferments, *e.g.*, trypsin. Wehrmann (Annales Pasteur, 1898) finds that it peptonizes fibrin weakly and does not saccharify amylum.

[2] It is well known that albumoses, the products of the hydration of albumin formerly called propeptones and accurately defined by Kühne and Chittenden in 1884, differ widely as to their toxicity. While our modern means do not allow yet a chemical differentiation of those albumoses generated by superheated steam, by gastric digestion, by bacilli, or—as in our case—by the parenchyma-cell of a gland, the varying reaction of the more sensitive living organism toward them demonstrates decisively their different nature.

[3] Gastric digestion does not influence snake poison; the action of the bile, however, and of the pancreatic juice destroys it.

ternal organs are hyperæmic, and the bronchi are filled with frothy mucus and perhaps with fluids which have been forced into the patient's throat. The blood is mostly liquid and dark.

After the bite of a rattlesnake the local disturbance is most pronounced: violent pains at the bleeding wound, hemorrhagic discoloration of its surroundings, and later also of more distant parts; bloody exudations on all the mucous membranes, nose, mouth, conjunctiva, and hæmaturia or rather hæmoglobinuria. Usually somewhat later than after cobra poisoning, but possibly within fifteen minutes, constitutional symptoms may develop, great prostration with nausea and vomiting. A continuous fall of blood pressure is noticed. Respiration, in the beginning accelerated, grows slow and stertorous. After a temporary increase of reflexes, which in susceptible animals and after large doses may rise to convulsions, opisthotonos, and tetanus, paresis supervenes, with paraplegia of the lower extremities, which progresses in an upward direction, ending in complete paralysis. Albuminuria appears after about six hours. In such a condition death may come inside of twelve hours. If the patient recovers from the paralysis, a septic fever may develop in consequence of the enormous and multiple hemorrhages, to which he may succumb after a lapse of time. Eventual recovery sets in very suddenly, even in the most desperate cases. Not rarely, however, suppurating wounds remain, which granulate poorly, break open repeatedly, and may lead later on to deep necrosis, even of the bones.[1] The autopsy shows a deep bloody infiltration at the bite, down into the necrotic muscles, hemorrhages of distant muscles, particularly of the intercostals; all serous membranes, chiefly the endocardium and the peritoneum, are completely covered by ecchymoses of all sizes; the lungs show subpleural ecchymoses and infarctions; the kidneys are hemorrhagic in the glomeruli and pelvis, and there is cloudy swelling of the epithelium of the canaliculi. Hemorrhages have been observed also in the serosa and in the substance of the central nervous system. The blood is fluid, and does not clot, even after a long time.

If it is permissible to illustrate and fix the symptoms, which I could but sketch roughly, in a well-known and familiar complex, I might call the sequelæ of a cobra bite an acute bulbar paralysis of the most furious and vehement type. Also for the second type, that of viper poisoning, we have an analogy in acute ascending spinal paralysis, the last stage of which exhibits alike bulbar symptoms and inhibition of respiration. We may remember here that the common ascending spinal paralysis is also ascribed to an infection. Yet, whereas in the two diseases named the development of the nervous symptoms is very gradual, and they may take years or at least weeks to advance to a fatal exitus, in snake poisoning the effect is almost instantaneous. It may, therefore, be considered as firmly established that snake venoms affect the motor ganglia of the anterior horns and chiefly the medulla oblongata. There exist records of few accurate microscopic examinations of all organs after snake poisoning. In general they resemble the changes which we are wont to find in all kinds of poisoning of whatever origin, especially by the toxins of zymotic diseases, *e.g.*, fatty degeneration of the liver with inflammation of the bile ducts, acute parenchymatous nephritis, disseminated pneumonic patches, etc. Of the pathological changes in the central nervous organs, which, to judge from the symptoms, we may expect to find, no reliable records have been published. I am glad to say, therefore, that several gentlemen of this city have been working up some cases of snake poisoning, and they will give us later an analysis of their investigations. In the mean time, I may be permitted to state the substance of the results as a pronounced affection of the ganglion cells throughout the central nervous system, especially in the medulla; the chromatic structure and cyto-reticulum have almost disappeared, as well as the dendrites; the nucleus and nucleolus are not affected.

The question, then, whether snake venom is a nerve or blood poison seems to be definitely settled: it is both. We have, however, in this connection to consider separately some remarkable phenomena in the blood and circulation. In like manner the multiple hemorrhages might point to a disturbance of the vasomotor centre, and some investigators ascribe them to an enormously increased diapedesis. Fresh poison added to blood in a test tube or administered hypodermically causes the blood corpuscles to swell and allows the hæmoglobin to escape into the plasma. The hæmoglobin itself is not changed, the spectrum remaining normal. Local application of poison to a capillary area incites a vigorous diapedesis, as some consider it, while others think it to be a real rupture of the capillary walls. The blood cells escape and are destroyed to such an extent that a few hours after the injection of poison but one-half of the normal blood corpuscles are counted. Finally, however—and this point has been creating a most lively discussion—the coagulability of the blood is materially influenced. Formerly it was an accepted dogma that cobra venom increased and viper venom inhibited clotting; recently, however, the investigations of Heidenschild, and more so the careful experiments of Martin, of Sydney, have cleared up the matter. It is true that viper venom has a more pronounced influence upon the circulation, yet the doses and the mode and the rapidity of introduction are matters of the greatest importance. As a rule coagulation is inhibited for a long period. A small dose injected intravenously causes a positive phase of coagulability of two or three minutes, which is followed by a negative phase of longer duration. A second larger injection brings on the same positive and a much longer negative phase. A third still larger injection, which is borne remarkably well, destroys coagulability for a long period. At the same time the leucocytes disappear almost entirely from the circulating blood; they are massed in the liver, lungs, and bone marrow, and reappear only when the blood regains its coagulability (or perhaps inversely). A hypodermic injection, and therefore the majority of all snake bites, acts in the same way as a small intravenous injection. Immediate introduction of a larger quantity of poison into a blood-vessel may cause a sudden complete clotting of the whole mass of blood, with the exception of that in the pulmonary veins and the left heart. Many contradictory reports of the blood pressure, sudden stoppage of respiration, etc., are explained by the sudden massive thrombosis. The immediate cause of coagulation is probably a nucleo-albumin, analogous to the fibrinogenic substance of Wooldridge, also a nucleo-albumin. It is not preformed in the venom, but, as Martin has it, is liberated instantaneously by the action of the poison from the stroma of the destroyed erythrocytes and the endothelium of the blood-vessels, and it brings on extensive thrombosis at one stroke.

Another important effect of snake venom is the loss of the germicidal property of the blood plasma. It is well known that most normal blood serum destroys micro-organisms, or at least retards their growth.

[1] It is remarkable that in some cases a periodical relapse of inflammation and suppuration of the old cicatrices is reported almost at the same time every year. Leon Stejneger, in "The Poisonous Snakes of North America," p. 353, relates the case of the draughtsman of the Smithsonian Institution. After a bite of a coral snake, swelling and inflammation of a finger with loss of the nail are said to have recurred in ten successive years almost to the date of the bite. A cure was finally effected by means of the herb Micania guacho.

Ewing, of Washington, was the first to show in 1894 that this faculty was annihilated in the blood of animals killed by crotalus poison, and Martin has confirmed it for the venom of the Australian black-snake. This explains both the well-known rapid putrefaction of the poisoned organs and the danger of subsequent decomposition of the extravasated blood and the resulting sepsis during convalescence. We can create a closer similarity of the two types of poison in an artificial way. Viper venom, when heated to 80° C., loses its intense action upon the circulation and approaches cobra venom in character. The Australian snakes occupy in this regard an intermediate position, for besides a prominent cobra effect they produce moderate hemorrhage and always hæmoglobinuria. Persons poisoned by the East Indian Bungarus exhibit sometimes a peculiar course of disease. Some cases cannot be distinguished from cobra poisoning, yet in others a certain chronicity of symptoms is seen, which can be compared only to the incubation period of infectious diseases. From two to six days may have elapsed after the bite without any symptoms, when unexpectedly a general debility sets in, with albuminuria and a sanious discharge from the eyes, nose, and rectum. The patient invariably succumbs within a short time.[1] A disproportionate swelling is to be noted in poisoning by the European viper; it sometimes extends over the whole body. The poison of the African viper, the puff-adder, acts in a stupefying manner from the very beginning; the animal stricken stands without motion or reaction, as if the whole cerebral cortex was eliminated; complete sensory and motor paraplegia ascends gradually with sharply defined limits. In briefly summarizing the mode of dying from snake poison we might say: Death occurring within a few minutes is due to general thrombosis; a patient who dies within twenty-four hours may succumb in the first hours to paralysis of the respiratory centre, later to general paralysis; lethal exitus later than this time, days or even weeks after the bite, may be the result of sepsis.

It may be appropriate now to say a few words about the relative dangerousness of a snake bite. Statistics cannot give us an adequate idea as regards this point. Not all cases are reported, and not all bites reported are those of venomous snakes. Moreover, chance plays an important rôle in the sequelæ, *e.g.*, in what condition was the snake when biting? Were one or both fangs deeply implanted, or was the skin merely scratched? How old and in what condition of health was the bitten individual? India, as is generally known, has the largest mortality from snake bites; this is easily explained by the enormous number of snakes, and these the most deadly of all, the cobras. Nevertheless, indolence and superstition of the population may increase the number of fatal accidents considerably. Those may be right who consider the smaller number of deaths in America and Australia as due to the greater intelligence of the people, because a rational treatment is instituted in time, especially the early application of a ligature. In default of reliable analyses, the only way to decide this point has been shown by Calmette to be that of comparative experiments. After carefully graded hypodermic injections to determine how much poison may kill a kilo of animal (mostly rabbits), the following table has been worked out:

1 gm. of cobra and aspis kills	4,000	kilo of	rabbit.
1 " hoplocephalus kills	3,450	"	"
1 " fer de lance and pseudophis kills	800	"	"
1 " Crotalus horridus kills	600	"	"
1 " Pelias berus kills	250	"	"

[1] These observations should be further confirmed, for the general impression given is that of ordinary wound infection with subsequent sepsis.

But even this method has not yet yielded undisputed results, for Martin claims for hoplocephalus 4,000 and for pseudophis 2,000 kilo. At any rate the toxicity of snake venom is exceedingly high. A comparison with the toxins of infectious diseases as calculated to this date shows that only that of diphtheria comes up to 4,000 kilos, toxopeptone to 3 kilos, and the albumose of anthrax to not more than 80 gm. Besides the high toxicity, it is also the extremely rapid absorption and consequent early appearance of grave symptoms which distinguish snake venom from other toxins.

Leaving out the most serious cases, *e.g.*, when both fangs, and especially those of a large tropical snake, have thrown their full dose of poison into the tissues, the prognosis is not so bad as is generally believed. Weir Mitchell gives the mortality of crotalus bites in one place as twenty-five per cent., in another as not more than twelve per cent.; that of the Australian snakes is said to be only seven per cent. It has been mentioned how quick an amelioration may set in even after the most serious nervous symptoms have preceded. This is undoubtedly a reason why so many remedies have gained the undeserved reputation of being a sure cure. Most of the patients would have recovered without them.

This leads me, then, to the treatment of snake bites. It is not my object to pass in review all the remedies recommended and used. It would take the whole evening merely to read a complete list of them. Besides the whole pharmacopœia of minerals, vegetables, and chemicals, there have been at all times all possible substances in use which had the temporary reputation of being infallible. Such an array of remedies has forever been the proof of our utter helplessness—an example which, to our regret, is not without parallel in other ailments. The object of treatment is fourfold: first, to prevent absorption of the poison; second, to destroy or neutralize it; third, to accelerate its elimination; fourth, to treat symptoms of imminent danger. If the wounded limb, *e.g.*, a finger, cannot be amputated quickly, at least the circulation should be checked or retarded by a ligature as practised since time immemorial. A ligature is applied as tight as possible, not only at one, but at two or three places; *e.g.*, when a finger has been bitten, round the finger itself, at the wrist, and at the elbow. The experienced Wall is so convinced of the advantages of Esmarch's bandage that he not only recommends every physician in India to have one in readiness, but wants to see it in every well-regulated household. The ligature is relaxed at intervals of some hours to prevent gangrene, but is applied again as soon as practicable.

It has been an often-recommended custom to suck the wound with the lips or to apply cups. The result of such a measure is at least doubtful, because of the finely punctured bites; the sucking ought to be preceded by a long scarification into the deeper tissues. It is still safer to excise a large area of these tissues or destroy them with the actual cautery. Wall, taught by long experience, recommends proceeding in the most ruthless manner. By these means the absorption of poison can be limited to a possible minimum so that that the system shall gain time to overcome the whole quantity at intervals. How reliable a good ligature may be is demonstrated by a case reported, in which the effect of a fatal dose was arrested for sixteen hours, but after the ligature was loosened death occurred within two hours.[1]

The next question is: Are we able to render innocuous the poison in the tissues surrounding the bite? This leads us to a whole series of specifics, which owe their reputation partly to old traditions, partly to experiments in the test tube. The majority of these spe-

[1] Weir Mitchell: Smithsonian Contribution, 1861, p. 3.

cifics, which, it is true, neutralize the poison in vitro after a shorter or longer period (carbolic acid, *e.g.*, only after twenty-four hours), destroy all tissues to such an extent that it seems preferable to apply the cautery. Even the much-praised permanganate of potassium, recommended especially by Lacerda, of Rio, has not fulfilled the high expectations, for neither locally applied in a one-per-cent. solution nor injected intravenously has it the elective faculty to single out snake venom for oxidation in presence of other proteids. One per cent. of chromic acid has gained somewhat of a reputation; it does not destroy the tissues simultaneously with the poison, but it merely makes them shrink. Calmette has frequently tested hypochlorite of lime in a solution of 1:60; he found both its local and repeated hypodermic application as well as its internal administration of good effect; not less so a one-per-cent. solution of chloride of gold as a local remedy.

Ammonia, extensively used internally and externally, is nothing but a stimulant. Feoktistow actually advises against it, because he thinks he has seen after its use increasing hemorrhages caused by higher blood pressure. Neither has alcohol any local effect as a coagulating medium; it is to be rated also as a mere stimulant. It has always met with appreciation on the part of the real or, more so, of the alleged victim. Indeed, the use of this infallible specific has often been carried to such an extent that it was impossible to decide whether the patient succumbed to snake venom or to an acute alcoholism. It is, moreover, a fact that intoxicated persons, when bitten in this state, have not proved to be better protected against snake bites than sober people; and the enormous doses which we often hear of as having been administered deserve nothing but condemnation.

If, then, the chances of neutralizing the poison *in loco* are limited, we may ask if we can hasten the excretion of the injurious substance. The kidneys are attacked to a greater or lesser degree by the poison, especially that of vipers; hence it is doubtful whether we should be permitted to increase their activity. The vicarious excretion by perspiration, stimulated by diaphoretics, has also had dubious results. It has been demonstrated, however, that part of the poison is excreted by the stomach. Alt, of Munich, found that alkaloids, chiefly morphine, after hypodermic use were excreted by the stomach almost to one-half of their amount. When he tried the same method for snake venom, it was discovered that the animals whose stomachs were washed out were saved, whereas the controls died; at the same time the washed-out fluid was again poisonous to other animals. Hence it is probable that the use of the stomach pump may be of good service. Those of you who have read a minute description of or have personally witnessed the snake-dance of the Moki and Zuñi Indians of Arizona, will remember that after the performance the dancers who are sometimes bitten by the snakes receive a potion prepared by the priests, which contains an emetic. Then the whole crowd stand around a certain part of the parapet to empty their stomachs freely. This custom has undoubtedly been sanctioned by long experience.

Finally to settle upon a definite method of rational treatment, it will be necessary to proceed in a regular clinical way, in order to find the proper indications for therapy. What are the prominent morbid changes which threaten life? Are they irremediable or are they transient? That they are not irremediable is proved by the many individuals who survive a snake bite in spite of the gravest symptoms. We have seen that the poison exerts, first, a hæmolytic action; second, a destructive influence upon the cells of the medulla. We know at present of no pharmaceutical remedy which will arrest either the escape of the hæmoglobin into the plasma or the rupture of the capillaries. Maragliano, in his experiments with the blood in infectious diseases, found that a globulicidal faculty had developed in the plasma (*i.e.*, that erythrocytes were easily dissolved in such blood), and that this probably depended upon a diminution of the proportion of salts in the plasma. If these results be directly applicable to our question, it is to be expected that the intravascular introduction of chloride of sodium would be of some value in desperate cases of hæmolysis. It is worth a trial not only in future experiments, but, on account of its relative innocuousness, in any case of fresh rattlesnake bite. The effective remedy, however, which we now possess will be spoken of in conjunction with the other groups of symptoms to which we proceed directly. These symptoms we have found to be due to the toxic action upon the central nervous system. The changes in the ganglion cells, the dissemination and disappearance of the Nissl granules, whatever this may mean, must be fully reparable, since, as we have seen, rehabilitation takes place rather suddenly. If we are not able, therefore, to re-establish their function immediately, could we not at least tide over the dangerous period of deep depression? One method suggests itself to a medical mind, *i.e.*, artificial respiration. The heart-beat ceases several minutes later than respiration, and in one experiment Fayrer succeeded in keeping up the circulation for eight hours longer by artificial respiration. Fayrer and Lauder Brunton strenuously recommend that it be continued not only for hours but for days, with or without a tracheal cannula. This advice seems to have fallen somewhat into oblivion, especially since Martin claims that in poisoning by Australian snakes he saw no good results from artificial respiration, death occurring in spite of it in fifteen minutes after the heart stopped. Notwithstanding some failures we are justified in trying it for an extended time, always keeping in mind that an abrupt change may set in in the most desperate cases.

In this connection we have to consider a remedy which even recently has been praised with certain persistency as a specific; I mean strychnine. First used by Pringle in Australia, it was tested in India, and in spite of the little encouraging reports was enthusiastically championed by Dr. Muller, of Sydney. He declared the failures were due to insufficient doses, and he began with a dose of at least 0.01 gm., repeated several times until slight tetanic symptoms appeared.[1]

Many cases in Australia have been treated with strychnine, and upon the advice of the government, Indian surgeons have also used it quite extensively. Nevertheless, the results are not so convincing that we could rely upon this drug as a specific. The experiments of Kanthack and Feoktistow were negative; interesting, however, is the latter's positive experiment that artificial tetanus brought on by strychnine was arrested by snake venom. Roux[2] states that tetanus antitoxin has a certain influence upon snake poison, but not inversely. Atropine has been recommended as a stimulant for the respiratory centre. I do not find many instances of its use recorded, but fail to see why it should not be resorted to as well as strychnine.

This prompts me to relate the few instances in which snake poison has been used therapeutically. Dr. Amaden, of Glens Falls, near Lake George, a country abounding in rattlers, cured a man aged twenty-

[1] The tolerance toward strychnine seems to be quite extraordinary in these cases: thus gr. $\frac{3}{5}$ was used in the case of a boy thirteen years of age within three and three quarter hours, gr. $\frac{1}{8}$ in five and one-half hours, gr. $\frac{1}{4}$ in four and one-half hours, gr. $1\frac{1}{6}$ in seven hours, gr. 4 in six days.

[2] Annales Pasteur, 1894.

five years with unmistakable tetanus by two injections of one drop of fresh rattlesnake poison. It should be mentioned that snake venom has been used in an unsystematic way for several other diseases, *e.g.*, yellow fever, of course without success. Recently it has been asserted that during the plague in India some successful inoculations of cobra poison ($\frac{1}{50}$ and $\frac{1}{25}$ ℥) were made, and that some similar experiments in monkeys gave equally good results. Later correspondence, however, is silent regarding these experiments.

The therapeutics of snake-bite were in this state of hopelessness when a few years ago Calmette, and almost simultaneously Fraser, of Edinburgh, surprised both the scientific and the lay world with an antivenomous serum. It is to serum therapy and immunization, as we shall presently see, that we have to look for the successful treatment of snake-bites.

Regarding this topic the question first arises: Are there animals, as often affirmed, which are immune to snake poison? In East India the mongoose, a kind of weasel, the deadly enemy of the cobra, has the reputation of immunity; and in Europe the droll, bristled hedgehog (Erinaceus europæus) is considered the natural destroyer of the viper. More accurate observers have shown that the mongoose owes its apparent immunity to a certain low susceptibility, but more to its agility, and that the hedgehog is partly protected by its spinous coat;[1] it possesses, however, a higher resistance to snake poison than other animals, and from my own investigations I might figure a resistance of about four times that of a rabbit of equal weight. A relative immunity toward various toxins is well known to exist in different animals. The poisonous snakes themselves possess a perfect immunity against their own poison,[2] the species with weaker poison a relative immunity toward those with stronger venom, and even the non-poisonous snakes enjoy a certain security against the bites of the poisonous ones.[3] This faculty is ascribed to internal secretion, to the incessant influx of toxin into the circulation. A discovery of Phisalix corroborates this theory:[4] he found in the common Tropidonatur natrix a supralabial gland without a duct, which contained a poisonous secretion. The king-snakes of our Southern States, which are the enemies and destroyers of our poisonous serpents, seem to enjoy a perfect immunity.[5]

The idea of immunization is by no means a modern one. Even in antiquity we hear of it, and among savage tribes of ancient and modern times, wherever poisonous snakes abound, attempts at protection against snake venom are made under various forms, sometimes connected with mystic ceremonies. The poison is either taken internally in the fresh state or parts of the dried poison glands are eaten (as practised in South Africa). A shepherd, immunized in this way, admitted that the dried gland of the cobra had an intoxicating effect, which he compared to that of Indian hemp, only that, whereas the latter lost its effect gradually, the action of the first was not impaired by habit. Or it is used as an inoculation (Serpa Pinto). Sometimes one of the reputed antidotes is employed, as, *e.g.*, the *curados de culebras* of Mexico employ a composite plant, Micania guacho.

Sewall, of Ann Arbor, Mich., was the first to introduce methodical inoculation of snake venom with the idea of immunization. His experiments, in which, by gradually increased doses, he made his pigeons secure against seven times the lethal dose of massasauga poison, were published in 1887. Calmette, director of the Pasteur Institute of Lille, France, after a series of failures succeeded in securing immunity and at the same time in elaborating a protective serum, antivenene, which, in spite of some weighty opposition, must be considered to-day as the only reliable antidote to the deadly action of snake poison. Calmette manufactures antivenene by inoculating with cobra venom or with a mixture of cobra, crotalus, viper, and hoplocephalus venoms, in both of which the hæmolytic agent has first been eliminated by heating to 80° C. The inoculation of horses has been carried on for three successive years. Antivenene acts as a full protective in a dose of from 5 to 20 c.c., when injected even one and one-half hours after the introduction of venom. A number of reports from different parts of the world attest the curative power of Calmette's antivenene: it has been used with beneficial effect in East India, in Egypt, Africa, and in the West Indies against the different serpents of those countries. Fraser, who worked independently of Calmette for six years[1] on the same subject, does not agree on all points with Calmette; in fact, the latter's statements have not been thoroughly confirmed by the Indian physicians and by Martin, of Sydney.[2] Not only has controversy arisen as to the curative value of antivenene, but also other questions have been stirred up in relation to the chemical and physiological action of toxin and antitoxin, which promise to be of the greatest importance in settling this vital problem of therapeutics. I cannot refrain from going into some details in the controversy.

First, it was objected that Calmette asserted his antivenene to be equally effective against all kinds of venom, in direct opposition to Behring's law, that every toxin requires a specific antitoxin. It should be noticed that Calmette's horses are immunized with a venom in which the hæmolytic element has been destroyed. Hence while he may work out an antitoxin to the more important constituent, the nerve poison, he neglects the other agent entirely. Nevertheless, experiments seem to prove that the blood is acted upon as well.[3]

Another objection was made that the curative power was entirely overrated, since Calmette used as a test for estimating its value only the minimum test dose of poison. Fraser thus calculates that for a man weighing 60 kilos a dose of 330 c.c. of antivenene would be required—an amount which because of its bulk and its price would preclude its practical employment. Statistics and calculations do not, however, bear out this objection, for, with rare exceptions, not more than the lethal dose is injected by the snake in the average instance. At the same time, man has more resistance than the animals mostly experimented upon—a fact which may be considered an established law is that the larger the animal the less susceptible it is, weight for weight.

The discrepancies between the experience of Calmette and that of Martin, of Sydney, may probably be explained by the difference of Australian and Indian snake venom, so that an antivenene elaborated with Australian venom may have more curative power in Australia. It is less easy to account for the many failures of the Indian surgeons with the serum, although good reports are not lacking. An experimental investigation carried out by Semple and Lamb

[1] Calmette: "Le venin des serpents," 1896.

[2] Weir Mitchell finds that, at least in some cases, crotalus is not immune against its own poison.

[3] Fayrer: "Thanatophidia of India." Bancroft: Australasian Medical Gazette, 1893.

[4] Société de biologie, December 26, 1896.

[5] I have injected a king-snake (Ophibolus getulus) of Florida, of 700 gm. weight, with 1 gm. of fresh moccasin poison, a quantity which can never be injected by a single bite of the largest venomous snake. With the exception of a pronounced local swelling and some apparent sick feeling for a few days, the snake survived this experiment well.

[1] Fraser dries his antivenomous serum, in which state it is said to keep indefinitely.

[2] Intercolonial Medical Journal of Australasia, 1897, 1898.

[3] Stephen and Myers: Journal of Physiology, vol. xxiii., p. i. Stephen *Ibid.*, vol. vi, p. 273.

at the medical school at Netley has also confirmed the value of antivenene.[1]

Another point of contest is the mode of action of the antivenene, whether it is chemical or physiological. Whereas Calmette with Roux and Buchner insists that antitoxin elicits or stimulates the resistance of tissues, Fraser and Martin assert with Behring that the action can be only chemical. The experiments with snake poison and its antidote point, in my opinion, positively to chemical action. For instance, a certain amount of antivenene counteracts a minimal lethal dose when injected on separate points of the skin, whereas $\frac{1}{1000}$ of this quantity mixed with the venom in vitro and then injected has the same effect. An experiment which was negative in Calmette's laboratory, but has been decided positively by the accurate Martin, is the following: A certain amount of venom and antivenene mixed in vitro is injected without injurious consequences. Then the same mixture heated to 68° C. (a temperature which renders the antivenene inert, but not the venom) is injected, and acts as if no antivenene had been added. Only when the mixture is allowed to stand at least twenty minutes is the venom neutralized, and heating no longer arrests the effect of the antitoxin.

Fraser[2] recommends the introduction of antivenene into the bitten limb rather than into distant parts, and its administration in repeated doses instead of one large dose. Martin advocates intravenous injection because he thinks that, whereas venom is rapidly absorbed, antivenene, probably on account of its large molecular size, enters the circulation slowly; a recommendation which for that reason he extends also to the use of antitoxin in severe cases of diphtheria or tetanus.

A new light has apparently been shed upon this topic by the researches of Phisalix, of Paris, who, while experimenting exclusively with viper venom, has found many substances which exhibit a decided antitoxic action. First he discovered in the blood serum of eels a substance which, according to Mosso's researches, has a similar effect to that of snake venom, only that larger doses are required, and in the poison of the Japanese salamander ingredients which serve to immunize against viper venom. Still more surprising was the similar action of cholesterin, separated from biliary calculi and from carrots, or that of tyrosin, separated from bulbs of the well-known dahlia and also from mushrooms. All these bodies, partly of vegetable origin, had a decided immunizing effect against viper venom, and the blood serum of animals into which these substances had been injected had an exactly similar effect. Very likely we have to add to these many vegetable remedies which have had more or less established reputation as snake cures, as, *e.g.*, the before-mentioned Micania guacho. All these substances, however, are capable of raising the resisting-power of the organism but little above the minimal lethal dose of venom; they have no effect whatever when injected simultaneously with the poison, but if introduced at least twenty-four hours previously they create an immunity of some duration. It must be noted that all these substances are the highest final products of proteid metabolism. I must not forget to mention the similar antitoxic influence of the suprarenal glands, the administration of which is a therapeutic measure recently come into prominence; their cortical substance seems to be more efficacious, and it may be of interest to know that the guinea-pig, which is the animal most susceptible to snake venom, has almost no suprarenal cortex.[3] It is to be hoped that the action of these proteid substances may lead us to a definite solution of the relation between toxin and antitoxin; and snake poisons, as Martin points out, are particularly well adapted for these investigations. They have the great advantage of being less sensitive than other toxins to light and heat, and of being comparatively easy to obtain in a form which preserves a remarkably constant composition.

To sum up, then, the most commendable treatment would be:

One or several tight ligatures should be made above the wound, followed perhaps by deep scarifications; then injection of antivenene, if at hand. If the latter cannot be had, injections should be made of a solution of hypochlorite of lime, 1 to 60, at several points near the bite and elsewhere. Stimulation, if necessary, by either strychnine or atropine or alcohol; hypodermoclysis of physiological saline solution; lavage of the stomach; artificial respiration for hours; and, not least of all, continuous encouragement of the victim, for a deep mental prostration goes together with the physical depression of the nervous centres.

It affords me great pleasure to acknowledge at this place my obligation to Dr. T. M. Prudden for many courtesies bestowed during my studies on this subject.

The reports of Drs. James Ewing and Fred. R. Bailey regarding the changes in the central nervous organs are herewith appended. Both gentlemen were to take part in the discussion of this paper, but, having been prevented from being present, they sent in the following statements:

Dr. James Ewing: The changes in the ganglion cells of the rabbit into which was injected moccasin poison, I found by Nissl's stain to be of a somewhat specific type and of extreme grade. The appearance of the cells was that of general disintegration of chromatic bodies without marked loss of the total amount of the chromatic substance. The outlines of the Nissl bodies were completely obscured; the substances had been redeposited in finely granular form all over the cell body and even in the pericellular lymph space. In the majority of the large stichochromes neither formed bodies nor reticulum could be distinguished. It was evident that the lesions went much deeper than the chromatic substance, affecting the underlying cyto-reticulum, which was granular, disintegrated, in places completely destroyed. The nuclei were very opaque, and the nucleoli often swollen or subdivided. The dendrites were often irregular, shrunken, or detached. These changes constitute a true acute degeneration of the cell, in contradistinction to the simple disturbances of chromatic substance, which may be entirely physiological.

I think the changes which I found in this rabbit were the most violent in the whole list of conditions included in my experience with degeneration of ganglion cells.

Dr. Fred. R. Bailey: Rabbit No. 1; snake poison, rapid action. The cells showing changes were confined to the anterior horn of the spinal cord. Most of these cells are normal. A small number of cells present those modifications in their chromatic elements, which probably evidence the early stages of a beginning acute degeneration, *i.e.*, an increase in the granularity of the chromophilic bodies and a fraying out at their edges, with some distinct loss in chromatic substance. The cyto-reticulum is normal. The nucleus may be normal, or there may be an intensification of the surrounding membrane and a thickening of the strands of the nucleo-reticulum. A few cells are found in which there is much greater loss of chromatin, the cell bodies appearing extremely pale and no distinct chromophilic bodies being present.

Rabbit No. 2; snake poison, long action. The character of the lesion is the same as in the preceding, but much more advanced and involving a much greater number of cells. Changes were found in the cells of

[1] British Medical Journal, 1899, i.
[2] British Medical Journal, 1895, i.
[3] Myers: Lancet, 1898, i., ii.

the (1) cortex, (2) cerebellum, (3) olfactory lobe, mitral cells, (4) basal ganglia, (5) medullary nuclei, (6) anterior horn, and (7) spinal ganglia. The cells showing the most marked changes were the anterior-horn cells and the Purkinje cells and the mitral cells of the olfactory lobe. The changes were those of later stages of acute degeneration.

Rabbit No. 3; heloderma,[1] rapid action. The changes were almost identical with those found in rabbit No. 1.

Technique: The material was placed in a four-per-cent. aqueous solution of formalin for twenty-four hours, then passed through graded alcohols. Sections were cut in celloidin and stained by Held's modification of the Nissl method, *i.e.*, erythrosin-methylene blue.

A FEW CASES OF EROSIONS OF THE STOMACH.

By EDWARD QUINTARD, M.D.,
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Under the heading of "Gastritis ulcerosa chronica anachlorhydrica" in the *Archiv f. Verdauungs-Krankheiten*, vol. vi., No. 1, Dr. Luigi Sansoni, of Turin, describes three cases, the salient features of each of these being as follows:

When the stomachs of these patients were washed out during a fasting condition the wash-water was found to contain little pieces of mucous membrane, and furthermore it was found that after a test breakfast the gastric filtrate of such patients gave either a neutral reaction or else a very slight acidity. Again there was an absence of free hydrochloric acid and a negative or doubtful reaction in reference to lactic acid, but the motility of the stomach was good and in other respects the stomach was normal. From a consideration of the clinical facts above named, Dr. Sansoni comes to the conclusion that a constant presence of these pieces of superficial mucous membrane in the stomach washings existing along with a hypo- or anachlorhydria—cancer being excluded—significes a chronic superficial ulceration of the stomach, a condition which he would describe as "gastritis ulcerosa chronica anachlorhydrica."

In the Medical Record, June 23, 1894, Dr. Max Einhorn of this city, in a paper entitled "Clinical Observations on Erosions of the Stomach and their Treatment," described seven of these cases clinically. Previous to this, although such "hemorrhagic erosions" had been observed as a frequent anatomico-pathological occurrence, notably such investigators as R. Virchow, D. Gerhardt, O. Hartung, Langerhans, Ewald-Boas, Jaworski, and Korcynzski having called attention to them—yet to Einhorn belongs the credit of having first grouped these cases clinically, at the same time giving their history, symptoms, and treatment. Dr. Einhorn's paper was followed by very interesting ones on the subject. So far as we know these papers appeared in the following order: P. Cohnheim.[2] L. Sansoni,[3] Curt. Pariser,[4] Einhorn,[5] L. Sansoni.[6]

Let us refer briefly to Dr. Sansoni's first paper on the subject, a paper entitled "Sull' importanza diagnostica dei frammenti di mucosa gastrica estratti dallo stomaco digiuno." In this article Dr. Sansoni describes two cases in which he found small particles of mucosa in the stomach washings, one being the case of a young woman aged twenty-six years, the other that of a man aged forty-two. In both these cases ulcers were believed to exist. Furthermore these ulcers were supposed to have been the round or peptic ulcer in contradistinction to that more superficial solution of continuity known as erosion, for Dr. Sansoni distinctly says, in speaking of the case of the young woman aged twenty-six, after discussing whether it was an ulcer or an erosion: "Taking into consideration that the pain was circumscribed and that there were exacerbations of this pain after the ingestion of food, especially if it were irritating or coarse in its nature (wine, bread), the diagnosis of ulcer seemed to us the more rational, and as such it was treated." And again, in speaking of the man aged forty-two, Dr. Sansoni says: "The diagnosis of gastric ulcer is certain at least clinically." We wish to emphasize the fact that in these two cases it was evidently the round ulcer that was meant, as we wish to refer to this statement again. The study of these two cases leads Dr. Sansoni to conclude that "the finding of such pieces of mucosa is not only a symptom of mucous gastritis or of simple erosion of the stomach, as claimed by the authors above quoted, but in my opinion it has a still deeper significance in rendering probable a case of suspected ulcer, or in confirming a clinical diagnosis," ulcer in this case again evidently signifying the round or peptic variety of ulcer. Granting, however, that in these two cases there existed a round ulcer, which, after carefully reading their histories, does not appear to us at all certain, this by no means signifies that the finding of such small pieces of mucous membrane in the stomach washings speaks for ulcer. It would merely go to show that from time to time in the stomach washings of patients suffering from ulcer, as in the stomach washings of patients suffering from a variety of other pathological conditions of the stomach, we find fragments of the mucosa. But why Dr. Sansoni should have arrived at such a conclusion at all is what we fail to comprehend, because in Dr. Einhorn's paper, mentioned by Dr. Sansoni in this very article of his from which we quote, we are given a history of seven cases of erosions, in only one of which, and that a very doubtful case, was there even so much as a suspicion of ulcer; in fact they were proven distinctly to be not cases of ulcer, but of erosion. And here we ourselves must state as nearly as possible what we mean by the term erosion in contradistinction to the term ulcer. When hereafter in this article we speak of erosion we shall mean a superficial solution of continuity in the gastric mucous membrane, never extending as deep as the submucosa and whose edges never present the elevated indurated margins of that special form of ulceration frequently named, after the author who was the first to describe it graphically, the Cruveilhier ulcer, or, in other words, the round, peptic, or hyperpeptic ulcer. This statement must by no means be construed as implying that we mean that an ulceration and an erosion are two different processes pathologically, for unfortunately the etiology and pathology of such lesions are at present most vexed and undetermined. We use the terms as distinct in order to facilitate the clinical description of such cases.

When in the *Archiv für Verdauungs-Krankheiten* we come to read Dr. Sansoni's second paper on the subject, it must be confessed we are somewhat confused. For, in this last paper of his, we find before reading very far that what Dr. Sansoni now means by ulcer is something altogether different from what he meant in his first paper. For we will remember that in his first paper Dr. Sansoni, in reaching a diagnosis in the case of the young woman, says: "There was reason for the

[1] The saliva of Heloderma horridum, a poisonous lizard, had been used for poisoning rabbit No. 3.
[2] Archiv für Verdauungs-Krankheiten, Bd. i., p. 274.
[3] Giornale della Reale Accademia di Medicina di Torino, January 15, 1897.
[4] Medicinische Revue für interne Medicin und Therapie, Wien, April, 1897.
[5] The Journal of the American Medical Association, May 20, 1899.
[6] Archiv für Verdauungs-Krankheiten, Bd. vi., vol. i.

suspicion that at the very least there was a solution of continuity in the stomach, and hence an ulcer, or at least a simple erosion of the mucous membrane." Mark you, in Dr. Sansoni's mind at this particular time there was a distinction to be made between an ulcer and an erosion. Three years back when he spoke of ulcer he meant, as we have already shown, the peptic ulcer, and he did not apply the term of ulceration to erosion. Let us now see what he says in this second paper of his. After describing these cases in which fragments of mucosa were found in the stomach washings, he says: "Die constante Anwesenheit von Schleimhautstückchen im Wasser der im nüchternen Zustande vorgenommenen Magenausspülung mit Bestimmtheit für einen ulcerativen Process im Magen spricht. Ueber diesen Gegenstand bereitet jedoch Herr Poggio, ein Schüler der Klinik, eine Arbeit vor, in welcher er darthun wird, dass die mit dem Spülwasser aus dem Magen extrahierten Schleimhautstückchen nicht immer durch die Sonde losgelöst werden, wie manche behaupten, sondern in der Mehrzahl der Fälle in der Magenhöhle schon losgelöst vorkommen und wirklich eine Continuitätstrennung der Magenschleimhaut anzeigen." We quote in full because, in the first place, it shows that what Dr. Sansoni now means by ulcer is altogether different from what he meant three years previously, and in the second place to state that the hypothesis which his pupil Herr Poggio conceived, as regards the exfoliation of these small pieces of mucosa in these cases, is the same as was given by Dr. Einhorn in his original paper on the subject six years ago, the very title of which paper Dr. Sansoni, unfortunately for himself, seems to have forgotten, for we look all in vain for the name of the able clinician who first classified the cases clinically.

We learn, then, that Dr. Sansoni to all practical purposes has come to regard the terms erosion and ulceration as interconvertible. We shall not dispute his right to do so, and we really should think nothing more of the fact were it not for the last paragraph in this second article of his. We quote again: "Deshalb müsste man zwei Formen von chronischer ulceröser Gastritis unterscheiden: eine mit Hyperchlorhydrie und eine mit Hypo- oder Anachlorhydrie. Bei der ersteren liegt das typische Cruveilhier's che Geschwür vor, bei der letzteren handelt es sich um oberflächliche Ulcerationen, die meistens in Tiefe nicht über die Schleimhaut hinaus gehen, jedoch imponierende Hämatemesen und vielleicht auch Perforation herbeiführen können. Zu dieser letzteren Form dürften die von Dieulafoy unter dem Namen Exulceratio simplex beschriebenen Fälle, die hämorrhagischen Erosionen, wahrscheinlich viele der von den Autoren beschriebenen Fälle von Magengeschwür mit Hypo- oder Anachlorhydrie und die von mir beschriebenen drei Fälle gehören, welche letzteren, wenn sie durch weitere Untersuchungen besonders in anatomischer Hinsicht bestätigt werden sollten, eine besondere Bedeutung haben dürften. Denn auf Grund der bei ihnen angetroffenen objectiven Symptome, nämlich: 1. constantes Vorhandensein von dünnen Magenschleimhautstückchen im Wasser der im nüchternen Zustande vorgenommenen Magenausspülung; 2. nicht an eine Geschwulst in der Magengegend und Krebskachexie gebundene Hypo- oder Anachlorhydrie, wäre eine Diagnosticierung der Krankheit intra vitam möglich, während sie bisher erst bei der Autopsie gemacht wurde. Diese Form verdient wirklich den Namen Gastritis ulcerosa chronica anachlorhydrica." Let us take the last part of this paragraph first. We have just seen that Dr. Sansoni uses the terms erosion and ulcer as interconvertible—in other words, what Dr. Einhorn and other investigators describe as erosions Dr. Sansoni describes as ulcers. So far so good; but why, pray, anachlorhydrica? What about the seven cases described in Dr. Einhorn's first article—article and author so unfortunately forgotten by Dr. Sansoni? Among the seven cases we find four with hypochlorhydria, two which might be termed normal, *i.e.*, total acidity = 60; and one of hyperchlorhydria. Again in Dr. Paul Cohnheim's cases—cases it is true viewed for the most part pathologically—yet of these cases in which fragments of mucosa were found in the wash water, seven presented a normal acidity, and six hyperacidity. Again, in the very able article by Dr. Curt. Pariser, "Ueber hemorrhagische Erosionen der Magenschleimhaut,"[1] an article as yet evidently unseen by Dr. Sansoni, in only one case was there hypo-acidity; in both others the acidity was normal. Finally, in Dr. Einhorn's last report, we find among sixteen cases one of hyperacidity, three of normal acidity, seven of hypo-acidity, and two of anacidity. Now, are we to suppose for an instant—and from what Dr. Sansoni says we judge that this is his idea—that in those cases in which we have hyperacidity we have to deal with the Cruveilhier ulcer, and that in the cases of hypo- or anacidity we are dealing with cases not of round ulcer but with a form of ulceration absolutely distinct, and to which the term "gastritis ulcerosa chronica anachlorhydrica" is scientifically applicable? We say emphatically, No! To begin with, from what we have said the term employed by Dr. Sansoni is, we believe, a manifest misconception of the case. We all know that the round ulcer from time to time appears without an accompanying hyperchlorhydria, and in the cases reported, when along with the finding of the fragments of mucosa there existed hyperacidity, in only one case, and that one reported by Dr. Paul Cohnheim, was there even a suspicion of a round ulcer. We see, then, that these fragments of mucosa in the wash water are found in patients when the secretion varies from that of hyper- to that of anacidity. This again leads us to repeat that the pathological etiology of the various forms of ulcerations and erosions met with in the stomach is as yet a matter of much controversy. It is quite impossible at present, it would seem, to say whether the forms of ulcerations and erosions described by Lainé, Dieulafoy, Nauwerk, Marfan, etc., are all one and the same lesion in different states of evolution, or the same lesion as seen under different pathological surroundings. What we can say, however, is this, that clinically there is a difference. In fact, we can probably say that ulcerative and eroding processes are met with under the following clinical aspects:

(1) The patients who suffer from tuberculosis (mostly in the terminal gastritis of such patients), puerperal eclampsia, alcoholic gastritis, atrophic cirrhosis, and uræmia. These cases, unless hæmatemesis or perforation supervenes, run as a rule without definite gastric symptoms, and for the most part have been described at autopsy.

(2) The patients who with no past history of stomach trouble suddenly develop a terrific hemorrhage, and at the operation or autopsy there may be found by careful search erosions so tiny that for the most part they are best seen by the aid of a magnifying lens. These little erosions, one to several in number, are very superficial and never reach the submucosa, the cause of the "hemorrhagie foudroyant" in these cases being the eroded arteriole running at the base of the erosion. This is the exulceratio simplex so beautifully and graphically described by the great clinician Dieulafoy.

(3) The round ulcer first described by Cruveilhier with, as a rule, its train of classical symptoms.

(4) Cases in which small pieces of the mucosa are found in the wash water, thus showing erosions, a definite clinical class first described by Einhorn.

[1] Medicinische Revue für interne Medicin und Therapie, Wien, April, 1897.

(5) Primary ulcers from known specific and constitutional infections, such as tuberculosis, syphilis, etc. These ulcers run a varying course.

(6) Ulcers appearing after serious burns of the skin. These are for the most part intestinal and present very few gastric symptoms, the general lesion masking the same.

(7) Ulcers due to irritant chemical poisons, carbolic acid, etc.

As the following cases of erosions of the stomach came under my personal observation, and as the subject is quite new, it will be of interest to report them in full:

Case I.—October, 1897. R. H. M——, aged thirty-five years, machinist, of good habits and temperate. For the last eighteen months he has not chewed tobacco, but previous to this he used five packages a week. He has naso-pharyngeal catarrh. He has complained of gastric troubles for the past three years, and has a bad taste in the mouth all the time. He feels bloated and full after eating. There are slight pains after meals, but the quality of food makes no material difference. He has no dizzy attacks. The bowels are constipated. For the past four or five months there has been an exacerbation of these symptoms, and the patient has lost several pounds in weight.

Status præsens: The patient is somewhat pale and pinched. The tongue is very slightly coated. The thoracic organs are normal. There is some pain on pressure over the epigastrium. A splashing sound is heard just below the navel.

Examination, October 7, 1897, in fasting condition: The wash water contains mucus, and entangled in the mucus are two small pieces of pale gastric mucosa (examined microscopically) and one loose piece. The wash water is slightly tinged with blood.

October 8th: Practically the same results, and three pieces of gastric mucosa; the water is slightly tinged with blood. Later gave test breakfast, Ewald-Boas. Result: hydrochloric acid, total acidity 40; no lactic acid. The stomach was washed with warm water and sprayed with nitrate-of-silver solution 2 : 1,000, using the Einhorn atomizer.

October 10th: After test breakfast, Ewald-Boas, hydrochloric acid, total acidity 40. The wash water contains mucus, but no particles of mucosa.

October 12th: The wash water contains some mucus, but no fragments of mucosa. The stomach was sprayed with 2 : 1,000 nitrate of silver. From this time on the patient felt much better. He gained in weight several pounds, but the belching and the fulness continuing, probably owing to the slightly atonic condition of the stomach, cold ablutions, bitter tonics, and exercises were ordered with most beneficial results.

Case II.—J. O——, 1897–99, man aged forty-seven years, a chronic drinker for years. In this case Dr. Einhorn was called in consultation, and the patient's condition is described under No. 6 of his last series of cases. The following facts were interesting in this patient's case: A prolonged or desperate drinking-bout invariably ended in an acute attack of gastritis. Such an attack would last from three days to one week before the symptoms would subside. As a rule gastric lavage was practised during these acute attacks, and although mucus was always found in the wash water, mucosa fragments were not always present. Once, however, just as Dr. Einhorn and myself had gotten this patient in a very fair condition—in other words, just after he had been treated for erosions and to all appearances had been cured—he again indulged in large quantities of alcohol, with the result that the mucosa fragments appeared the next day in the wash water. It was interesting to note that whenever such pieces of mucosa were found in the wash water the patient's symptoms were more aggravated than at any other time. He would begin to lose weight, and his face became pinched and at times quite haggard; he would complain that his food hurt him, of great weakness on exertion, and he would become much more nervous. Finally, whenever the special symptoms described manifested themselves, we would wash out his stomach, with the result that we would find one to three tiny pieces of mucosa in the wash water. These symptoms extended over a period of several years, with intervals of several weeks between them, and at times when the patient had abstained several weeks from alcohol; yet it must be remarked that this patient, as a rule, no sooner was made better than he again succumbed to the desire for drink, and this left his gastric mucous membrane in a more or less constant state of inflammation. The gastric spray of 2 : 1,000 nitrate-of-silver solution, combined with proper diet and hydrotherapeutic measures, always resulted in a cure so far as the erosion went. Another peculiarity was that the total acidity of this patient's gastric filtrate varied greatly from time to time. As a rule it was about 47–50, but at times as low as 30 and again as high as 80, the hydrochloric acid being always present. The blood never registered below 80 H.; and as a rule registered between 85 and 90. In other respects there was absolutely nothing abnormal. The urine at times showed evidences of renal hyperæmia, *i.e.*, a trace of albumin and casts. The albumin and the casts appeared at times when the indican was in excess and when the normal ratio between urea and uric acid or between the mineral and ethereal sulphates was disturbed. The patient finally died following the effects of a prolonged debauch.

Case III.—May, 1898. J. A. H——, student, aged twenty-one years. He has complained for two years of gastric disturbances. He is a cigarette smoker and uses alcohol moderately. During the past six months symptoms have become worse. He complains that food hurts him, and that he feels weak; at times he has nausea, and if indiscreet in diet he vomits as a rule on the morning of the following day. He has lost considerably in weight during the past few months.

Status præsens: The patient is thin and pale, and his cheeks are somewhat hollow. The heart is irregular and somewhat forcible, what might be called a "smoker's heart." Lungs, liver, and spleen normal. There is some tenderness on pressure over epigastrium.

May 7th: Test breakfast, Ewald-Boas—total acidity 37, hydrochloric acid +; a good deal of mucus.

May 8th: Lavage in the fasting condition. Result: two pieces of mucous membrane in wash water. Spray, 2 : 1,000 nitrate of silver.

May 10th: Lavage in the fasting condition. One small fragment of mucosa and some mucus. Spray, 2 : 1,000.

May 11th: Lavage in the fasting condition. Some mucus, but no pieces of mucosa. No more fragments were observed, but as there was every evidence of chronic catarrhal gastritis the patient was treated for such and recovered.

Through the great courtesy of Dr. Alexander Lambert of this city, I have the following case to report:

Man, aged fifty-two years, merchant. He began to feel weak and lose flesh last January. He complains of a dull oppression back of the sternum. The pain did not seem to be increased particularly after eating, but it was worse after exertion, and again the pain seemed worse after eating if the patient had been tired just before.

Status præsens: The patient is slightly anæmic. The lungs are normal. The heart is slightly enlarged toward the left, but nothing more than exercise would account for. There is a slight increase of the second aortic sound with a slight systolic murmur at the aortic area. The urine is normal, with a normal amount of

urea. A week later a double murmur was found at the aortic area, which showed he had atheroma of the valves. He was given potassium iodide gr. v. t.i.d., and also general tonics. The patient did only fairly well, his heart sound became much better, the diastolic murmur disappearing entirely and only a very faint systolic remaining, and the exaggerated snap of the valves being much less marked. His general strength and his anæmia were better, but he was losing flesh, and his pain back of the sternum persisted. Under bitter tonics and nux the symptoms improved somewhat, but by no means disappeared. The patient still felt weak, and the pains still persisting back of the sternum, and the patient not having regained his weight, a carcinoma was suspected, and an Ewald-Boas test breakfast was given and expressed an hour and a half afterward. The result of the chemical analysis was as follows: Free hydrochloric acid absent; combined hydrochloric acid, 0.0548 per cent.; organic acid and acid salts, 0.0730 per cent.; total acidity, 0.1278 per cent. Lactic acid (Boas test) presented strong reaction. This was followed by lavage. In the wash water were found three small pieces of gastric mucous membrane, which being sent to Dr. Harlow Brooks were on examination found to be absolutely normal. After this the stomach was washed out every other day for four days with a dilute soda solution. At the end of ten days another test was given, the chemical report being: Total acidity, 0.264 per cent.; total hydrochloric acid, 0.085 per cent.; combined hydrochloric acid, 0.080 per cent.; organic acid and salts, 0.090 per cent.; trace of lactic acid. At this date the patient felt much improved; the pain was less, he felt much stronger, and there were no fragments of mucosa found in the wash water.

June 8th: The patient returned with some of his old symptoms. He feels weak, and suffers some pain and discomfort back of the sternum. His stomach was washed out and there were found three pieces of mucosa. The stomach was sprayed with a solution of nitrate of silver.

June 11th: Two pieces of mucosa were found in the wash water. The stomach was again sprayed with nitrate of silver.

June 13th: The wash water contained one piece of mucosa. The treatment with nitrate of silver was continued.

June 15th: The wash water contains no pieces of gastric mucosa. The patient expresses himself as practically well.

These cases reported by me resemble in their principal points those described by Einhorn; that is to say, in these cases there were the loss of flesh, the pain after eating not very intense, the exhaustion on exertion, the pinched and more or less haggard look at times, and finally that which rendered the diagnosis positive, namely, the repeated finding in the wash water of little pieces of gastric mucosa. So far as treatment is concerned it would seem that excellent results are to be had with the solution of nitrate of silver of the strength of 2 : 1,000 or stronger, sprayed by means of an Einhorn atomizer, this being done every other day. In the cases reported it can be seen that after two or three applications of the nitrate-of-silver solution the fragments of mucosa, as a rule, ceased to appear in the wash water, and in conjunction with this the subjective symptoms and the general condition of the patient improved. In a recent conversation with Dr. Einhorn on the subject, he told me that of late he has been using with seemingly good results five grains of the extract of suprarenal gland, powdering the stomach with this amount while the latter organ was in the fasting condition.

Our conclusions, similar to those of Drs. Einhorn and Pariser, are as follows:

(1) That from time to time we see patients in whose stomach washings are repeatedly found small fragments of the gastric mucous membrane; on an average one to four of such pieces are found in a washing, their size varying from 2 to 7 cm. long and about 2 to 3 cm. wide; that the repeated finding of such pieces of mucosa in the wash water shows that we are dealing with a case of erosion.

(2) That such erosions occur under varying pathological conditions, and that as a consequence the functional signs vary accordingly.

(3) That the exact etiology and pathology of such erosions are at present not definitely known; that in the great majority of cases at least where such tiny fragments of mucous membrane are found in the wash water the patient gives a definite and peculiar clinical history distinct from that of round ulcer or from the exulceratio simplex described by Dieulafoy.

(4) That as a consequence these cases should be regarded as a distinct class clinically and treated as such.

THE RADICAL TREATMENT OF TUBERCULOSIS OF THE TESTIS.

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It is a well-recognized and universally accepted surgical rule that when dealing with cases of surgical tuberculosis a thorough and far-reaching removal is an essential which must under no consideration be overlooked. Whenever such a thorough removal is not feasible, either on account of the involvement of vital organs or on account of technical difficulties impossible to overcome, recurrence of the tuberculous process may be looked for with almost absolute certainty.

It would carry me far beyond the scope of this short communication to go into the details of the pathological anatomy of genital tuberculosis, but for a thorough understanding of my reasons for advocating a more radical procedure in the treatment of tuberculosis of the testicle, I may be permitted to recapitulate briefly so much of the pathological course and progress of this malady as goes to prove the correctness of this aim.

It has not as yet been definitely decided whether or not there can be a primary tuberculosis of the genital tract without the coexistence of a tuberculous focus in some other part of the body; suffice it to say, for the purposes of this paper, that we not infrequently see patients who consult us with that peculiar nodule in the epididymis which experience has taught us to recognize as tuberculosis. No matter whether this be a primary or secondary focus, the subsequent course of this nodule in the epididymis will be mainly as follows: in the course of a few days, or at the most a few weeks, the tubercle bacilli will be carried by the seminal secretion into the corresponding vas deferens and will infect this at first in its scrotal portion; in course of time the infection gradually but surely travels upward into the inguinal and abdominal portions, until the entire vas deferens up to the seminal vesicles is involved; very soon this is also infected and becomes tuberculous. The next step is the infection of the corresponding lobe of the prostate.

Up to this stage the tuberculosis has run an insidious and a more subacute or even chronic course, and has not as yet involved any of the vital organs. Unless early recognized and properly treated, the process may subsequently very readily extend to the posterior urethra and bladder, with secondary infection of one or both ureters and kidneys. The testicle itself is but rarely involved, and if so only by contiguity from the affected epididymis.

In exceptional instances the progress of the disease takes place in the opposite direction; that is, the primary focus is to be found in the seminal vesicle, while the disease involves only secondarily the vas deferens and epididymis, in a direction opposite to the one quoted.

If this progress and extension of the process of tuberculous epididymitis are borne in mind, it does not require very much argument to prove the futility of the procedure for its supposed cure—namely, castration below the inguinal ring, or castration combined with evulsion of a part of the intra-abdominal portion of the vas deferens, as recommended by Büngner,[1] which has, with very few exceptions, been the practice up to the present. I do not speak of the various palliative measures in use, which make pretence to be radical. No one, of course, will deny that castration alone may also be radical at the beginning of genital tuberculosis—that is, at that stage when the entire process is still confined exclusively to the epididymis; unfortunately, however, the disease is so insidious in its onset as to escape the attention of the affected individual at this stage. It is self-evident, therefore, that a method for more radical treatment is clearly indicated.

Authorities and men of experience differ very much regarding the extent of the procedure which may be termed radical. To my mind we can then only speak of radicality when we may be reasonably sure that we have removed every portion of the tuberculous tissue, so that there is no opportunity given for a subsequent development of new tuberculous foci. In view of what has been said, it is but natural to conclude that the radical treatment of tuberculous orchitis, so called, would have to include, besides extirpation of the testis, also extirpation of the entire vas deferens, together with the corresponding seminal vesicle. Of the various procedures possible, I take the liberty to recommend the following:

Castration is performed by the usual method and through the usual scroto-inguinal incision, with the exception that the vas deferens is primarily not divided at the level of the vessels, but is carefully isolated from the other structures of the spermatic cord and left in connection with the testicle; then as much of the vas deferens is pulled out of the inguinal canal as can be done without running the danger of tearing it off. After placing a ligature around it, it is divided, and the proximal end is carefully seared with a Paquelin cautery, so that in the subsequent manipulation no opportunity shall be given for any exuded material to infect the channel of the vas deferens, between the peritoneum and the bladder. After removal of the testicle the external incision is closed, with or without drainage, depending upon individual cases. The patient is then placed in the lithotomy position, a sound is introduced into the bladder to serve as a guide, and a curved incision is made in front of the anus, extending from one tuberosity of the ischium to the other—the so-called prerectal incision of Zuckerkandl, or, more preferably, Kocher's "pointed arch" incision; after division of the superficial and deep perineal fascia, and of the tendinous union between the bulbocavernosus muscle and the external sphincter of the anus, the urethra being held to the front by a blunt retractor, the space between the rectum and urethra is deepened by blunt dissection, until the levator ani, or more particularly its anterior portion, the so-called levator prostatæ, is reached. This is then divided by a pair of scissors, the divided muscle retracts, and the prostate and the diseased seminal vesicle are reached by the palpating finger. The finger of the left hand is now introduced into the rectum, and hooked over the upper border of the prostate; traction is exerted, and it is surprising how much of the prostate and seminal vesicle can thus be brought into view. Should this, however, be impossible on account of adhesions, the seminal vesicle may be grasped by a clamp and gentle traction and manipulation may then be made to liberate it further. Proceeding in this manner, the entire unruptured seminal vesicle and the remaining portion of the intra-abdominal part of the vas deferens are brought into view (that the entire vas deferens is being extirpated can be recognized by the attached ligature and the seared surface). The seminal vesicle and vas deferens are by this time attached only by the ejaculatory duct, which can be readily cut off. Tamponade of the wound, and possibly the insertion of one or two sutures into each angle of the perineal incision, terminate the operation.

I have had occasion to operate on but one case by this method, and must confess that at the time of the operation it was unknown to me that other surgeons had operated by similar methods. Though the duration of the operation was somewhat prolonged, because of its novelty to me, I was very much impressed, not only by its feasibility, but particularly by the ease with which the extirpation of the seminal vesicle can be effected by this method.

B. W——, thirty-five years of age, married, a native of Roumania, barkeeper by occupation, was admitted to Mt. Sinai Hospital on August 18, 1899. There was no history of hereditary tuberculosis; he denies lues, but confesses to potus. The patient complains since four months of pain in the left testicle, at which time he also noticed a small nodule, which gradually became larger and harder; there was pain also in the left groin. He had no sexual impairment. There was considerable loss of flesh and strength. Physical examination led me to suspect the integrity of the left lung, but there were no definite symptoms of a tuberculous affection. The left testicle was of normal size and consistence; within the epididymis a hard nodular tumor was found, about the size of a walnut, painful on pressure, but not markedly tender; the vas deferens could be distinctly traced up to the inguinal ring, firmer than normal, and about the thickness of a small pencil. Rectal examination showed the left seminal vesicle to be the size of a thumb, and bulging nipple-like into the rectum. The genital organs of the right side were normal. The examination of the sputum and of the expressed secretion from the seminal vesicle and prostate gland for tubercle bacilli proved negative.

Operation was done on August 22d, under chloroform narcosis. An incision was made in the left inguinal region, extending a short distance downward upon the scrotum. As the patient was averse to losing the testicle, and as at the time of the operation it appeared to be perfectly healthy, I contented myself with the extirpation of the epididymis. In other respects the operation was finished as above described, Kocher's prerectal incision being used. It is to be regretted that, possibly through inadvertence, the sound introduced as a guide into the bladder was during the operation found to have perforated the urethra; the rent, however, was immediately sutured, and a permanent catheter was introduced into the bladder. The duration of the entire operation was one hour and fifty minutes.

Dr. Mandlebaum, pathologist to the hospital, was good enough to examine microscopically the specimens, and confirmed the clinical diagnosis of tuberculosis of the extirpated parts in every respect.

The subsequent course was uneventful, marred only by persistent vomiting, due to a marked alcoholic gastritis. The patient was discharged five weeks later with a minute urinary fistula, which subsequently closed spontaneously. He presented himself to me in November of the same year for examination, entirely cured

as regards the local tuberculosis, but with well-marked symptoms of tuberculosis of the left apex, to which he succumbed four months later.

A research of the literature pertaining to the subject has shown to me that the extirpation of the seminal vesicles for tuberculosis has been carried out a limited number of times, viz.:

Ullmann[2] was the first surgeon to extirpate the seminal vesicle for tuberculosis. After having performed castration for right-sided tuberculous epididymitis, he was enabled to watch the progressive development of tuberculous vesiculitis; hence five weeks after the castration he extirpated through a Zuckerkandl incision the right seminal vesicle with the abdominal portion of the vas deferens, and also the affected left seminal vesicle, but not the left vas deferens; incidentally he also extirpated a pea-sized tuberculous abscess from the right prostate. The patient was discharged with a perineal urethral fistula, which, however, closed spontaneously.

Villeneuve, quoted by Guelliot[3] in a communication to the Congress for Advancement of Sciences, Marseilles, 1891, reports a case of extirpation of the epididymis, vas deferens, and seminal vesicle by an extensive incision in the inguinal region and pushing back the posterior layer of the peritoneum toward the median line.

Roux, of Lausanne,[4] reports two cases of extirpation of the seminal vesicle and vas deferens for tuberculosis, by a perineal incision similar to Wölfler's pararectal incision; after division of the pedicle of the seminal vesicle, he sutured the overlying structures, so as to avoid, if possible, the formation of a urinary fistula. One patient recovered, while the other died shortly afterward of tuberculous basilar meningitis.

Routier, quoted by Guelliot,[3] extirpated through a Kraske incision a tuberculous seminal vesicle, which caused compression of the rectum, and obtained a cure.

Schede[5] tells briefly of two cases of extirpation of the seminal vesicles for tuberculosis, with temporary resection of the sacrum by Rydygier's method, and obtained a complete cure in both cases. Incidentally he criticises Büngner's method of castration with evulsion of the vas deferens, as he believes that the vas deferens is more likely to tear off just at a weak tuberculous infiltration and not in healthy tissue.

Weir[6] relates a case of double castration and complete extirpation of the vesiculæ seminales and vasa deferentia for tuberculosis. On the right side, while he was trying to extirpate the seminal vesicle, apparently by Villeneuve's method, the peritoneum was torn, but was immediately sutured. The operation was finished by a prerectal incision. The patient was discharged with a urinary fistula, which closed spontaneously in seven weeks.

A. G. Gerster[7] extirpated at the Mount Sinai Hospital in 1894 a seminal vesicle for tuberculosis, through a Villeneuve incision, and obtained a good result. The patient died two years later of pulmonary phthisis.

Fenger[7] is reported to have extirpated the seminal vesicle and vas deferens for tuberculosis, together with a small abscess in the prostate, through a perineal incision after Roux. The patient was cured.

Guelliot[3] gives an excellent account of the surgery of the seminal vesicles and reports two cases of extirpation for tuberculosis. In the first case a complete cure was obtained by high castration and extirpation of the seminal vesicle, through a perineal incision which encircled the anus for about two-thirds of its circumference. In the second case, involving both sides, the following were the operative steps: (1) Castration on the right side; (2) incision and curettage of left epididymis; (3) extirpation of the right seminal vesicle by morcellement, through a perineal incision; (4) testicular prothesis. The patient retained a urinary fistula, and died two and a half months after the operation, of acute phthisis.

Moullin[8] reports two cases of excision of the seminal vesicle for tuberculosis through a perineal incision, and obtained a complete cure in both cases. The second case was complicated by a urinary fistula, which, however, closed spontaneously.

From these reported cases it will be seen that the seminal vesicle may be attacked surgically by three different methods: (1) By the inguinal route; (2) by the sacral route; (3) by the perineal route. A comparison of the three methods will, I believe, result very favorably for the perineal route, as it has certain undeniable advantages over the others, which cannot be underestimated. Operation by the inguinal route appears to me to be very difficult, and the extensive stripping off of and not impossible injury to the peritoneum cannot be an indifferent matter; furthermore, the extreme depth in which the operation has to be carried out bars an inspection and treatment of the possibly infected prostate. The sacral route in any of its numerous modifications, with or without resection, or by a parasacral incision, certainly does expose the parts in question in a most beautiful manner, but the operation and dissection are necessarily so extensive as not to be entirely devoid of complications and dangers. Finally, there remains only the perineal route, which, as already pointed out, is devoid of many if not all of the dangers inherent to the other methods, is comparatively simple and easy of execution, and exposes the parts in question in a perfect manner.

In the performance of this operation there may arise many circumstances which may necessitate slight modifications in the technique; but as by this method the parts are fully exposed, it is but proper to individualize. It may, for instance, not be necessary to extirpate the testicle (and there are some patients—for instance, as in the case above reported—who are averse to losing this organ, though it may have become unnecessary and not functionating, through the extirpation of its efferent duct), particularly when it is taken into consideration that the testis proper is involved but very late in the disease, and even then not by metastasis, but by contiguity from the epididymis. I can well see that in such cases it might be permissible to extirpate only the epididymis with the vas deferens and leave in place the testicle. When in doubt regarding the testicle, we may go one step further and bisect it, so as to bring its stroma to inspection. It is perhaps needless to add that in those cases in which the testicle is not extirpated, care must be taken not to injure the spermatic artery and veins within the cord, as in either instance the nutrition of the testicle will be so much impaired that its removal may become imperative.

A decided advantage of this operation is that it enables us to inspect and palpate the corresponding lobe of the prostate; a localized nodule within the substance of the gland may be extirpated; abscesses may be incised, curetted, and drained.

The advantages I therefore claim for this operation are its ready execution and the possibility of removing radically all the diseased tissues. The disadvantages of the operation are only such as can be readily overcome by any one versed in the general surgical rules of procedure. The only disadvantage inherent to the operation is the possibility of a urinary fistula arising through the division of the ejaculatory duct, but even this closes in a majority of instances spontaneously. The indications and contraindications for the operation are those generally observed and recommended for tuberculosis of the testicle.

Although at the time of the operation (August, 1899) it was unknown to me that a radical operation

for tuberculosis of the testicle had been attempted by the perineal route, it is far from me to claim the least bit of originality for this procedure; my only claim, if it can be honored by so dignified a name, is a slight improvement in its technique. In concluding, I would express the hope that this operation may be given a more extended trial than is vouchsafed me, with the limited genito-urinary service in the surgical division of my chief, Dr. A. G. Gerster, to whom also I am gratefully indebted for this case.

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350 WEST FIFTY-EIGHTH STREET.

A CLINICAL STUDY OF THE LIVER AS A FACTOR IN ELIMINATION, AND IN THE PRODUCTION OF NEPHRITIS.[1]

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AT Maysville, in May, 1898, I presented a paper to this society entitled, "The Physiology of the Liver and the Rôle it Plays in Digestion and Nutrition." You may deem it strange that I make another inventory of the functions of the liver, and small wonder, when we remember the triteness of the text. If, however, there is a lack of interest manifested in paying our respects to so esteemed a friend, our indifference may be attributed not so much to a blunted sense of obligation for services rendered, but rather to our ignorance of the mysterious ways he works his wonders to perform.

Digestion, nutrition, and elimination constitute metabolism. Metabolism, therefore, comprises those natural functions and processes whereby living organisms maintain vitality and being, and resist the impressions of time and disease. Thus the dynamics of life, beginning with the cell, are the chemical and physical activities required in the transformation of energy, involved in the processes of digestion, nutrition, elimination, growth, reproduction, and heredity.

The simple cell, as well as the differentiated cell of the higher or complex organism, acting under normal conditions, has the capacity of responding to the presence of food material by appropriating it to its own growth and multiplication, and of oxygen by yielding to disintegration or waste. The primary and inherent function of all life is a constant change, produced by an affinity for such material as by addition constitutes nutrition or growth on the one hand, and, on the other, a similar affinity for oxygen, by which oxidation and disintegration are constantly taking place.[2]

Under these conditions the processes and functions are termed physiological. However, these cells, acting under abnormal circumstances, as the presence of micro-organisms, are capable of responding in an exaggerated manner in protecting themselves individually, or the organism of which they are a component, against the toxic influences of said micro-organisms. This capacity of the cells for increased activity under adverse circumstances is the vis medicatrix naturæ. Under such conditions the processes and functions are termed pathological.

Therefore, if we would discover the secrets of the doctrine of organic evolution and heredity, and understand the functions of the widely differentiated and closely co-ordinated cell collections composing the several organs of the body, we are admonished to study them in the light obtained from the observation of the functions of the simple cell, acting under physiological and pathological conditions.

The single cell is the simplest form of organized life. Its existence is perpetuated by its capacity for selecting and imbibing such material as is fit for its nutrition and growth and rejecting that which is detrimental. This constitutes cell-metabolism. The human body is an aggregation of these minute organized bodies or cells into a variety of forms or structures, each having some special function. The great structural differentiation attained by the human organism opens up new avenues for invasion by pathogenic agents; however, physiological division of labor has kept pace and provides special functions, not only to protect the organism from toxic influences, but to sustain and nourish it. This capacity of sustenance, of selection and rejection, of assimilation and elimination constitutes body-metabolism.

Therefore, the maintenance of the natural functions of animal life and its vital resistance to toxic agents, resulting either from pathogenic bacteria introduced from without, or from the retention of excrementitious products of tissue disintegration within, depends on the activity and efficiency of metabolism, or the processes involved in digestion, nutrition, and elimination.

The agents essential for normal metabolism in the development and nutrition of the blood and body tissues are wholesome food, pure water, and fresh air, and the proper mechanism of suitable organs not only to elaborate these agents, but to eliminate from the system the waste products evolved in their elaboration. The quality and quantity of the blood depend on the quality and quantity of the food material and air, and on the efficiency of the digestive, respiratory, and eliminative organs. The blood is the vehicle by which the food material, after it has been elaborated, is distributed to all the tissues. When wholesome food and pure air have been supplied and the digestive and respiratory mechanism has been normal, the blood truly is the life. But, as the blood is also the recipient of the waste products of disintegration, nature has provided special organs for the elimination of said waste products or other harmful agents that may have gained entrance into the circulation. The kidneys are specially constructed for the elimination of the waste products of disintegration from the blood, which, if retained, would poison the blood and, through it, all the tissues; and in this instance the blood becomes the death. And thus, in the blood, we note that life and death tread so close, their paths needs must touch.

The laws of physiology decree that the integrity and vitality of the body and its different organs, in the performance of their several functions, are dependent on proper blood supply, and in turn the blood supply is dependent on the proper functions of the organs involved in metabolism, and though elimination is the last step in metabolism it is not the least important.

I have purposely dwelt at some length on the different steps in metabolism in order to emphasize their mutual interdependence and the intimate relation between the digestive and eliminative organs. Proper elimination is dependent on proper nutrition, and proper nutrition is dependent on proper digestion. Anything that disturbs digestion will disturb nutrition, which in turn will pervert elimination; and whatever aids digestion favors nutrition and facilitates elimination.

[1] Read before the Kentucky State Medical Society, convened at Georgetown, May 9, 10, and 11, 1900.

[2] Journal of the American Medical Association, July 1, 1899.

Digestion, nutrition, and elimination constitute a cycle in physiology, and since digestion is the first step in this cycle, it is most liable to primary derangements and usually is the origin of faulty metabolism around the whole circle; though, on account of the intimate relation of these processes, the converse may occasionally prove true. The derangements of digestion explain the genesis of most derangements of elimination, both of an acute and of a chronic character, and affords a key to the study of their symptoms and treatment. The liver is the largest and most complex gland of our complex body, and since it is especially endowed with important metabolic functions I seek to establish its intimate relation as connecting-link between digestion and elimination.

In my Maysville paper,[1] after reviewing the physiology of the liver, I made the declaration, "that the liver is the most important digestive organ of the body," basing the claim, first, on its biliary function in preparing fats for absorption and digestion; and, again, while the stomach, pancreas, and intestines perform the primary digestion of proteids and carbohydrates, the liver performs the secondary digestion and elaboration of these materials; truly a most important function, for it has been shown by many reliable investigations that the normal products of primary digestion act as toxins, or foreign bodies, when introduced directly into the general circulation. With equal plausibility, however, I could have made the declaration that the liver, if not directly through the bile, is indirectly the most important eliminative organ in the body, if we are to accept the current teaching of the physiology of the liver in its capacity of transforming the products of disintegration and completing the retrograde change of the substances from non-diffusible colloids into crystalloid, dialyzable materials before they pass into the kidneys for final excretion. Many investigations, physiological and pathological, make it clear that the hepatic and renal functions are intimately connected, the chief object of the kidneys being to excrete certain products secreted by the liver. Urea is thus formed by the liver, which is returned to the blood to be finally eliminated by the kidneys. And since urea represents the greater portion of the nitrogen taken into the body in the way of food, therefore an analysis of the urine should be a good test of the hepatic condition. Urea, then, in a measure, constitutes a fair expression of the retrograde change in nitrogenous tissue metabolism and to that degree possesses definite clinical value.

Renal insufficiency, therefore, proclaims preceding hepatic insufficiency—disturbed nutrition and auto-intoxication intervening. Renal inadequacy, functional and organic, has its origin most frequently, if not invariably, in primary hepatic inadequacy in elaborating the products of both constructive and destructive metabolism. The kidneys first suffer functional disturbance because said imperfect products are brought to them in a form chemically unable to pass through them, organic change supervening as a result of the long-continued irritation occasioned by these incompleted products of metabolism. Especially is this liable to happen to those who indulge in over-feeding and lack of exercise, or overwork, mental and physical, producing excessive somatic change, and lack of fresh air, resulting in imperfect oxidation, which further embarrass the hepatic functions. Thus we can easily conceive how the blood, overloaded with food products imperfectly elaborated for nutrition and products of retrograde change, some of which are not completely reduced for elimination, will act as an irritant to the kidneys, finally producing nephritis with albuminuria —thus interfering with elimination and later resulting in auto-intoxication.

[1] Medical Record, September 17, 1898.

And need the hepatic origin of renal insufficiency and degeneration hardly tax our credulity when we remember the intimate relation of the liver through its nerve supply, sympathetic and spinal, not only with the digestive and eliminative organs, but also with the vital processes of respiration and circulation? Moreover, in view of said intimate relation of the hepatic functions with both the digestive and eliminative organs, we more nearly appreciate the prime importance of the liver in metabolism, and understand how the pathology of Bright's disease, with albuminuria, may be traced to hepatic derangements, which cause degeneration as a consequence of the long-continued elimination of products of faulty digestion, resulting from derangements of the nutritive and disintegrative processes in which the liver plays so important a part; and in many instances, if not all, the liver seems primarily at fault. Again, diabetes mellitus furnishes positive clinical evidence of faulty elimination of hepatic origin, and I need hardly remind you that saccharine urine is not due to any morbid condition of the kidneys. What I seek to emphasize is, that sugar in the urine indicates functional hepatic derangement. However, chronic degeneration of the kidneys, with albuminuria, may prove a sequel to diabetes as a consequence of the constant irritation of the saccharine urine.

The pathology of faulty renal elimination has its etiology, then, most often in primary functional derangements of the liver interfering with digestion, nutrition, and disintegration, but the deleterious effects of retained products of imperfect metabolism are manifested not only in derangements of the kidneys, but in derangements of the nervous system, in derangements of the organs of circulation and respiration, and in abnormal conditions of the skin, etc. Some of the remote effects of the functional derangements of the liver may be noted in impairment of the voice; as witness the recent retirement of Calve from the stage, on account of her liver, whose functional disturbance has jarred the tones of a voice instinct with melody divine —the world and art the losers.

The indications for treatment in renal insufficiency, then, are to aid digestion and nutrition and promote disintegration. A careful regulation of the diet and free supply of oxygen by fresh air are of the first importance. The former corrects digestion and nutrition, and the latter promotes disintegration. After these come cholagogues and alteratives, which favor digestion and promote disintegration. Often the best diuretic, aside from water, is the drug that touches the liver and arouses it to the performance of both its digestive and disintegrative functions.

The liver, primarily by its digestive functions in completing and perfecting the elaboration of the food materials for the development and nutrition of the blood and tissues, and secondly by transforming the waste products of disintegration into soluble or dialyzable forms for elimination, is the beginning and the end, the alpha and omega in the cycle of metabolism —constructive and destructive—embracing digestion, nutrition, and elimination.

With the presentation of the arguments I have briefly stated I submit the plausibility of my claims—"that the liver is the most important digestive organ of the body," and, "if not directly through the bile, indirectly through urea is the most important eliminative organ of the body."

Individual Communion Cups have been introduced into a Congregational church in Ipswich, England. Whether or not this hygienic innovation is a result of the recent meeting of the British Medical Association in Ipswich is not stated, but it is the first instance of the sort in England.

Asepsis in Obstetric Practice.—James U. Barnhill says that before the days of antiseptics the death rate in the Maternity Hospital of Paris from 1860 to 1864 was eleven per cent. In the New York Maternity Hospital, where antiseptics were first introduced, it was for the nine years preceding 1883 4.17 per cent. The great value of strict antisepsis in obstetrics is insisted upon, as is the necessity for observing all rules which apply to aseptic surgery. Rules for disinfection are indicated. It is suggested that societies follow the example of the obstetric section of the New York Academy and adopt resolutions to the effect that it is the duty of every obstetrician to surround the parturient woman confined in her home with the same safeguards against infection that are being used in hospitals.—*Annals of Gynecology and Pediatry*, August, 1900.

Tonsillar Obstruction in the Fauces and Pharynx.—A. W. Francis emphasizes the importance of early recognition and treatment of tonsillar affections. Prominent symptoms formerly attributed to the faucial tonsil are now known to be due to adenoid growths in the pharynx. The most important feature of these growths is the relation to deafness from mechanical pressure and frequent attacks of otitis. The main symptoms are a sensation of a foreign body or lump in the throat, frequent ineffectual efforts to swallow something beyond reach, sensation of constriction about the throat, globus hystericus, frequent "clearing of the voice," voice fatigue after moderate effort, evening hoarseness, ill-defined uneasiness in the throat, loud brassy cough at puberty, reflex nervous symptoms, palpitation of the heart, and spasmodic asthma. The treatment is surgical.—*Annals of Gynecology and Pediatry*, August, 1900.

Albuminuria in Young Men.—H. W. Syers claims that in the case of young men between the ages of fifteen and twenty or twenty-five years, albuminuria is often found which is not a symptom of renal disease. As albuminuria can be induced in perfectly healthy and robust individuals by exposure to cold, the author holds that many of these cases are due to chilling of the surface of the body, as in open-air bathing. Why albumin should appear more readily in the urine in some cases than in others in which the same exciting cause is present can be explained only on the same principle as the well-known tendency of some people to catarrh on the least exposure. When examination shows entire absence of the renal heart (hypertrophy of the left ventricle, reduplication of the first or accentuation of the entire second sound), a pulse of normal tension, and no œdema or dyspnœa, then, if there are no casts, it is in the highest degree probable that the kidneys are perfectly sound. Of course it is possible that if the patient is likely, from carelessness or necessity, to be repeatedly subjected to the chilling process, what is at first merely an ordinary stasis in the kidney might, by constant repetition, become a renal inflammation.—*The Clinical Journal*, August 1, 1900.

Psychoses Accompanying Chorea.—Krafft-Ebing divides the mental disturbances sometimes attending Sydenham's chorea as follows: (1) Elementary psychic disturbances. These are seldom wholly absent, and may be ascribed in part to the general neuropathy and the psychically irritating effect of the choreic movements and in part to direct stimulation of the diseased cortex. They comprise variability of temper, nightmares, evanescent visual hallucinations, etc. (2) Fleeting fever, delirium of light grade. (3) Symptoms of psychic fatigue evidenced by forgetfulness, impaired cerebration, lack of concentration, apathy, incoherence, deficient food absorption, fever, etc. (4) Psychoses in the stricter sense, originating from the same infectious source as the chorea, and presenting simple or hallucinatory confusion going on to stupor or dementia. (5) Complicating psychoses due to the same mental condition as the chorea or arising independently.—*Wiener klinische Rundschau*, July 29, 1900.

Gall Stones.—Dudley P. Allen reports ten cases and urges various considerations, the object being to establish the following three propositions: (1) That in cases of continued distress in the epigastrium, when a physician skilled in modern methods of investigation, both clinical and physical, can make no positive diagnosis and give no relief, an exploratory operation is advisable. How it is to be completed must depend upon what is found. (2) Operation under such conditions frequently results in the removal of gall stones, or the setting free of adhesions, and entirely relieving the patient's suffering. (3) Such operations should not be too long delayed, since the formation of dense adhesions, such as are found not infrequently, may greatly enhance the difficulty of operating and endanger the life of the patient.—*Cleveland Journal of Medicine*, August, 1900.

A Contribution to the Statistics and Treatment of Umbilical Infection.—Theodor Escherich regards it as of great importance in preventing infection in infants by way of the umbilical wound, that the cord be cut close to the body and only a very short stump left. A second point is the omission of the full bath until the stump has dropped off. In his experience no untoward results have been noted, and the chances of infection are lessened. A suitable covering for the stump is difficult to devise, especially for use in institutions in which time and expense are objects. It should be easily and quickly removable and cheap. A form he recommends consists of a square of gauze fastened around the body by a pair of tapes and kept from slipping out of place by a third band passing around the neck. For inspection and renewal of the dressing it is simply necessary to undo the lower tape, and the flap may be lifted, uncovering the whole umbilical region. If the stump is long in dropping off or does not desiccate as it normally should, it furnishes a most favorable medium for the growth and development of infectious organisms. Simple amputation of such a remnant leaves an open wound which is also dangerous; hence the author advises removal of the persistent portion of cord with the Paquelin cautery. This disposes of the offending tissue and also seals the wound, which receives a dry dressing of airol.—*Wiener klinische Rundschau*, July 29, 1900.

The Treatment of Necrotic Acne with Sea-Water.—Linthlen describes as acne necrotica a form characterized by a chronic course, frequent relapses, and the formation of a localized induration which eventually develops a dark-colored parchment-like crust lying on a level with the skin. If this be removed a loss of substance is revealed extending far into the corium and healing into a deeply sunken scar. Its most frequent site is on the face in the bearded region or at the junction of forehead and scalp, while its painfulness and the disfiguring scars produced make it a really serious trouble. None of the remedies generally recommended is useful for this form, and the author, prompted by the observation of one of his patients that his lesion always receded in summer when he bathed frequently in the ocean, made the experiment of trying sea-water as a local application. Compresses saturated with a one-half-per-cent. solution of the sea-salt of commerce was left on over night, and by day a lanolin ointment of the same strength was applied. The results were most satisfactory; the necrosis was promptly checked, healing of the existing

lesions was promoted, and the formation of new ones apparently permanently prevented.—*Wiener klinische Wochenschrift*, August 2, 1900.

The Abortive Treatment of Bubo.—H. M. Christian says two methods claim attention, the abortive and the operative. Too little attention is paid to counter-irritation and pressure as a means of averting a cutting operation. It must be applied early before pus is present. It is useless to attempt to abort a tuberculous adenitis. Thirty to forty drops of a two-per-cent. carbolic-acid solution may be injected into the gland, or two syringefuls of a one-per-cent. solution of benzoate of mercury with sodium chloride 3:1,000 added. The best results are obtained at the Philadelphia Polyclinic by the application of equal parts of mercurial and belladonna ointments, lanolin and ichthyol, and a spica bandage.—*Therapeutic Gazette*, August, 1900.

Double Heart Beat.—G. D. Giuranna says that a duplicated beat is produced by an abnormal, supernumerary beat, which may be diastolic or systolic. (I.) When diastolic, it may be due to an exaggerated wave owing to overfilling of the ventricles. In mitral stenosis it may occur because of the increased force with which the blood descends at the beginning of diastole of the left heart, the left side being overfilled and the ventricle drawing in the blood with greater energy. In aortic insufficiency the blood regurgitates with abnormal force into the left ventricle, striking against the walls of the ventricle and raising the internal pressure. Double diastolic beat may in mitral stenosis be the expression of an exaggerated systole of the auricle, in which case it will be presystolic. (II.) When systolic, the double beat may be due to low arterial tension in proportion to the systolic energy of the ventricle, the simple muscular contractions which form the wave not blending as harmoniously as usual. This form of double beat is produced in the second period of systole.—*Giornale Internazionale delle Scienze Mediche*, July 31, 1900.

Ocular Headaches.—W. A. Brailey says that while the great majority of headaches are of course independent of the eyes, it is a matter of general acceptance that ocular errors produce headaches, though by no means in all cases. Muscular errors are the most important class concerned in their production. Accommodative movements are bound up with a great number of ocular headaches. As a general rule, the larger the ocular error the less the effect produced on the head, the reason being that a great defect of accommodative power leads to its abandonment, the patient seeing as best he can without it. Low degrees of hypermetropia and hypermetropic astigmatism are often causes of headache; so is a moderate inequality of refraction, especially if astigmatic. Another potent factor in headaches is the tendency to binocular vision, and here we have another rule: the stronger the tendency to binocular vision the more headache produced by an error of the recti and obliqui muscles. Ocular headaches are most frequent between the ages of ten and forty-five years; women are the greatest sufferers, and Americans appear to be more affected than the English.—*The Medical Press*, August 15, 1900.

The Treatment of Hay Fever.—E. B. Gleason says that Bishop has called attention to the fact that the neurotic condition of the patient and the hypersensitiveness of the nasal passages are often due to an excess of uric acid in the blood. Horsford's acid phosphates in one-half to teaspoonful doses in a tumbler of water at each meal gave very satisfactory results. The author has prescribed nitro-muriatic acid in doses of three to five drops of the freshly prepared concentrated acid after meals, and sometimes also at night. The dose should be diluted with a half-tumblerful of water, and the patient, after taking the medicine, should rinse out his mouth and swallow another half-tumblerful of water. The hay-fever symptoms are usually relieved in forty-eight hours, but not a single dose must be omitted, or some symptoms will return. Hyperæsthetic areas upon the respiratory portion of the nasal mucous membrane should be touched with a ten-per-cent. solution of chromic acid, after cocainizing the nose. Temporary relief may be obtained during the worst stages of the attack by spraying the nose with a weak alkaline one-per-cent. solution of cocaine, and afterward with fluid vaseline as a protective. Good results have been reported from the local use of a ten-per-cent. solution of the extract of suprarenal capsule.—*International Medical Magazine*, August, 1900.

The Treatment of Epilepsy by Fleisig's Method.—J. Séglas and Heitz subjected twenty-two patients to this treatment, which consists in first administering opium in progressive doses (up to 1 gm. daily on the twelfth day) for six weeks, and then replacing it by potassium bromide 7 gm. a day, gradually diminished to 2 gm. The authors believe that only a limited number of patients can bear this treatment. Its administration requires such care and such constant supervision that the patient must be placed where he can be under observation; even under these conditions the treatment is difficult and even dangerous. These drawbacks are far from being compensated by the advantages of the method, and the authors much prefer the simple bromide treatment.—*Archives de Neurologie*, August, 1900.

Prophylaxis in Malaria, by Protection from Mosquitos.—Eugenio di Mattei reports the result of an experiment carried out upon five persons, himself and four workmen. A hut situated in an extremely malarial region, infested by mosquitos, was chosen, and here the five slept for thirty-two nights. Their work during the day was arduous, their food scanty, their accommodations were uncomfortable; they took no quinine or other medicament, but their hut was so completely protected by wire gauze that no mosquitos were able to obtain access. No one of the five contracted malaria, although other workmen, sleeping in the neighborhood and unprotected from the mosquitos, suffered from grave forms of the disease.—*Archivio per le Scienze Mediche*, vol. xxiv., No. 2, 1900.

Toxic Paralysis of the Pharynx.—Patrick Watson Williams says that, excluding the purely myopathic paralyses, toxic paralyses are due to inflammatory degeneration of the neuron, that is, in its wider sense, neuritis, and may be divided into two distinct pathogenic groups: (1) Infective neuritis, commonly occurring in the course of diphtheria, less frequently observed in typhoid, typhus, scarlatina, morbilli, influenza, rheumatism, tuberculosis, syphilis, and pneumonia; (2) toxic neuritis, most frequently due to lead poisoning, but also reported to have occurred in poisoning by arsenic, copper, antimony, phosphorus, alcohol, atropine, and morphine. The treatment of these toxic laryngeal paralyses may be thus summed up: (*a*) appropriate general treatment of the infective disease, and measures directed to removal of the poison in the circulation and tissues in the case of organic or metallic poisons; (*b*) intra-laryngeal applications of the faradic or galvanic current, combined with the internal exhibition of strychnine in considerable doses either by the mouth, or directly into the affected muscles when feasible; (*c*) the relief of dyspnœa and threatened asphyxia in cases of bilateral abductor paralysis by intubation or tracheotomy.—*The Medical Press*, August 15, 1900.

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PERFORATING ULCER OF THE STOMACH.

THE history of modern operative experience with perforated ulcer of the stomach is comparatively short; in fact, it is only within the last eight or nine years that successful cases have been recorded. Finney, in the *Annals of Surgery*, July, 1900, has a paper in which there is a general review of the subject with a collection of cases gathered from the most recent medical literature, bringing the total of reported operations up to nearly three hundred. There is also given a comprehensive analysis of the statistics of the subject, many of which are interesting, though perhaps not very novel. According to various authors the frequency of perforation is estimated at from 6.5 per cent. to eighteen per cent. of all cases of gastric ulcer, pretty wide variations, with the chances of accuracy, we should say, in favor of the smaller figure. The most important factors in the pathological anatomy of the condition are the presence of adhesions and the location of the perforation. A large majority of ulcers are situated upon the posterior wall of the stomach, but in this region comparatively very few of them perforate, while the converse is true in regard to those upon the anterior aspect of the organ. The presence of adhesions of course modifies the symptoms and prognosis, when perforation occurs, in ways which at once suggest themselves. In about one-fifth of all cases of perforated ulcer, it is important to remember that the perforation is multiple, so that in operating we should always be on the lookout for such a state of affairs.

Most general interest on this subject naturally attaches to the question of symptoms and treatment, and in many ways our knowledge has made important advances in the last few years. When an intelligent history can be obtained, and when the patient is seen early, the diagnosis is often easy, but under other circumstances we may have to be satisfied with the conclusion that we are dealing with a grave abdominal lesion, and allow our incision to disclose exactly what has occurred. Many cases of perforation have been observed in women before the age of thirty, while when men are the victims the condition occurs most often after forty; but ulcer of the stomach is absolutely much more frequent in women than in men. The physical signs, it is hardly necessary to say, are those of air and fluid in the peritoneal cavity and later the signs of general peritonitis. A history of previous gastric troubles of various kinds can be elicited in nearly all cases, and is useful as confirmatory evidence.

The treatment of the condition, though it involves some questions which are not answered by all in precisely the same way, is of course entirely surgical. Whether to use opium or morphine is one such question, the answer to which is probably best given by advocating a middle course, always keeping in mind the objections to the use of such drugs in patients who must undergo severe abdominal operations. Finney's conclusion is undoubtedly just, that nothing is to be gained by waiting for the disappearance or amelioration of the shock which is usually present for some time after the perforation has taken place, but we should also emphasize the fact that at the same time every possible means for combating shock should be used. A point noted by some writers with words of commendation is the use of cocaine anæsthesia in some cases of this class. Those who have used it will be satisfied with it and will often feel that one source of danger to a patient, almost always in a desperate condition, has been avoided. This method deserves more attention than it usually gets, for the risks of ether or chloroform anæsthesia in patients with dangerous abdominal conditions, often accompanied by much distention, is either not appreciated or too often disregarded. The incision to reach a supposed perforation of the stomach is almost always in the middle line of the epigastrium, and need not at first be very extensive, though enlargement may be necessary, and, when a perforation is found, the plan which can be carried out with the greatest celerity consistent with safety is the one which should be adopted. The abdominal cavity must be thoroughly cleansed and all foreign material carefully removed. The question of drainage will usually have to be decided according to the apparent requirements of each case. When we are dealing with a perforated gastric ulcer, the most important point to remember is that the patient's chances of recovery are diminishing at the rate of about eight per cent. an hour from the occurrence of perforation to the time of operation (unless we are dealing with a case in which protective adhesions are present), so that the indication for immediate radical treatment is peremptory.

A FATAL CASE OF EXOPHTHALMIC GOITRE.

ALTHOUGH it is not uncommon for exophthalmic goitre to set in abruptly, especially after psychical or physical shock, and while at times the symptoms may attain a profound degree of intensity, a fatal issue is quite rare. It is in fact rather remarkable that the results of more autopsies have not been placed on record, and although exophthalmic goitre is not an exceptional disease it does not often figure in the death lists. The disease is further most common at or about the thirtieth year of life. In view of the foregoing considerations a case of exophthalmic goitre in a girl eleven years old, reported by Armstrong (*Liverpool Medico-Chirurgical Journal*, February, 1900), must be looked upon as unique. The patient was an only

child, and her parents were dead, of influenza and pulmonary tuberculosis respectively. She had had an attack of measles and one of chickenpox. Six months prior to death the child began to suffer from palpitation of the heart and became nervous, and at the same time protrusion of the eyeballs was first noticed. She was large and well formed for her age, but behaved in an infantile manner, crying hysterically for hours after her friends had left. Menstruation had not yet appeared. Exophthalmos was marked. The thyroid gland was slightly but perceptibly enlarged. There was no thrill, but a systolic bruit was heard on auscultation over the goitre. The action of the heart was rapid, 132 in the minute, and regular, and the sounds were clear. There were pretty general tremors. The temperature was normal, with a single slight exception. The treatment consisted of rest in bed, and tincture of belladonna ♏ iii., potassium bromide gr. x., thrice daily. Nausea and vomiting set in, a little blood and some coffee-ground material being evacuated on several occasions. The condition of the patient grew gradually worse, and death resulted from exhaustion. Most unfortunately, an autopsy could not be secured. Of course, it is difficult to say in this case to what causes death is to be attributed, and to determine what part if any the exophthalmic goitre played in bringing about the fatal issue. The opinion is expressed that gastric ulceration did not exist, but the grounds for this exclusion are not entirely obvious.

INTERNATIONAL MEDICAL PRESS CONGRESS IN PARIS.

One of the most distinctive features of the International Medical Congress just ended in Paris was the meeting of medical journalists from all parts of the world. This reunion of medical scribes may on the whole be regarded as a success. Neither the United States nor Great Britain was conspicuous so far as numbers were concerned, but the papers read by Dr. Fassett, editor of the *American Medical Journalist*, and by Dr. Squire Sprigge, of *The Lancet*, were excellent in quality. Dr. Fassett gave a sketch of the origin and rise of American medical journalism, stating that the first paper devoted to medical matters was founded in this country at the end of the last century, and that at the present time there were two hundred and seventy-eight medical journals in the United States, a sufficiently convincing proof of enterprise. Dr. Fassett insisted that medical journals should avoid sensational news and the discussion of vague theories, and should also be written so as to be intelligible to general practitioners who are not specialists. The paper read by Dr. Sprigge was exceptionally interesting, and was recognized as perhaps the most suggestive submitted to the congress. In it was given a history of the early struggles of *The Lancet* and of the successful attempts of its editor to combat the nepotism prevalent at the hospitals and at the medical schools in those days. The financial situation of *The Lancet* and *British Medical Journal* was described, showing that the prosperous condition of these papers rendered them entirely independent and able to supply freely the means to make original researches and investigations, to depute experienced technicians to follow armies on the field, to study epidemics in all parts of the world, and to analyze all sorts of food-stuffs. The results of these investigations had been most beneficial in their effect on the laws of the country with regard to medical education, public health, adulteration of food, etc.

A paper was read by Dr. Alban on the right of reproduction of scientific illustrations. This paper provoked much discussion, but no definite conclusion on the matter was reached. A committee, however, was elected to discuss the question with publishers, medical men, and legislators, and to study generally the question of literary property from a medical point of view. It would appear that the work of the International Medical Press Congress should be productive of much good in the future.

PLEA FOR A MEDICAL DEFENCE UNION IN THE UNITED STATES.

The medical profession has many difficulties with which to contend, and one that undoubtedly weighs heavily upon its members is the disadvantages under which they labor in defending malpractice suits. An action of this description brought against a physician does not only affect him personally, but upon his victory or defeat depend to a certain extent the good name and financial position of his medical brethren at large. This being so, it is reasonable to expect that every effort will be put forth by the accused to win his suit, as he is as a matter of fact fighting in the interests of the entire medical profession. But unfortunately it often happens that the money necessary to employ the best measures to insure success is lacking, and that consequently irreparable injury is done to physicians throughout the country.

Dr. Donald B. Pritchard, writing in the *St. Paul Medical Journal*, July, proposes that a medical defence union, formed on the lines of that now in existence in England, should be established in this country. His idea is to organize a mutual association, the membership of which should be confined to those who belong to the State or some properly organized medical society. In order that the organization might be of the highest standing, it would not be proper to defend one guilty of gross malpractice. That this might be accomplished, every case should be submitted to a standing committee, who after a thorough examination would decide whether or not it would be proper for the association to defend. If the decision is not satisfactory to the member, then a board of arbitration should decide the matter. When the association undertakes the defence, the member involved should be pledged to be absolutely guided by it in the conduct of the case, and that it should not pay any part of the verdict, simply incurring liability for all expenses of the trial. Dr. Pritchard says that he has communicated with a number of well-known lawyers, and that they all say that there is no legal bar to such an association, and that there is no more likelihood of juries

being adversely influenced than in the case of any other corporation. The suggestion is at least worthy of consideration, and the good work done by the English Medical Defence Union should act as encouragement for the establishment of a similar organization in this country.

News of the Week.

A Roosevelt Hospital Ambulance was run into on Sunday evening by an Eighth Avenue car and overturned. The driver and a policeman riding on the ambulance were severely injured, the surgeon received a scalp wound, but the patient, who had shortly before fallen from a third-story window, received no further injury. Another ambulance was called and gathered up the entire party and took them to the hospital.

The Zeta Phi of Syracuse University.—During the past year the women of Syracuse University College of Medicine, have organized Zeta Phi (letters which might appropriately stand for "Zeuxis philōn"), the first and only women's medical fraternity in this country. Dr. Elizabeth Blackwell has consented to become a charter member, she having been graduated from this college and the first woman to receive the degree of M.D. in America. The purpose of the fraternity is to bring the women of the medical profession into closer touch with one another.

Dr. John B. Murphy has accepted a professorship in surgery and clinical surgery in the Northwestern University Medical School (Chicago Medical College). Dr. Murphy has also been appointed surgeon-in-chief of Mercy Hospital with the direction of the surgical teaching in that hospital. He will give two clinics each week at the hospital. The hospital now contains two hundred and sixty beds, with abundance of clinical material. A new amphitheatre with a seating capacity of three hundred is in progress of construction.

The American Electro-Therapeutic Association.—The tenth annual meeting of this association will be held in this city in the hall of the Academy of Medicine on September 25th, 26th, and 27th. The headquarters of the association will be at the Hotel Bristol, Forty-second Street and Fifth Avenue. There is a programme of sixty-two titles, many of them containing the promise of great interest. In addition to the reading and discussion of papers, visits are planned to the Electric Vehicle Transportation Company's barns, the central station of the New York Telephone Company, the power house of the Metropolitan road, Ninety-sixth Street and First Avenue, the cable machinery of the Brooklyn Bridge, Columbia College library and laboratories, and St. Luke's Hospital. The ladies' auxiliary committee have planned excursions to visit the Stock Exchange, Trinity Church, and the Aquarium; Central Park East, the Obelisk, and the Metropolitan Museum of Art; Central Park West and the Museum of Natural History; and Columbia College, St. Luke's Hospital, Morningside Park, and Riverside Drive. The officers of the association are: *President*, Dr. Walter H. White, of Boston; *Vice-Presidents*, Drs. D. Percy Hickling, of Washington, and Charles O. Files, of Portland, Me.; *Secretary*, Dr. George E. Bill, of Harrisburg, Pa.; *Treasurer*, Dr. R. J. Nunn, of Savannah. The chairman of the committee of arrangements is Dr. Robert Newman, 148 West Seventy-third Street, New York City. All members of the medical profession are invited to attend the meetings.

Nurses in the Spanish War.—A society to be called the Spanish-American War Nurses' Association was organized in this city last week at a reunion of some sixty army nurses who had served in the Spanish war. The meeting was held at the New York Hospital. The constitution adopted makes only those who were in actual service not less than one month during the Spanish war eligible to membership. Of these there are at least five hundred. The following officers were elected: *President*, Dr. Anita Newcomb McGee, acting assistant surgeon United States army, Washington; *Vice-Presidents*, Dr. L. A. Hughes, Boston; Miss Hibbard, Manchester, N. H.; Dr. Isabel Cowan, Presidio Reservation, California; Miss Hobson, New York; Miss McCloud, now serving in the Philippines; Miss Walton, New York; Miss Miselback, now serving in Santiago, Cuba; Miss Robbins, Miss Dreyer, now in the Philippines; Miss Read, Baltimore; *Recording Secretary*, Miss Lela Wilson, Boston; *Corresponding Secretary* and *Treasurer*, Mrs. George Lounsbury, Charleston, S. C. The association will meet in Washington next year.

Sickness and Destitution in Alaska.—According to a report recently submitted by the captain of the revenue cutter *Bear* to the chief of the revenue cutter service in Washington, a most deplorable condition of affairs exists among the natives on the Alaska coast north of Nome and also on the Siberia coast. The *Bear* sailed along the north coast of Siberia as far west as Kolutchin Bay. When off Sinrock an officer and a surgeon were sent ashore and reported an epidemic of measles and pneumonia, with many of the natives sick. Medicines were left and the vessel proceeded to Port Clarence. Here there was found to be much sickness, and many deaths had occurred among the natives. The surgeon prescribed and medicines were left. The same conditions prevailed at Cape York, Whalen, King's Island, and all the other places touched at in Siberia. At St. Lawrence Bay there had been thirty-six deaths out of a total population of two hundred and ninety-three. This unusual prevalence of epidemic disease has thoroughly demoralized the natives. Instead of busying themselves in laying in the winter's supply of food, as they are always obliged to do at that time, they remained in their huts consuming what little food was left them. The *Bear* has returned to that coast carrying a large quantity of supplies for the destitute natives. At Teller, Alaska, the Esquimaux are suffering greatly from influenza, fully one-half of those near the station having died. In some cases whole families have dis-

appeared, both parents and children being dead. In others the parents and some of the children have died, leaving young children orphans with no near relatives to feed or care for them. The salmon are running in their waters, but there are not sufficient numbers of well people to catch them, and thus provide for the present and for next winter. The ravages of the disease have been so great that a panic has seized the native population, and the dead are left unburied in their homes. It is said that the records for the last half-century show no such distress among the natives as that which is now prevalent along the whole Bering Sea coast.

The Heat Mortality in New York City.—One hundred and fifty-two deaths were caused in this city last July by sunstroke, according to the bulletin of the State board of health. The State is now free from smallpox for the first time in some months. There were eight hundred and fifty-six deaths from accident and sunstroke in the State in July, five occurring from lightning strokes.

A New Dispensary Building.—Plans have been submitted to the department of buildings for a six-story and basement dispensary building to be erected by St. Bartholomew's Episcopal Church at an estimated cost of $200,000 on East Forty-second Street, adjoining the mission house built by the church. The first story of the building will be of Indiana limestone and the superstructure of brick.

Dr. Smith Ely Jelliffe assumed editorial control of the *Medical News* on September 1st, succeeding Dr. J. Riddle Goffe, who has so ably conducted the journal ever since its transfer from Philadelphia to this city. Dr. Jelliffe has been for some time on the editorial staff of the *News*, and may be trusted to maintain the high standard established by Dr. Goffe.

Women in the British Association.—Previous to the opening of the annual meeting of the British Association for the Advancement of Science at Bradford on September 5th, the general committee debated the motion of Professor Hartop that women should be admitted to membership in the association. Sir Henry Roscoe, vice-chancellor of the University of London, and others supported the proposition, but Sir John Evans, former president of the association, counselled caution. It was decided finally to admit women, making membership of the general association a precedent to election to membership in the sections.

Yellow Fever in Havana.—Although the general health of Havana, thanks to American sanitary methods, is better than ever before, yellow fever has prevailed quite extensively this summer, fifty deaths from this cause having been reported in August. This is, according to the consensus of testimony, due almost entirely to the large immigration of non-immunes. Seventy-five per cent. of the total number of cases were among immigrants from Spain who had been in Havana less than a year. Since July, 1899, twenty-six thousand immigrants have arrived in Havana and ten thousand are expected during the next two months. Many of these come to Havana on the mere chance of finding work. They accept the first employment that offers, often taking very small pay, instead of going to the country districts, where more men are needed and the rate of wages is better. Many of them remain in unhealthful conditions, and as nearly all are non-immunes, yellow fever increases. Governor-General Wood has recently appointed a board of immigration consisting of Drs. Gorgas and Havard and two Cuban physicians, and they will draw up regulations concerning immigrants. Cheap but healthful barracks will be built on the other side of the harbor, where the immigrants may have free lodgings. A small sum will be charged them for board. The board of immigration will interest itself in obtaining employment for the immigrants, placing as many of them as possible in the provinces.

The Plague in Glasgow, which was thought at the end of last week to have been checked, has broken out afresh. Up to Thursday last the total number of cases was sixteen, and one hundred and fourteen suspects were under surveillance. There has been a recrudescence of the disease in India, over one thousand deaths from plague having occurred there last week.

The Cholera in India.—A telegram received in London from the Viceroy of India states that the deaths from cholera for the week ending September 1st were 1,930 in the native states and 4,021 in the British districts.

Electric Ambulances.—Roosevelt Hospital will soon have two electric ambulances which have been given to the institution, one of them by a physician. The ambulances, which will have a maximum speed of sixteen miles an hour, are seven and one-half feet long, and can carry three patients at one time. The only other electric ambulance in the city is one belonging to St. Vincent's Hospital, but two others are now under construction—one for the New York and one for the Presbyterian Hospital.

The Horror at Galveston.—In the frightful storm which visited Galveston and other Gulf towns last Saturday, the large buildings—asylums, hospitals, and school-houses, which had been sought out as places of refuge suffered more than frailer buildings. An orphan asylum, containing many children and numbers of refugees, collapsed, as an eye-witness expressed it, "like a house of cards," and most of the inmates perished. St. Mary's Infirmary was completely demolished, and all the sisters and ninety patients and other inmates were drowned. The Catholic orphan asylum is also reported to have been destroyed, all the children and sisters being drowned. A home for aged women fell, and a school-house near it was also destroyed, burying in the ruins numbers of persons who had taken refuge there. Two physicians were killed while on the way to see their patients. One was drowned, the other struck by a falling beam or other heavy object.

The New Brunswick and the Maritime Medical Associations.—The twentieth annual meeting of the New Brunswick Medical Society was held at St. John,

N. B., on Tuesday, July 17, 1900. The meeting was called to order by the vice-president, Dr. R. L. Botsford, of Moncton, N. B., who explained that the society had been called together to transact business, after which the sessions would merge into those of the tenth annual meeting of the Maritime Medical Association. The meeting of this association was held on July 18th and 19th. The election of officers of the New Brunswick Medical Society resulted as follows: *President*, Dr. G. T. Smith, of Moncton; *Vice-President*, Dr. S. C. Murray, of Albert; *Treasurer*, Dr. C. G. Melvin, of St. John; *Corresponding Secretary*, Dr. J. H. Scammell, of St. John; *Recording Secretary*, Dr. W. Leonard Ellis, of St. John; *Trustees*, Drs. J. C. Mott, Murray, and Bridges. The next annual meeting will be held at Moncton. The election of officers of the Maritime Medical Association resulted as follows: *President*, Dr. W. S. Muir, of Truro; *Vice-Presidents*, for Nova Scotia, Dr. T. Trenaman, of Halifax; for New Brunswick, Dr. P. R. Inches, of St. John; for Prince Edward Island, Dr. A. Ross, of Alberton; *Treasurer*, Dr. T. D. Walker, of St. John; *Secretary*, Dr. G. M. Campbell, of Halifax.

The Study of Psychology.—One of the subjects discussed at the International Congress of Psychology held in Paris during the present summer was the establishment of a permanent institute for psychical research. The board appointed to deal with the matter contains MM. Ribot, Richet, Janet, Félix Alcan, d'Arsonval, Bouchard, Duclaux, Marey, Fouillée, Bergson, Sarde, and Séailles, for France; Sir William Crookes, Frederic Myers, Prof. James Sully, Prof. Oliver Lodge, and Oswald Murray, for England; and Profs. William James, of Harvard, and Mark Baldwin, of Princeton, for the United States.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 8, 1900. August 31st.—Assistant Surgeon E. V. Armstrong granted sick leave for one month. September 1st.—Passed Assistant Surgeon C. M. De Valin ordered to additional duty at the navy yard, Portsmouth, N. H. September 3d.—(Orders issued by commander-in-chief of Asiatic station.) Assistant Surgeon A. G. Grunwell detached from the *Monocacy* and ordered to the *Brooklyn*. September 4th.—Assistant Surgeon T. M. Lippitt detached from the *Newark* and ordered to the *Monocacy*. September 6th.—Surgeon A. C. H. Russell detached from the naval hospital, Yokohama, Japan, and ordered to proceed home and to wait orders.

Obituary Notes.—Dr. Samuel F. Gilbert, of Elysburg, Northumberland County, Pa., died August 30, 1900, aged fifty-five years. He was a graduate of the University of Pennsylvania, receiving his diploma in 1872. He located first at Sunbury, then at Augusta, from which place he removed to Elysburg about twenty-five years ago. Dr. Gilbert was born August 7, 1845, near Halifax, Pa.

Dr. Joseph Washington Clowes, one of the oldest and best-known dentists of New York, and the last surviving member of the first class graduated at the Baltimore College of Dental Surgery, died at his home in this city on September 9th, at the age of seventy-nine years. He began the study of dentistry in 1838 in the office of Dr. J. Smith Dodge. The following year he entered the Baltimore College of Dental Surgery. In 1842 he opened an office in New London, Conn., and came to New York in 1850, remaining in practice here until about a year ago, when he retired on account of ill health.

Dr. Dennis Dowling Mulcahey died on September 11th, at his home in Newark, N. J., after an illness of a few days. He was born in Tipperary, Ireland, in 1848, and began the study of medicine before coming to this country, but took his degree from the College of Physicians and Surgeons in this city in 1872. During the Fenian uprising of March 7, 1867, he went from Killmaltock to the aid of the wounded at Limerick Junction, and was picked up by the constabulary and imprisoned for a year and a half. Upon his release he came to this country and found a friend in Dr. William O'Gorman, of Newark, in whose office he completed his studies. He was known as one of the best Irish historians in this country, and possessed a very valuable library of books on Irish history and kindred subjects. He was himself a vigorous writer and his pen was always at the service of his native island.

Obituary.

JACOB M. DaCOSTA, M.D., LL.D.,

PHILADELPHIA.

Dr. Jacob M. DaCosta died suddenly on Tuesday evening, September 11th, at his country home in Villanova near Philadelphia. He had but recently returned from York Harbor, Me., where he had been passing the summer, and was apparently in excellent health. Cardiac disease was the cause of his death. Dr. DaCosta was born on the island of St. Thomas, West Indies, February 7, 1833. He received his literary and classical education in Germany and pursued his medical studies at the Jefferson Medical College in Philadelphia, from which he was graduated in 1852. The following two years he spent in study in the hospitals and schools of Paris and Vienna, and in 1854 returned to Philadelphia and established himself in practice. He soon made for himself a reputation as a diagnostician of more than ordinary acumen, and though always regarding himself as a general practitioner he was by preference drawn to a special study of diseases of the thoracic organs. His contributions to medical literature have been large and upon a variety of subjects, but he was perhaps best known as the author of a classical work on "Medical Diagnosis," the first edition of which appeared in April, 1864, and the ninth and last only a few weeks ago.

In 1864 Dr. DaCosta was appointed lecturer on clinical medicine at Jefferson Medical College, in 1872 was elected to the chair of the theory and practice of medicine in the same institution, and a few years ago was retired at his own request, being made emeritus professor of the practice of medicine and of clinical medicine. He was at different times attending physician to the Episcopal, the Pennsylvania, and the Philadelphia hospitals. He was a fellow of the College of Physicians of Philadelphia, and for several years its president.

Progress of Medical Science.

Boston Medical and Surgical Journal, September 6, 1900.

Notes on the Treatment of Ataxic Patients by Co-ordination Exercises, with Demonstration of Two Patients.—James J. Putnam says that in the treatment by this method several points should be strictly borne in mind: (1) It is skill, not strength that it is sought to develop. (2) It is necessary to begin with relatively elementary motions, such as drawing the leg up and down in bed, or moving the finger from one spot to another. The patient should be called upon to perform them with promptness and accuracy and at the word of command. (3) Dulness, monotony, and fatigue, on the one hand, and superficiality on the other, are the rocks to be avoided, both by the introduction of sufficient variety into the exercises, and by giving them something of the entertainment of games of skill. (4) It is not well to let the patient get on without an instructor, using a prescribed set of exercises. The necessity for obedience to the word of command, which calls for close attention and for movements which come to have something of the character of involuntary reflexes, is a great help in stimulating both the conscious and the sub-conscious attention and the power of instinctive control. (5) Weak, anæmic patients, and those suffering constantly from pains and crises, those with atrophy, rupture of tendons, cardiopathy, aneurism, obesity, arthritis, laxity of ligaments, or severe arthropathy are not good subjects for the treatment.

Notes on Dermatitis Venenata.—George F. Harding says that this term is used to indicate forms of inflammation or irritation of the skin produced by the action of substances applied externally. The number of these substances is very large, including familiar garden plants and wild flowers, drugs applied to the skin therapeutically, substances used in trade, or found in articles of clothing, household articles, etc. There are also animal irritants. The form of dermatitis produced is, as a rule, of the erythematous or eczematous type, but occasionally deeper grades of inflammation are seen. Itching, burning, and pricking are usual, and sometimes there is numbness. The author takes up a number of irritating substances and discusses them in detail, also reporting a number of cases.

Two Cases of Abnormal Sexual Development.—George G. Sears describes the case of a boy in whom there was imperfect development of the genital organs, accompanied by dwarfism and feminism; and the case of a girl in whom the failure of the genitals to develop was associated with a tendency to gigantism and the assumption of male characteristics. The thyroid gland was not felt in either case.

The Scope and Aim of the Section's Work.—By Col. Kenneth Macleod, president of the Section of Tropical Diseases of the British Medical Association.

New York Medical Journal, September 8, 1900.

Feeding the Infants of the Poor with Unsterilized Cow's Milk.—G. T. Palmer enumerates the objections to sterilization, and states that in one of the Chicago institutions the following method was adopted: A certified milk was obtained and the method of dilution and of addition of cream and milk and sugar carried out as laid down in numerous text-books. Palmer began with rather a larger percentage of proteids and decreased as the age of the child increased. The milk thus prepared was packed in sterile jars and placed in large buckets of ice, in which way it is carried home by the mother. If placed in a cellar or in some way protected from heat, this ice will preserve the food the greater part of the day. Each morning the infant is brought to the kitchen for inspection and the weight and character of the stools are regularly noted. At the same time the nursing bottles and nipples are inspected and the parents are repeatedly warned and advised regarding the proper method of feeding. Aside from this, it is customary to have the superintendent and nurses call at the homes of the patients to see that directions are carried out. During the summer about seven hundred applications for food and medical care have been made, invariably for babies more or less ill; for so long as the infant is comparatively well these people see no necessity of asking assistance. The total mortality has been three.

The First-Aid Packet in Civil Practice and the Organization of First-Aid Societies.—M. J. Shields gives his experience in organizing a society of the kind named among the mining population of one of the Pennsylvania districts. He makes a plea for the extension of this work in localities where men are, from their occupation, particularly liable to accidents.

A Plea for the Early Naked-Eye Diagnosis and Removal of the Entire Organ, with the Neighboring Areas of Possible Lymphatic Infection, in Cancer of the Larynx.—By J. N. Mackenzie.

Report of a Case of Nephrectomy for Ascending Tuberculosis, with Some Remarks on Cystoscopy and Catheterization of the Ureters in Women.—By H. N. Vineberg.

Severe Operations on the Throat and Nose; Report of Five Cases.—By A. A. Bliss.

The Surgical Treatment of Laryngeal Cancer.—By J. Solis-Cohen.

Philadelphia Medical Journal, September 8, 1900.

Rheumatic Fever.—J. Newton Hunsberger believes that the multiplicity of cases at times encountered is due entirely to atmospheric conditions. He has observed most cases in autumn. Heredity plays a distinct rôle. It was shown in seventy-five per cent. of cases. A case is given showing the effect of an overproduction of urates, and another to illustrate the effect of a lessened excretion. In treatment four indications must be met: (1) To prevent fresh chilling of parts; (2) to keep them at rest; (3) to modify the condition of the blood and neutralize the poison; (4) to prevent, if possible, inflammation of the endocardium and pericardium. Rules of treatment are laid down, and as much more than a gallon of water a day as the patient can be made to take is advised. Water meets most of the indications. He regards salicylic acid and its various combinations to be absolutely contraindicated.

Prostatic Calculus.—John C. Spencer says a distinction should be drawn between essential and adventitious or exotic calculus of the prostate. The latter may enlarge by accretion of urinary salts, and invade the gland parenchyma, protruding into the prostatic urethra to a small extent. The paper treats chiefly of the essential form. The origin is to be found in the protoplasm of degenerated gland epithelia about which colloid material is deposited. The symptoms become manifest only when the calculus may have eroded through into the urinary passages, or by its size either paralyzes the vesical sphincter, causing incontinence, or produces vesical irritation and tenesmus, or is an obstruction to the outflow of urine. The latter was the case in an instance recorded by the writer.

Legal and Judicial Disagreement and the Shortcomings of Medical Witnesses.—By Irving C. Rosse.

Note on the Frequency of Renal Casts without Albuminuria.—By C. F. Martin and F. B. Jones.

Heroin in the Treatment of Phthisical Cough and Whooping-Cough.—By M. Loewenthal.

A New Forceps for Holding Slides in Staining.—By Thomas S. Kirkbride, Jr.

The Etiology and Pathology of Empyema.—By Joseph McFarland.

Medical News, September 8, 1900.

Trophic Changes in Consumption: a Contribution to the Symptomatology of this Disease.—Henry Herbert considers scrofulosis as having a certain analogy to syphilis in that it constitutes the primary and secondary stages of tuberculosis, and reappears as tuberculosis of the lungs or of other organs like the tertiary lesions of syphilis. He is not a believer in the hereditary theory of consumption, but fully agrees with the most radical views regarding the infectiousness of the disease. The writer illustrates by the relation of cases the curious coincidence of the side on which the trophic signs occur and that in which the lung is diseased. His researches show the possibility of recognizing the early and latent stages of consumption sooner than with the present means or methods, and of ascertaining the side affected, if physical examination does not give satisfactory evidence. The side primarily affected is indicated by the occurrence of trophic disturbances on that side.

The Effect of Flashes of Electric Light on the Eye.—Dunbar Roy believes there have been more cases observed than reported of temporary injury to the eye through intense electric flashes. The danger of the electric light is illustrated by a series of examples from practice. In a number of instances cessation from school work has had to be ordered because of the injurious incandescent lights; and in other cases student's lamps had to be substituted. Electric ophthalmia is discussed. It seems probable that domestic lights are injurious to the eye in proportion to the amount of ultra-violet rays they contain. The Welsbach gas light seems less injurious as a light by which to read and work than others. There should always be an under shade to mitigate the light.

The Physiology of Sleep.—H. H. Stoner goes over the various theories which have been advanced from time to time to account for the phenomena of sleep. Recent discoveries in anatomical construction and the physiological action of the nervous system give a clearer insight into the manner in which sleep is produced. Neurons and their relations and functions are entered into. Sleep is, according to the theory advanced, not the result of an outside

influence exerted upon the brain as a whole, but is due to metabolic changes which take place in the body of the nerve cell as the result of normal fatigue.

The Status of General Anæsthesia in 1900.—By M. L. Maduro.

Graves' Thyroid Disease.—By O. T. Osborne.

Journal of the American Medical Ass'n, Sept. 8, 1900.

Traumatic Insanity.—E. G. Carpenter reports a case and calls attention to injury of the cranium as one of the rare causes of insanity. An injury producing irritation of membranes to the degree of causing spasms, contractures, and paralysis could also disturb cell elements of the cortex so as to induce insanity. He concludes that conditions already present may predispose to the causing of insanity by an injury. The insanity should speedily follow the injury. The extent of the concussion may be a determining factor. The locality on the cranium may be an important consideration.

Exophthalmic Goitre.—F. W. Higgins discusses symptoms, theories of pathology, the toxæmic theory, functions of the thyroid, myxœdema, and indications for treatment. There is probably a fright centre as well as a speech centre, and this may be congenitally weakened. A physical manifestation in the thyroid in a predisposed person may assume a permanent character from an inherent predisposition. Thus the thyroid is still recognized as a prime factor, but only as one of a chain, and treatment is directed to the breaking of the chain at its most vulnerable point.

Typhlitis, Perityphlitis, and Appendicitis in Infancy and Childhood.—J. H. Byrne discusses first the causation and relative frequency and reviews the teachings of the past as they indicate the original seat of inflammation. The anatomy, etiology, and predisposing causes are studied, and a case is given in which hardened fecal masses were expressed by digital manipulation with very satisfactory results.

Pseudo, Modified, or True Smallpox—Which is it?—By H. M. Bracken.

Measurement of Chicago School Children.—By W. S. Christopher.

Serum-therapy in Croupous Pneumonia.—By J. C. Wilson.

Pseudo (?) or Modified (?) Smallpox.—By T. J. Happel.

British Medical Journal, September 1, 1900.

A Discussion of the Enlargements of the Spleen in Children.—Samuel West calls attention to the course and duration of splenic enlargement of infants and its relation to rickets and syphilis. He finds an enlarged spleen in fifty per cent. of all cases of congenital syphilis and still more frequently in still-born syphilitic fœtuses. Enlargement is not constant in rickets, and there is no relation between the size of the viscus and the degree of the rickets. Neither the syphilis nor the rickets is the sole cause, and probably not the cause at all except perhaps indirectly by means of the ill health to which either leads. As to the relation which exists between the splenic enlargement and the profound anæmia so often associated with it, three alternatives present themselves: the enlargement may cause the anæmia, may be caused by it, or both may result from some common cause.

Congenital Hypertrophic Stenosis of the Pylorus.—J. H. Nicoll finds records of some thirty undoubted cases. His own case was that of a baby aged six weeks, who from the second week after birth vomited the stomach contents fifteen or twenty minutes after each meal. Vomiting was not preceded or accompanied by hiccough, nausea, pain, or difficulty. Between attacks the child seemed to be perfectly comfortable until hunger induced another meal, when the same results would happen. Emaciation naturally followed. A Loreta's operation was done with perfect success. The child was living and healthy a year after.

An Explanation of the Cause of Infantile Scurvy, with Suggestions as to its Prevention.—C. E. Corlette advances the theory that the sterilization and to a less extent the pasteurization of milk deprive it of its normal citric-acid contents, and that it is this deficiency which is the cause of scurvy symptoms. He advises along with milk the addition of lime-juice or a citrate, and gives his formula for this procedure. The article is well worthy of perusal by all interested in the matter of infant feeding.

Ambidexterity: a Plea for its General Adoption.—E. Noble Smith traverses familiar ground, calling attention to the possible influence of one-sided use of the body in the production of deformities.

Münchener medicinische Wochenschrift, August 21, 1900.

Pneumonia following Laparotomies in the Neighborhood of the Diaphragm.—In the opinion of George Kelling this is the most serious of the complications attending operations of this sort, especially those performed on the gastro-intestinal canal. From its causation it may be divided into: (1) Aspiration pneumonia, due to inhalation of vomitus, and which is particularly infectious in cases of œsophageal or gastric carcinoma when breaking down has taken place; (2) pneumonia due to pulmonary infarcts resulting from emboli originating from the vessels ligated; (3) hypostatic pneumonia, observed in the aged and secondary to imperfect aeration of the lungs and impaired heart action; (4) pneumonia occuring during epidemics. In addition to these there is a set of cases which give the impression that the infection was conveyed at the time of operation, and as other factors can usually be excluded the author believes that this often takes place through the contact of the air with the interior of the abdominal cavity. To guard against this danger the operating-room must be kept as dust-free as possible, with which object frequent wiping with moist cloths, filtration of the air admitted for purposes of ventilation, and flooding of the floor with water are recommended.

Infection through the Conjunctival Sac.—Mayer performed a large number of experiments on animals, demonstrating the possibility of bacterial invasion of the circulation and generalized infection through the medium of the conjunctiva. This takes place with great rapidity after inoculation with anthrax, pest, chicken cholera, mouse typhus, in small animals with glanders and psittacosis (Nocard). Pseudo-tuberculosis gives a subacute course; in larger animals psittacosis, glanders, and tuberculosis are very chronic. Tetanus and diphtheria are fatal through the formation of toxins; diphtheria and the staphylococcus pyogenes aureus produced local infections, while the organisms of cholera, typhoid, and actinomycosis were not able to invade the system, the tears appearing to have a special inhibiting effect on cultures of the former two, while on the contrary the growth of the diphtheria bacillus was encouraged.

The Occurrence of Rhodan in the Nasal and Conjunctival Secretion.—O. Muck tested the nasal secretion for this constituent of saliva by introducing cotton tampons moistened with diluted ferric-chloride solution acidulated with hydrochloric acid. A reddish or yellowish brown was produced where the nasal secretion came in contact with the reagents. As a corroborative reaction chemically clean filter paper was saturated with a mixture of concentrated hydriodic acid, dilute sulphuric acid, and starch solution, and dried. When this is applied to the nasal secretion a blue spot is produced, showing that iodine has been set free, owing to the reducing properties of the rhodan base.

Sugar as an Oxytocic.—Max Madlener has had good results with sugar solution in cases of insufficient labor pains. He gives one ounce of sugar dissolved in eight ounces of water, repeating if necessary. If more acceptable to the palate the draught may be flavored with tea or rum. Nausea is never produced. In from one-half to one hour after administration the effect is manifest, the uterine contractions being greatly stimulated, while the physical pain is somewhat diminished.

My "Position Treatment" in Abnormalities of Form, Position, and Size of the Uterus.—By Beckers.

The Alexander-Adams Operation in Retroflexio Uteri Mobilis.—By Carl Peters.

Deutsche medicinische Wochenschrift, August 23, 1900.

Is Alcohol a Food or a Poison?—Kassowitz maintains that it is not so much a question as to whether alcohol *per se* is toxic or nutritive, for it can hardly be denied that it is an active poison capable of causing the death of any animal or vegetable protoplasm with which it comes in contact, but rather as to whether in spite of these injurious properties it can still be of value to the organism and serve to sustain it. A food-stuff to be classed as such must not only be capable of supplying the organism with energy to be dissipated as heat and in the performance of work, but must also under proper conditions enter into the bodily structure and replace tissue that has become worn out. Recent investigation has shown clearly enough that alcohol is easily and abundantly oxidizable in the human body, but the mere proof that a substance is consumed in this way does not entitle it to rank as a food, and still less can this supposition be entertained if in addition it at the same time causes decomposition and destruction of living protoplasm. That alcohol does this is not to be doubted in view of the present knowledge of metabolic processes, and this granted, it is evident that a substance capable of destroying body tissue cannot also at the same time serve to build it up and replace damaged parts. Therefore the position that alcohol may play the double rôle of food and poison is untenable, and the sooner it is dropped from the list of drugs for internal administration the better it will be for physician and patient.

What is the Rôle of the Tube in the Therapeutic Application of the Roentgen Rays?—Sträter divides the tubes used therapeutically into hard and soft, with intermediate degrees, basing the gradations on the degree of penetration into the tissues exhibited. Soft tubes are those whose rays manifest their activity principally in the skin and muscle, while those that penetrate the overlying structures and are only partially blocked even by the bone are designated as hard. These differences may be estimated by the use of the fluorescent screen, on which the intensity of the rays is commensurate with the degree of illumination and the hardness proportionate to the sharpness of contrast between the illuminated object, *e.g.*, the hand, and the surrounding field; thus the harder the tube the less plainly will the soft parts show and the less intense will be the shadow of the bones. Therapeutically soft tubes are to be used when it is intended to confine the remedial action to the upper layers; hard ones when deeper structures are to be influenced.

A Fatal Case of Septicæmia Beginning as Angina Follicularis.—The case described by Noltenius began apparently as a simple tonsillitis confined to the left side. At the same time there was a slight redness of the skin on the opposite side, which gradually increased in extent and the skin became somewhat swollen and painful. The local symptoms in the throat became more severe and simulated a diphtheritic infection, so that antitoxin was injected. The treatment was not effective, and the patient had a daily afternoon temperature of 102.5° F. with morning remissions. On the eighth day the left calf and both forearms became intensely painful and gave evidence of a well-marked lymphangitis, and the temperature went up to 103.5° F., continuing high until the patient's death four days later from cardiac weakness. The case is interesting as affording proof of the possibility of a general infection taking place through the medium of the tonsils.

The Treatment of Aneurisms by Electrolysis through the Introduction of Wire.—By A. Bernheim.

The Doubtful Value of Antitussin as a Remedy in Whooping-Cough.—By P. Krause.

Fifth Report of the Malarial Expedition.—By R. Koch.

Berliner klinische Wochenschrift, August 20, 1900.

Therapeutic Trials with Alternating Currents of High Frequency and Tension (Tesla Currents).—Toby Cohn describes a series of experiments made by himself alone, which were similar to those made by himself and Loewy. He arrived at practically the same conclusions. He could not make out any change in blood pressure or in tissue change. There were some subjective sensations which made the patients say they felt better, especially in regard to ability to sleep well. Cohn thinks that the current may have a suggestive influence, and that to this are due all the reported benefits.

The Effect of Tesla Currents on Metabolism.—A. Loewy and Toby Cohn made a series of experiments on persons subjected to the influence of the Tesla currents by inclosure within large solenoids, and by the estimation of oxygen absorbed and carbonic acid gas given off. They were unable to determine that the conditions of the experiments produced any effect whatever.

A Contribution to the Critical Examination of Milk Preparations.—By W. Caspari.

Contributions to the Derivation of Sugar from Albumin.—By J. Wohlgemuth.

French Journals.

The Parasitic Origin of Eczema.—L. Brocq concludes a clinical lecture: (*a*) In the present state of our knowledge the existence of a specific microbe pathogenic of eczema remains still to be demonstrated. The microbe may exist, but it has not been proven. (*b*) Pure primary lesions (closed vesicles) of true vesicular eczema do not contain any microbe discoverable by procedures now known in bacteriology. (*c*) The various microbes (and in particular the staphylococcus) which exist in abundance upon the oozing or crusted surfaces of eczema constitute secondary infections, whose direct effect upon pure eczema begins to be suspected, but their presence does not explain its nature. These microbes are the cause of most of the complications and of the polymorphous eruptions which so often change the typical evolution of pure eczema.—*Journal des Praticiens*, August 25, 1900.

Entero-Colitis.—P. Froussard, in a clinical study of mucomembranous entero-colitis concludes with a consideration of the dermatoses in its course. A certain number of cutaneous manifestations of the polymorphous erythema type appear, especially after paroxysmal crises, which are accompanied by infectious phenomena, and which ought to be attributed to the latter. There are other dermatoses of remittent or chronic course: urticaria, prurigo, pruritus, eczema, and seborrhœa, which pursue an equal course with the entero-colitis. Especial attention is directed to a miliary pustular recurrent eruption of the face, especially seen in women who suffer from gastro-intestinal troubles as well as from nervous antecedents.—*La Presse Médicale*, August 29, 1900.

The Pathogeny of Pellagra.—Professor Babès says pellagra is on the increase in Roumania. He gives a *résumé* of histological researches in collaboration with Sion, which point to the action of a toxic substance in pellagra. This substance, formed in the blood, has the property of suppressing the toxic action of the extract of altered maize. This substance can be found in the blood serum of subjects of pellagra who have been cured or improved. It possesses the specific features of action upon the toxic extracts of spoiled maize coming from pellagra-infected regions, while other serums experimented with do not have this action.—*La Médecine Moderne*, August 22, 1900.

Organization of the Fight against the Plague in Russia.—Loris Mélikoff describes the precautions taken along the Russian frontier to keep out the plague from Asiatic countries. The energetic efforts of the Prince of Oldenbourg, it would seem, have overcome almost insurmountable difficulties and made it possible for Europe to consider herself free from invasion from the side of Russia.—*Le Bulletin Médical*, August 29, 1900.

Medicine, September, 1900.

Suggestion without Hypnotism as a Therapeutic Agent.—Harold N. Moyer believes that suggestion, well directed, and above all patiently and systematically applied, forms a very important element in the treatment of many diseased states. Hypnosis, on the contrary, has many objectionable features. It is by no means easily induced, excepting in individuals with very unstable nervous systems, and in these it is quite certain that the effects are harmful. There is not a little evidence that goes to show that suggestion may be invoked just as efficiently without hypnosis as with it, but it would seem that the more self-consciousness is in abeyance the more efficient the suggestion. However, when the patient's own consciousness comes to the aid of the person making the suggestion, there is a possibility that suggestion may be more efficient without the hypnotic state. If an individual comes to a physician, for example, in the full belief that the physician is in possession of a remedy or a treatment that will infallibly cure a certain trouble, undoubtedly the effect on the patient's mind of suggestion along the lines of this thought is more efficient when the person is conscious than if he were in a hypnotic state. On the contrary, if the patient were opposed to the suggestion, it is self-evident that hypnosis, if it can be induced, would lend additional aid in making the suggestion operative.

Bone Food.—B. T. Whitmore suggests the ingestion of bone flour as a reparative food or means of supplying the phosphates needed to repair the phosphatic elements which are wasted in the economy of life. It is prepared from the larger bones of sound beef cattle. The bones are thoroughly cleaned of all muscular and tendinous tissue, dried, and ground. The resulting product is a fine powder devoid of taste and odor, which will keep indefinitely. It is given in admixture with other foods in such proportion as will serve to bring them up to the standard phosphatic supply. It may be mixed with any food article sufficiently glutinous to hold it in admixture, or it may be taken in suspension in milk or water. It is not intended to take the place of the various hypophosphites as a remedy, but as a dietetic agent is will frequently make the administration of the hypophosphites unnecessary.

Decinormal Salt Solution in the Treatment of Hemorrhage in Typhoid Fever.—C. H. Anderson reports in full one case out of five which were treated with transfusions of decinormal salt solution in the United States General Hospital at Fortress Monroe. In this case, of a corporal of the Illinois Volunteer Infantry, transfusion was performed several times, when the patient had collapsed from hemorrhages. He rallied well after each, and finally recovered. The author says that the mortality from typhoid fever accompanied by hemorrhage is very great, and transfusion should be done in every case. In the case reported it was done in a tent, without antiseptic and aseptic material, and with no conveniences with which to do careful work.

Pregnancy Complicated by Suppuration of Fibroids.—By Charles Greene Cumston.

Treatment of Tuberculosis of the Lungs.—By C. J. Whalen.

Zeitsch. f. Diätet. u. Physik. Therap., vol. iv., No. 4, 1900.

The Weather, Sunshine, and Infectious Diseases.—J. Ruhemann divides the meteorological conditions influencing disease curves into two general groups (1) Those acting principally on the individual, involving mainly the question of heat abstraction and comprising the atmospheric temperature, absolute and relative humidity, the direction

and rate of air currents, and the rain- and snow-fall; (2) The element of sunshine, which is the factor having most to do with ectogenous bacterial growth. Barometric pressure is not mentioned, for although not without its effect on man it does not hold any directly causative relationship to disease. Of these two groups the latter is by far the most important, and to a very marked degree controls the activity of bacterial life, so that the law may be laid down that the average of hours of sunshine for any season is in inverse proportion to the amount of infectious disease. This relation is, however, not synchronous but postponed, owing to the fact that allowance must be made for the periods of incubation, and in comparing statistics the periods contrasted must be taken from corresponding seasons of the year. Thus a week in March may show the same sunshine factor as one in October and yet the disease coefficient be much higher, since all winter long the weather has been dark, and therefore the conditions have been more favorable for the bacterial flora than during the light, sunshiny summer months.

Hydrotherapy in Gynæcological and Obstetrical Practice.—Ödön Tuszkai employs hydrotherapy under four different forms in the treatment of acute and chronic disease of the female pelvic contents. These are sitz-baths, irrigations, packs or compresses, and continuous application of heat or cold by means of water coils. Of these the sitz-bath is the most widely applicable and useful; the portion immersed should be from the middle of the thighs to the umbilicus. The effect of such a cold bath is to produce plethora of the cerebral vessels with attendant eye symptoms, buzzing in the ears, dizziness, increased respiratory and cardiac activity, with a pulse first rapid and irregular and then slow. The cause of these symptoms is the strong vaso-constriction due to reflex stimulation of the splanchnic nerves and which produces a local drop in temperature and reduced blood current at the surface, with the opposite effects at the periphery and in the interior. This is the result of a bath of short duration (five or six minutes), which is indicated in all conditions of atony, relaxation, etc., when there is no inflammation; if, however, it be continued for from fifteen to twenty minutes, contraction of the deep vessels and hyperæmia of surface take place. Warm sitz-baths produce superficial congestion and anæmia of the pelvic viscera, but here the reaction sets in much sooner than with the cold applications and a state of great relaxation supervenes, which contraindicates the procedure in any conditions in which congestion or hemorrhage is to be feared.

Russki Arkhiv de Patologii, May 31 and June 30, 1900.

The Effect of Repeated Injections of Toxins upon Nutritive Exchanges.—K. Dmitrievski obtained the following results by experimentation: (1) Pyocyanic toxin. In animals previously starved, nitrogen, urea, phosphorus, and chlorine were considerably increased after the first and slightly increased after the second and third dose. The first dose caused a notable loss of weight, the second and third a lessened diminution and for a lessened duration. In animals previously well nourished, four to five doses produced a condition of immunization, the modifications in weight and in the amount of nitrogen becoming less and less marked after each injection. (2) Toxin of bacillus coli communis. The modifications in weight, nitrogen, phosphoric oxide, and chlorine are about the same as in the case of pyocyanic toxin. (3) Diphtheritic toxin. In starved animals the first dose causes a loss of weight and an increase in disassimilation with hyperazoturia and hyperphosphaturia. The increase of nitrogen and phosphoric oxide is less than in the preceding experiments. Chlorine is increased. After the second and third injections, the percentage of nitrogen and phosphoric oxide is not increased so much as before, but the chlorine is augmented in amount. In well-fed animals the modifications of nitrogen become less and less marked. Hyperleucocytosis was found after each injection.

Cutaneous Hypæsthesia in Tabes.—Dr. Grebner, from the result of the examination of fifty-two patients, states that hypæsthesia always originates in two foci, corresponding to the third dorsal and the first sacral nerves, and is limited to the peripheral distribution of the posterior roots. From these two foci the affection is propagated above and below to the neighboring posterior roots. The upper focus is the one most frequently affected. The upper roots of the nuchis (from the fifth cervical nerve) are unaffected, even in advanced stages of the disease. This regularity in the occurrence and distribution of the hypæsthesia depends upon the structural differences in the segments of the spinal cord. Wherever there is ataxia, hypæsthesia is found. The skin covering the ataxic articulations is not necessarily hypæsthetic. The author found no improvement of articular hypæsthesia in cases in which improvement of the ataxia had been brought about by retraining of the muscles.

A Study of Immunity.—Professor Savchenko instituted a number of experiments with a view of ascertaining the correctness of M. Gabritschewsky's statement that the natural immunity of animals (guinea-pigs) against the spirillum is due to the rapid formation of specific bactericidal substances at the seat of inoculation. The experiments appear to disprove this statement, for the spirilla disappear as a result of a slow phagocytosis, the uninuclear cells almost exclusively performing the part of phagocytes. Even in vitro we can see that leucocytes containing immunizing substances are endowed with energetic properties of positive chemotaxis toward spirilla. The latest experiments demonstrate that immunizing substances may exist in the blood, without acting directly upon the spirilla, the action being through the agency of cells.

Clinical Study of Gout.—A. Svoechotoff holds that gout is due to auto-intoxication by the abnormal products of metabolism. The bases are probably closely allied to uric acid. The amount of urine and of urea diminishes, and that of uric acid increases during an attack. The vaso-motor system probably undergoes modifications during an attack; there is spasmodic contraction of the smaller vessels. Uric acid appears in the affected joints in the form of needle-shaped crystals of the biurate of sodium, and not in the form of globules. During the disease the kidneys may allow albumin to filter through without clinically appearing to affect the renal tissue. The seat of the gouty deposits probably depends upon nutritional changes in the tissues and enfeebled circulation. Surgical intervention is often imperative in gout.

Mycotic-Embolic Aneurism.—Oscar Ling describes the case of a youth, aged nineteen years, suffering from cryptogenic septicopyæmia and septic endocarditis. A pulsating tumor was found at the left elbow, and after the patient's death it was examined and judged to be a mycotic-embolic aneurism formed after a rupture. An embolus was found at the point of division of the artery; there were destruction of the internal, the elastic, and the median muscular coats, rupture of the adventitia, and dilatation, and the mass of micrococci foramed in the aneurism was similar to those found in the valves of the heart.

The Structure and Transformations of the Plasmadiophora Brassicæ Woron during its Intracellular Development.—By S. Navachin.

Some Parasites of Man as yet Little Studied in the Orient.—By P. Ssokoloff.

Change in Weight of Nursing Infants in Phthisis.—By A. P. Morkovitin.

The Combustion and Disinfection of Rubbish.—By F. Erismann.

Two Cases of Lymphosarcoma.—By A. I. Kostkévits.

Pericarditis.—By B. M. Schaposchnikoff.

Revue de Chirurgie, July 10 and August 10, 1900.

Anatomical Researches in Regard to the Cæcum and its Appendix.—Giullano Peronidi, from the study of the cæcal region in fifty cadavers, reaches the following conclusions: that the cæcum in eighty-three per cent. of the cases is situated in the lower part of the right iliac fossa. Next in order of frequency, its situation is in the middle or superior third of the iliac fossa; and next in the pelvic cavity. In three cases it was in the umbilical region, in one in the lumbar fossa. Its direction is usually the following: its axis is obliquely to the right, upward, and backward. In three cases it was vertical, in two transverse. Its serous covering was complete in seventy-five per cent. of the cases; its length varied from 6 to 10 cm., its breadth from 3 to 10 cm. The appendix was in the majority of cases cylindrical, vertical, and within the cæcum. In ten cases it was retro-cæcal; its average length was 7.6 cm. and breadth 5 cm. In one case the meso-appendix formed a pouch; in one, the ileo-appendicular fold was greatly developed; in one this fold was absent and its place taken by a rounded depression. The author claims to be the first person to call attention to these interesting characteristics.

Osteoplastic Amputations.—Z. Samfirescu describes a process to be used in the case of amputations in the continuity of the long bones of the extremities. It consists in the formation of an osteo-periosteal segment which is closely applied to the surface of the amputated bone, and which undoubtedly becomes joined to it later, in the same way that soft tissues unite together. The adaptation and consolidation of such a diaphyseal segment at the extremity of the amputated limb will make a stump as solid as the limb itself, with tissues equally diaphyseal. The author claims that in the case of children the bone, if treated in this way, will not grow after amputation; as all surgeons know, the growth of bone beyond the soft tissues in the end of the stump is an inconvenient occurrence which frequently takes place. The stump after this process can at once be

placed in an artificial limb, and it will, moreover, not be sensitive to changes of temperature, as are stumps formed according to the classic methods.

Pneumotomy with Resection of Ribs.—Michel Christovitch describes the case of a young man in whose lung had lodged the bullet from a revolver. On the sixth day after receiving the wound his condition was so grave that an operation was decided on. An exploratory puncture in the seventh left intercostal space showed an effusion of blood and pus. Three centimetres of the sixth rib were resected, and the ball was felt by the finger introduced into the wound. The fifth and sixth ribs were then resected, the pleura and lung incised, and the bullet was removed together with blood, pus, and three sphacelated pieces of lung tissue. Absorbent gauze stopped the hemorrhage, drainage was secured, the wound sutured and dressed, and ether and artificial serum injections were administered and repeated for two days. The operation lasted twenty minutes only. The patient was completely cured at the end of two months, with no fistula.

Abdominal Hysterectomy.—E. Quénu and L. Louquet thus sum up their study of the subject: Total abdominal castration for neoplasms of the appendages is legitimate, and not dangerous. It possesses great technical advantages, and prevents many post-operative accidents, such as intestinal occlusion. It is indicated in cases of ovarian cysts and tumors complicated by uterine, peri-uterine, and tubal inflammatory lesions, or those complicated by neoplastic degeneration of the uterus, and in bilateral ovarian cysts and tumors, when the size, friability, or situation of the pedicle presents difficulties as to hæmostasis. It is contra-indicated in cases of unilateral cyst in a young woman; when the uterus is healthy, and the manipulation of the pedicles easy; in cases of bilateral lesions of the appendages, and in cases in which a good treatment of the pedicle can be obtained by some easier process.

Familial Symmetrical Lipoma of the Plantar Arch.—Charles Féré describes the occurrence of tumors of the feet in two women, cousins. This cannot be ascribed to heredity, but must be classed as "familial." There was an arthritic and cancerous family history, and in both cases a markedly nervous previous personal history. In one patient there was herpes zoster of the lower part of the left leg and outer side of the foot, and this affection, in fact, was the occasion of the physician's attention being drawn to the lipoma of the plantar arch, which the patient asserted had been there for twenty years. Her sister had a similar growth on her foot.

Perforation of Stomach, Colon, and Diaphragm by a Bullet; Suture; Recovery.—By O. Laurent.

Cancer of the Large Intestine, Excepting the Rectum.—By R. de Bovis. A continued article.

A Study of Rhabdomyoma, especially of a Malignant Nature.—By Edouard Genevet.

A Case of Voluminous Sebaceous Adenoma of the Face.—By G. Curtis and Lambret.

The Interstitial Cells in the Adult Testicle.—By B. Cunéo and P. Lecène.

Exclusion of the Intestine.—By F. Terrier and A. Gosset.

Revue de Médecine, July 10, 1900.

Gastro-Intestinal Affections due to Neuroses.—M. Dubois writes of cases of gastro-intestinal dypsepsia, due to purely nervous conditions. In hundreds of these cases he has obtained a cure by making the patients abandon the restricted diet upon which they had been placed, sending them to bed in a sort of rest cure, keeping them upon a milk diet for a few days, and then suddenly causing them to return to three full meals a day of food chosen haphazard, or according to taste. The chief thing is to convince them that their trouble is cerebral, and does not come from gastro-intestinal disease, and their recovery is then immediate. The gastro-intestinal tract is peculiarly under the influence of the nervous system, and in psychotherapy is found the best treatment for the greater part of disorders supposed to indicate local lesions.

The "Coup-de-Foudre."—Charles Féré writes of the coup-de-foudre or "thunderbolt," a term used in French literature to signify what we might translate "love at first sight," were it not that love in its higher manifestations would appear to be absent. The author gives examples of the condition, which seems to be a symptom of degeneracy, of hallucinations of memory, and in especial of epilepsy and of neurasthenia. This explosive form of affection he thinks should be considered a symptom of morbid emotion, of nervous disorder, rather than a celestial inspiration to be followed at all hazards.

The Nasal Crisis in Tabes.—Henri Jullian describes this condition, which is characterized by an attack of sneezing with nasal paræsthesia, preceded by subjective symptoms in the region of the fifth nerve, consisting in a strange sensation of constriction and stiffness of the cheek and neck. The nostril of the same side suddenly appears to be occluded, and the sneezing follows. There is no especial increase of secretion. The crisis is undoubtedly due to the tabes.

Tuberculosis and its Open-Air Treatment in Normandy.—By Raoul Brunon.

Archives Générales de Médecine, August, 1900.

Is Scorbutus an Infectious and Contagious Disease?—H. Turner says that in Russia, in 1899, during an outbreak of this disease, physicians were struck by the following facts which seem to point to contagion: The epidemic character of the malady; its presence in certain villages and its absence from other villages, not far removed, but having no communication with the first; the large number of persons in easy circumstances attacked by the disease, who either were obliged to live in the midst of the epidemic or to come in daily contact with the sick. The author adduces a number of cases and facts which tend to prove that the disease is infectious, that isolation, even without special hygienic precautions, prevents its spread, and that salt meat and absence of vegetable diet are not the only causes. The microscope has not as yet discovered a specific agent for scorbutus, but it may do so with improved technique; and meanwhile there is every reason to isolate the patients. Writers of the sixteenth and seventeenth centuries thought the disease contagious. The Nansen party escaped it entirely, in spite of cold, insufficient diet, and absence of fresh food for sixteen months.

Spontaneous Dilatations and Ruptures of the Gall Bladder in Adhesive Supra-Umbilical Peritonitis.—A. Machard reports a case of this fatal accident. Obstruction of the cystic canal or ductus cholodechus by foreign bodies is not a necessary coudition to dilatation of the gall bladder; in the case under discussion it was produced by peritoneal adhesions which had obstructed the cystic canal. Hydrops of the gall bladder occurred, and the walls, weakened by infection due to stasis caused by the peritonitis, were unable to resist the internal pressure, and were ruptured. The best treatment for this condition is cholecystostomy with abouchement outside of the gall bladder. This insures drainage, and permits of direct antisepsis. It is also a rapid procedure. There is, to be sure, the drawback of a biliary or mucous fistula, but cholecystectomy or suture of the walls can be performed later when all danger of infection is over.

Researches in Regard to Arterial Pressure in Chloroform and Ether Anæsthesia.—Simon Duplay and Louis Hallion hold that death under anæsthesia is due to a fall in arterial pressure. Hence it would be of the utmost importance to be able to estimate the degree of pressure at every step of the anæsthesia; for, that known, it would be easy to direct the proper amount of intoxication and keep it within the limits of safety. In dogs, which are more liable to accidents under chloroform than are human beings, the anæsthetic can be given with absolute safety provided that a manometer be placed on an artery and carefully watched. The authors hope soon to be able to show that an exact estimation of arterial pressure during anæsthesia is not only desirable but very possible.

A Study of the Geographical Distribution of Goitre in France.—By Lucien Mayet.

A Case of Cerebral Tumor.—By Maurice Patel and Lucien Mayet.

Correspondence.

OUR PARIS LETTER.

(From Our Special Correspondent.)

THE THIRTEENTH MEDICAL CONGRESS.

PARIS, August 18, 1900.

THE Thirteenth International Medical Congress in Paris is now a thing of the past, and yet it is hard to form as yet a just appreciation of the work accomplished by its members. Dr. Chauffard's report, which was read at the opening session held in the Salle des Fêtes on the Champ de Mars, indicated that there were 6,000 members and delegates; 2,000 Frenchmen, 750 Russians, 570 Germans, 350 Americans, 330 Italians, 220 Spaniards. Though Dr. Chauffard does not seem to have mentioned the number of the English contingent, it was 220 strong, a very small number comparatively, due, however, to the condition of affairs in the British empire and to the slight degree of

tension existing between the two nations. There were 250 reports inscribed to be read, and 1,200 communications, a great many of which are signed by the most illustrious names in the medical line. Dr. Chauffard spoke also of the difference between this congress and the first one held in Paris in 1867, when there were 333 French members and 589 foreigners.

This opening session was to have been honored by the presence of President Loubet, but on account of the assassination of the King of Italy he did not come. The Salle des Fêtes is a large, circular hall, gaudily decorated, erected inside the Palais des Machines, a relic of the 1889 exhibition, and its size prevented one from hearing most of the speeches. The first was by Professor Lannelongue, the president of the congress, who spoke well and was much applauded. I happened to be seated next to one of his former colleagues of the internate, an honorary surgeon of the hospitals, and he told me that in his youth Dr. Lannelongue had been somewhat like Demosthenes, afflicted with a slight impediment in his speech. No trace of it exists at present, and his voice was heard better than any other. Dr. Lannelongue paid a tribute to the wonderful progress made in recent years in determining the causes of disease, and then compared the result of recent efforts to the discovery of those mysterious undulations of rays which exist in the solar spectrum from the red to and beyond the ultra-violet. Science was slowly transforming the civilization of the present day, and to bring forth its best fruits the seeker should not remain alone and isolated, but all should put their shoulders to the wheel and work together. One of the great principles of modern medical science was the cultivation of man's bodily health, and in the seeking after the knowledge needful to this it was necessary to be guided by a light akin to that of the miner in his progress through subterranean passages. Modern processes of investigation, more perfect, more accurate, would replace little by little the older forms; a new nomenclature of diseases and medical terms would render the interchange of ideas more easy, though a universal language could not as yet be established.

Dr. Lannelongue concluded by welcoming the various delegates and foreign members, and ended his speech by citing the words that the celebrated Bouillaud, the heart specialist, spoke at the first congress: "Thanks to you, my whole life has received at last its crown. I carry you henceforth in my heart, and you will live there till it stops beating."

Dr. von Bergmann, German delegate, Dr. Albert from Austria, Dr. Preisz from Hungary, Surgeon-General Sternberg, delegate from the United States, Sir William MacCormac, delegate from Great Britain, and Dr. Reverdin, of Geneva, made speeches. The last address made was by Professor Virchow who spoke on "Infection and Traumatism."

On Friday evening Dr. Pinard, president of the Obstetrical section, and Professor Terner of the Gynæcological section gave a dinner to one hundred and twenty members of those two sections, at the Grand Hotel. All the notable men in these specialties were present, and speeches and toasts were made in French, English, German, and Italian. After the dinner, which took place in the apartment called the Zodiac Hall, a reception, to which the ladies had been invited, was held.

Dr. Lannelongue's reception was the great social festivity of the congress. The number of invitations was, however, limited, not more than twelve hundred of these being sent out, so far as I could judge. This reception took place on Friday at the Galérie des Champs Elysées, and a musical entertainment was furnished. The close of the evening was a dance called the "Danse des Nations," undertaken by four young pupils of the opera, dressed respectively as a Breton peasant, an Italian, a Spanish girl, and a Russian peasant. Some thirty or forty American physicians were present with their wives and daughters.

Professor Landouzy gave a dinner to the therapeutists at the Marguery restaurant, a place which is famous the world over for its excellent cooking. The dinner took place in the large hall reserved for such festivities. Mme. Almé, of the Français, sang some delightful old French songs of the sixteenth, seventeenth, and eighteenth centuries. Professor Landouzy made a speech which was very much applauded. He said he had thought it well that therapeutists should pass from theory to practice; that this dinner was a "leçon de choses," a practical lesson, whereby the needs of the inner man could be satisfied. He spoke a few words about vegetarian diet, and showed how the menu was a complete refutation of the principles of the vegetarians.

On Monday night a social gathering offered by the members of the committee was to take place in the gardens of the Luxembourg, but on account of the weather it was resolved to hold it in the palace. Eight thousand invitations had been sent out, and as a certain number of members brought their families, and even acquaintances it would seem, the result was that there was an awful crush, and a certain number of notable medical men, who should have had reserved seats, left the place in sheer disgust. A musical and theatrical programme had been gotten up by Dr. Pozzi, and there was singing by Fongère, of the Opéra Comique, who rendered "Les Saisons," by Massé. Mme. Litvinne, of the Opéra, sang an air from "Tristan and Isolde"; M. Renaud, also of the Opéra, sang "The Willows are Weeping," by Erlänger, and Mounet-Sully recited some poems. The entertainment was certainly most brilliant.

On Friday afternoon the reception of the President of the Republic took place at the Elysée. A large crowd had gathered in the Faubourg St. Honoré, and only a few were allowed to enter at one time. The back of the garden, which fronts on the Avenue Gabriel and the Champs Elysées, had been transformed into a sort of stage, and dances of different epochs were given by ballet-dancers from the Opéra. The effect was striking. The weather was not, however, very propitious, and a slight shower would every now and then dampen everybody's spirits. There was such a large gathering in the gardens that it was difficult to get near the stage. The dances given were those of different epochs—the barbarian, the Greek, the Roman, and so forth.

On Saturday the Municipal Council received the members at the Hôtel de Ville in the apartments intended for festivities.

On Thursday, the 9th of August, the last general assembly took place in the amphitheatre of the Sorbonne. The second general meeting had been but scantily attended, but this time there was a large gathering. Dr. Lannelongue presided, having at his right Dr. Callejá, dean of the Faculty of Medicine of Madrid, and on his left Professor Virchow. Dr. Lannelongue introduced Professor Albert, of Vienna, who read a discourse on the architecture of the bones of man and animals. The prize of 5,000 francs, which had been offered at the Congress of Moscow to the author of the best work done in medicine or hygiene of recent years, was awarded to Dr. Ramon y Cajál, of Madrid, whose work on neurology has been so extensive and important. It was next definitely announced that the fourteenth congress would be held in Madrid in the spring of 1903. The Spanish national hymn was then played; Dr. Callejá spoke a few words, and Professor Costojórena, a member of the official Spanish delegation, thanked the Congress on behalf of Madrid for having chosen that city.

LETTER FROM JAPAN.

(From our Special Correspondent.)

THE PLAGUE—HOSPITAL SHIPS OF THE JAPANESE RED CROSS—REPORT OF THE SURGEON-GENERAL OF THE JAPANESE NAVY—ADDRESS OF DR. H. L. WOOD TO THE NURSES.

TOKYO, August 16, 1900.

THE pest has been practically stamped out, and the more stringent measures have now been superseded by the usual precautionary ones. Great credit is due to the government, and especially to the sanitary bureau, in this emergency. Dr. Kitasato's Bacteriological Institute, or Institute for the Investigation of Infectious Diseases, has furnished a corps of well-trained medical men who have given scientific and painstaking assistance in different parts of the country. Japan will undoubtedly require to keep constant and vigilant watch upon her borders, especially in the open ports, as she is now in such intimate communication with endemic sources of infection from the plague and cholera, both of which have proven so virulent and fatal in Japan, as well as on account of her proximity to the field of military operations in China, and her being the asylum of so many refugees from all over that country.

Japan is now having a good opportunity of making use of the two fine Red Cross hospital ships, the *Hakuai Maru* and *Kosai Maru*, both of which have been commissioned for service in connection with the war in China. The *Hakuai Maru* sailed some time since and has already made one or two trips. Dr. Iwai, of the Red Cross Hospital in Tokyo, is in charge, while Dr. S. Suzuki is in charge of the *Kosai Maru*. These ships are thoroughly equipped, up-to-date vessels, and no doubt will prove a great boon to the suffering wounded of other nations as well as of Japan. In placing these vessels at the service of the allied fleets and army, Vice-Admiral Toya stated that these vessels are under the control of the war and navy department, being equipped and maintained entirely at the expense of the Japanese Red Cross Society, and that the regulations of the Hague Convention of July, 1899, relating to the Geneva Conference of August, 1864, as far as circumstances would allow should be observed. This act

has been highly appreciated by the different admirals in command, among whom Rear-Admiral Kempff, of the United States navy, has expressed special appreciation. Thus far the number of wounded has not been so great as to tax the resources at the disposal of the united fleets, but should the disturbance extend up the Yang-tze valley and throughout other parts of China it is probable that all the resources, including those of the Japanese, will scarcely prove sufficient. Sascho, in the southern coast, is the present hospital base.

There are already large numbers of refugees in Nagasaki, Kobe, and Yokohama, while the mountain and seaside resorts have also received considerable numbers.

The health of the various ports of Japan at the present time is good, and the same may be said of the health of the refugees.

The annual report of the health of the Japanese navy for 1897 has just made its appearance, and though referring to conditions existing three years ago is none the less of considerable interest. The total mean daily force in the service was 14,964, and the ratio of cases of disease and injury per 1,000 of the force was 822. The number of days' sickness per man was 20.38 and 24.78 days' sickness per patient, while the number of deaths was 8.37 per 1,000. Among the various classes of diseases tabulated, venereal diseases were the highest, being 167.4 per 1,000, diseases of the digestive system being 151.1, while those of the respiratory system were 95.36.

The following extracts are of interest. The "momme" is about a drachm in weight, 120 *m.* being equal to one pound avoirdupois.

"Diseases of the Respiratory System.—The number of cases comprised under this nomenclature was 1,427, which is in the ratio of 95.36 per 1,000 of force, showing an increase of 49.04 per 1,000 as compared with the previous year. The deaths numbered thirty, giving a ratio of 2.00 per 1,000 of force, which is a decrease of 0.84 per 1,000 in comparison with the previous year. The number of invalidings was 139, the ratio being 9.29 per 1,000 of force, and shows an increase of 4.38 per 1,000 in comparison with the previous year. Cases of phthisis under this heading have increased year by year and many lives have been sacrificed to this disease. An instruction for the prevention of phthisis was, therefore, issued in June of this year and the proper method of prevention was carried out, but the cases have increased in frequency since former years.

"Conscription.—The total number of volunteers who receive the physical examination as seamen-candidates levied in this year reached 5,664 persons (excluding seamen temporarily levied). Of the above number, 2,155 persons passed the examination and the remaining 3,509 persons were dismissed. The result of examination shows a ratio of 38 per 100 of persons qualified, while that of persons non-qualified gives a ratio of 62 per 100.

"Food.—The average daily amount of food supplied to each person was 391.29 *momme*, being an increase of 6.39 *m.* as compared with the previous year. Taking each article of food in detail, it will be found that the amount of bread given was increased by 10.84 *m.*, fresh meat by 2.43 *m.*, fresh fish by 2.9 *m.*, rice by 0.48 *m.*, fresh vegetables by 8.66 *m.*, soy by 0.03 *m.*, and vinegar by 0.07 *m.*, while the amount of hard biscuit diminished by 7.74 *m.*, preserved meat by 3.01 *m.*, preserved fish by 2.72 *m.*, beans by 0.29 *m.*, wheat flour by 2.19 *m.*, dried vegetables by 1.84 *m.*, dried fruits by 0.46 *m.*, roasted barley by 0.16 *m.*, sugar by 0.43 *m.*, oil by 0.03 *m.*, common salt by 0.11 *m.*, and fat by 0.12 *m.* The amount of albumens for each person decreased by 0.60 *m.*, fat by 0.25 *m.*, and carbohydrates by 1.34 *m.* as compared with the previous year. [The cost per person a day was 9 cents United States gold.]

"Body-Weight.—The average body-weight of 14,000 persons taken in March and 15,271 persons taken in September, of cadets, petty officers, and men was 15,630 *momme*, being an increase of 120 *m.* as compared with 15,510 *m.* of the previous year, and also being an increase of 520 *m.*, over what has been the average body-weight 15,110 *m.* of each person during the last thirteen years. Thus it shows an increase of 40 *m.* even compared with the average weight 15,590 *m.* of the year 1896, which was the highest average since the year 1884, when an estimate of the body-weight was first made."

Among the many distinguished visitors to Japan this year we have been favored with the presence of Dr. H. C. Wood, of the University of Pennsylvania, who with his wife and daughter are spending some weeks in sight-seeing. Dr. Wood while in Tokyo attended the graduating ceremony of the Nurses' Training-School of the Akasaku Hospital, of which Dr. W. N. Whitney is the founder and present head. Dr. Wood's address was characteristic and helpful. He pointed out the importance of the nurses' calling and of exactness and punctuality in the performance of her duties. Miss Letsu Ito, a graduate of the Methodist Episcopal Training-Home of Philadelphia, is in charge of the school.

THE HOSPITAL FOR SCARLET FEVER AND DIPHTHERIA PATIENTS.

To the Editor of the Medical Record.

Sir: During the past winter we have received many letters of inquiry in regard to the methods of quarantine and disinfection used at the Hospital for Scarlet Fever and Diphtheria Patients, and it has occurred to me that the best way of reaching those interested in our work is through the columns of your journal.

A brief description of the general arrangement of the institution is essential to the understanding of our methods. The hospital is, as many of your readers are aware, situated at the foot of East Sixteenth Street, the grounds extending on two sides to the water's edge. Many physicians believe this hospital to be connected with the city institutions for the treatment of contagious diseases, but such is not the case. It is a private corporation, controlled by its own board of governors, and is not connected with any other institution. The president of the board of health and one of the health commissioners are *ex-officio* members of the board. There is a regular visiting staff, but physicians in general are allowed to attend cases which they send to the hospital.

There are two pavilions separated from each other at their nearest point by a distance of thirty feet, the workings of which are entirely distinct. Each employs a separate medical staff, corps of nurses, cooks, chambermaids, etc., and has its own kitchen, dormitory, and nurses' rooms and office for the use of the physician in charge, in connection with which there is a well-equipped laboratory and drug room, and an observation room where doubtful cases can be isolated. The patients' quarters consist of a number of light, well-ventilated rooms communicating with a long corridor, at the end of which there is a sun-room. There is no ward, so that each patient has a private room. Convalescents can enjoy the open air from the roof, which is arranged to accommodate them. The laundry is in a building by itself. The disinfecting plant is also separated from the hospital and consists of a steam tank and formaldehyde chamber. In the former the steam is raised under pressure to a temperature of 230° F. and kept turned on for half an hour. If formaldehyde is used, the articles to be disinfected are exposed to the gas continuously for twelve hours.

Patients are carefully examined before being admitted, and if there is any question in regard to diagnosis they are placed in the observation room of the scarlet fever or diphtheria pavilion. The resident physician before entering the presence of the patient is required to wash his hands thoroughly with soap and water, followed by immersing them in bichloride solution 1:2,000. A gown is supplied which buttons closely around the neck, covering the collar and enveloping the body completely, just clearing the ground below. With this goes a cap arranged to cover the head and neck, exposing only the face. This, with a pair of rubber overshoes, completes the uniform. When he leaves the pavilion, the hands and face are disinfected thoroughly, and the mouth is cleansed with boric-acid solution. The attending physicians, whether of the regular hospital staff or specially employed by the patient, follow the same routine, and this is required of all visitors. Ladies, if admitted at all, are also required to remove their outer skirts before putting on the uniform.

The patients are not allowed to leave until free from contagion. Scarlet-fever cases are examined repeatedly, particular attention being given to the feet, which are sometimes slow and troublesome in desquamating. The scalp requires watching, as does also the external auditory meatus, which is often found filled with desquamated epithelium in cases otherwise free from contagion. For the diphtheria cases we require two clear cultures on successive days before they are considered ready to discharge. The disinfection is the same in both pavilions, except that scarlet-fever patients, during the week previous to time of probable discharge, have their ears irrigated with bichloride solution 1:8,000 and the scalp shampooed on alternate days.

On the day of discharge the following routine is adopted for all adults unless there is some contraindication (for children special instructions are given in each case): (1) The ears are irrigated with bichloride solution, 1:8,000. (2) The scalp is shampooed with soap and water. (3) The scalp is shampooed with bichloride solution, 1:2,000. (4) A tub bath is given of soap and water. (5) A tub bath is given of bichloride solution, 1:8,000, for twenty minutes. (6) A sponge bath is given of bichloride solution, 1:2,000. (7) The bichloride is sponged off with sterile water. (8) A nasal spray is given of bichloride solution, 1:8,000. (9) The mouth is cleansed with saturated solution of boric acid.

For convenience is used a suite of three communicating rooms known as the discharge rooms Nos. 1, 2, and 3.

The first room is entered from the corridor, and here the hospital clothing is left. In No. 2 the patient is subjected to the process of disinfection. In No. 3 he puts on his freshly disinfected clothing. There is a "discharge door" in this room so arranged that he can leave the hospital without again passing through the corridor.

All clothing that can be washed is disinfected with steam. For articles that will not stand this treatment is used formaldehyde gas. Books and papers are subjected to steam, although it is necessary first to remove the leather covers from the former. Beyond a slight blurring of the writing no damage is done. Toilet articles are treated in the same way, but jewelry, such as rings, pins, etc., are disinfected with pure carbolic acid. Watches are exposed to formaldehyde gas, which disinfects them satisfactorily.

So far as we are able to learn no case of contagion has ever been traced to patients that have been discharged from our institution, and it is quite certain that never in the history of the hospital has a case of scarlet fever developed in the diphtheria pavilion or vice versa.

EDWARD L. KELLOGG, M.D.,
Resident Physician.

NEW YORK.

THE SPECTACLE AND EYE-GLASS HABIT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of August 4th was an extract from an article by me, entitled "The Spectacle and Eye-Glass Habit." In the issue of August 18th, Dr. T. T. Blaise, of Mason City, Ia., criticises the ideas expressed in that article, finding them unorthodox.

Dr. Blaise objects to the statement: "Wearing spectacles and eye-glasses out of doors is always a disfigurement, often an injury, seldom a necessity"; and says: "As concerns the disfigurement, it suffices to say that much of this can be obviated by the proper regard for cosmetic effects. There is no doubt that a face can be made to look ludicrous or comely, the effect produced depending chiefly on the oculist's knowledge of symmetry, harmony, and the angular or pleasing relation of lines and forms."

In spite of what Dr. Blaise says every practitioner knows that glasses are and always will be a disfigurement, and that most young and middle-aged women seriously object to any kind of them. Spectacles are a constant butt for the caricaturists, a cause of mirth to the thoughtless, and the prevailing and widespread degeneracy of the spectacle habit, particularly in children, invites the profound pity and inquiry of the thoughtful and observing, for the failings and imperfections of the eye are more quickly and certainly transmitted through heredity than those of any other part of the body, and the worst of this is that it hurts most the intellectual, the very top of civilization. If the generally accepted teachings of ophthalmology are true, then the eyes of Christendom are in a parlous state.

Dr. Blaise says: "It is not necessary to state that an anomalous or ametropic eye, which cannot be restored by operative or other means to a normal state, needs a support as much as a short leg needs a high heel, etc., and what is more potent and true is, that it needs it as long as that abnormality exists; indoors or out of doors, or wherever vision is desired."

The doctor probably means: All persons with farsightedness, nearsightedness, or astigmatism should wear glasses all the time, just as every man with a short leg needs a high heel.

About ninety-nine out of a hundred persons are ametropic, have some imperfection, when properly examined. About eighty or ninety of these are farsighted, to say nothing of those with astigmatism and nearsightedness. Now, if Dr. Blaise is right, nearly everybody ought to wear glasses all the time.

Dr. Blaise has confused function with structure. If an eye is imperfect or ametropic the focussing mechanism is proportionately strong and usually makes functional compensation. Nothing of this kind can take place in a leg structurally short. It is useless to discuss such a comparison, for, the basic fact in the problem of fitting glasses is one of function rather than of structure, although it does concern both. The imperfections of the eye give trouble more like a tired, weak leg than like a short one.

The doctor says: "It cannot be doubted that an eye having the proper correction will feel strained when the correcting lens is removed, as would the short leg when the heel is removed from the boot; but this Dr. Jenkins declares, with an unheard-of sweeping statement, to be "because they have wrong glasses."

On page 63 of volume lv. of the MEDICAL RECORD, the editor of that journal comments on Hartridge recommending hyperopes to leave their glasses off when not reading.

Another statement by Dr. Blaise: "To say that a lens correcting an error of refraction, a heterophoria, or any anomaly is only temporarily necessary, is reversing not only pure logic, but turns topsy-turvy the laws upon which hygiene, sanitation, and healing are based."

What are the laws spoken of with such definite certainty as though the principle and laws of gravitation in astronomy were under discussion? Medicine is still an inexact science, somewhat like agriculture or meteorology; obstetrics and, to an extent, surgery excepted.

Dr. Blaise says further "The individual with healthy normal eyes can as consistently and with as much comfort put on 3 D+ lenses when he goes into the street as the 3 D+ hyperope can remove his when he goes out-of-doors, barring what of custom, disregard, and disuse habit may have established."

The boot-heel again. Now, if "the individual with healthy normal eyes" puts on such glasses as Dr. Blaise speaks of and "goes into the street," he will have vertigo, nausea, and be miserably sick in a few hours, if not sooner. If a man is farsighted and is perfectly fitted for reading with such glasses as Dr. Blaise speaks of, he can read with them with comfort and be comfortable without them while on the street or out-of-doors. In this I am with Hartridge. The focussing muscles of eyes with farsightedness of 3 D are stronger and need much more work than those of perfect eyes. If the focussing muscles do not get their right exercise they will become weak or will atrophy. I take it that the error, "3 D+ hyperope," is a typographical one; again, that the writer means + 3 D.S. lenses.

Dr. Blaise is evidently following the antiquated and erroneous tables in the standard text-books, and seems not to have studied recent tables. The old tables are founded on the teaching that a perfect eye needs, for reading, an active focussing power of 4.5 D. It needs 3 D., possibly less. (See *Ophthalmic Record*, February, 1900, page 89.)

The fundamental and misleading error which pervades Dr. Blaise's criticism is that his elementary facts are wrong and, since it concerns one of the most useful and beautiful of the eternal verities, space will not be wasted in clearing his mistake, which is, indeed, a widespread one. He confuses function with structure in comparing spectacles to a raised boot-heel. Now spectacles are not essentially a prosthetic appliance, except, perhaps, after cataract operations. They are more orthopædic than prosthetic, for glasses correct rather than substitute. Do they not compensate, correct, and strengthen weakness and deformity? Glasses add and exalt, project and extend, our greatest sense, are its chief auxiliary. The telephone and microphone are also sensory aids. The telescope and microscope are but other forms of spectacles. The comparison of spectacles to a lengthened boot-heel is decidedly *outré*; as well think a telescope is like a high stilt. Such conceptions of glasses robs refraction of both professional and scientific dignity, makes it now an art, shortly to become a handicraft. To fit glasses properly one should well know the relationships of the eye to the other parts of life and their habits in both disease and health. Lack of this is the organic failing of many modern specialists.

The eye is so lively, nervous, and sentient that it really is not comparable to any other function except itself or the mind. It and its sight are so complex and so closely related to and intimate with the brain and thought that it seems of them, so much so that deep meditation on the eye and its function becomes philosophic rather than scientific.

The best ophthalmology is yet to be achieved, lies before and not behind us, and slavishness to authority and the past will not bring it. Medical science needs workers who see and think for themselves, men with clear vision anticipating wisdom; those who know what to do and how to do it, rather than they who know what has been done and who did it. We must be whole-souled doubters, for many things which pass current are but falsehoods and counterfeits. We too readily believe authorities. Scientific thought should be used on all questions alike. This can be done only by those schooled in using thought in a scientific way. "Prove all things and hold fast that which is good."

NORBURNE B. JENKINS, M.D.

CHICAGO.

An African Remedy for Dysentery.—The Kafirs and Zulus make use of the root of the geranium, of which there is said to be a number of varieties, all, however, of equal therapeutic efficacy, in South Africa, in the treatment of dysentery. They simply chew the root, but the British army surgeons give it in the form of a decoction in milk. The remedy is reported by those who have employed it to be a real specific, no failure to cure within thirty-six or forty-eight hours being recorded.

Therapeutic Hints.

Epileptiform Convulsions due to auto-intoxication.—

℞ Ext. chirettæ ..... gr. ij.
Leptandrin ..... gr. ss.
Podophyllin ..... gr. ½.
Euonymin ..... gr. ss.
Creosote (beechwood) ..... gr. ss.
M. ft. pil. No. 1. S. One such after each meal.

—Hare.

Tooth Powder.—

℞ Pulverized cereal ..... 75 parts.
Sodium borate ..... 18 "
Potassium chlorate ..... 7 "
Saccharin ..... q.s.
Flavor to taste.

—Fletcher.

Emulsion of Castor Oil.—

℞ Ol. ricini ..... ℥ i.
Gum acaciæ ..... ℥ ss.
Elix. saccharin ..... ♏ xx.
Ol. amygdal ..... ♏ ij.
Ol. carui ..... ♏ ij.
Aq. destil ..... ad ℥ ij.
M. Dissolve the gum in water, add the oil gradually, and lastly the flavoring.

—*Medical Times and Hospital Gazette*, August 11, 1900.

Seminal Emissions without marked erection.—

℞ Strychninæ sulph ..... gr. i.
Ac. phosphorici dil ..... ℥ ij.
M. S. Gtt. xxv. in water after meals.

—B. K. Twitchell.

Smoker's Gingivitis.—

℞ Salol 1
Tinct. catechu 4
Spir. menth. pip. ..... ad 120
M. ft. lotio. S. Teaspoonful in half a glass of tepid water as mouth wash.

Hair Tonic.—

℞ Pilocarpin. hydrochlorat ..... gr. v.
Ott. rosæ ..... ♏ viij.
Ol. rosmarini ..... ʒ iv.
Lin. cantharidis ..... ʒ iv.
Glycerini puri ..... ℥ i.
Ol. amygdalæ dulc ..... ℥ iij.
Spir. camphoræ ..... ℥ iij.
M. S. Rub well in, morning and night.

—Whitla.

Phthisical Cough.—

℞ Codein ..... gr. iv.
Ac. hydrochl. dil ..... ℥ ss.
Spir. chloroformi ..... ʒ iss.
Syr. limonis ..... ℥ i.
Aquam ..... ad ℥ iv.
M. ft. emuls. S. Teaspoonful at frequent intervals.

—Murrell.

Amenorrhœa in debilitated and anæmic states.—

℞ Hydrarg. chl. corros.,
Sodii arsenit.,
Strych. sulphat. ..... āā gr. i.
Potass. carbonat.,
Ferri sulphat. ..... āā gr. xxx.
M. ft. pil. No. lx. S. One after each meal.

—Lutaud.

Tuberculous Laryngitis.—

℞ Menthol.,
Ether. sulphurici,
Ol. pini sylvestris,
Tinct. iodi ..... āā ℥ ij.
Tincture benzoini co ..... ad ℥ ij.
M. S. Ten drops on an oro-nasal inhaler, to be worn as much of the time as possible.

—W. Fowler.

Epistaxis.—Puff-ball applied freely.—Whitla.

Suprarenal extract capsule will probably be found useful. It lessens bleeding during nasal operations. Hot water (110° F.) is useful either injected or applied as a swab. Peroxide of hydrogen may be left in position on a swab for fifteen minutes. In hæmophilia give calcium chloride and in purpura turpentine.—William Lamb.

Urticaria.—

℞ Ethyl alcohol,
Sulphuric ether,
Chloroform ..... āā 30. gm.
Menthol ..... 0.10 cgm.
M. S. Apply as lotion.

—Gaucher.

Menthol Vinegar.—

℞ Menthol ..... 3 gm.
Acid. acetici (crystal) ..... 8 "
Spt. vini rect. (sixty per cent.) ..... 100 "
M. Dissolve the menthol in the alcohol and add the acid. S. Half a teaspoonful in a wineglass of tepid water as a mouth wash or gargle.

Carious Teeth.—

℞ Menthol ..... 2. gm.
Camphor ..... 1. "
Cocaine ..... 0.50 "
M. Triturate to liquefaction. S. Introduce into the cavity a pledget of cotton wet with the solution every half-hour till relief.

Antineuralgic Lotion.—

℞ Menthol ..... 1.50 gm.
Cocaine hydroch ..... 0.50 "
Chloral hydrat ..... 10. "

—Galezowski.

Caffeine Mixture.—

℞ Caffeinæ,
Sod. salicylat ..... āā 1. gm.
Spartein. sulphat ..... 0.40 "
Ammon. acetat ..... 1. "
Aquæ destil ..... 50. "
M. S. Teaspoonful undiluted or in a little spirits.

—Capitan.

Rebellious Intermittent Fever.—

℞ Quininæ sulphat ..... 4. gm.
Ferro-potass. tartrat ..... 10. "
Acid. arsenosi ..... 0.10 cgm.
Aquæ destil ..... 300. gm.
M. S. The day following the attack a dessertspoonful of this solution is given every hour, the following day every three hours, and so on.

—Baccelli.

Amenorrhœa.—

℞ Strychninæ sulphat ..... 0.12 cgm.
Acidi oxalici ..... 0.60 "
Ferri peptonat.,
Manganesii lactat. ..... āā 8. gm.
Ext. colocynth. comp ..... 2. "
M. ft. cachets No. 60. S. One after each meal.

—H. C. Bloom.

Delirium Tremens.—

℞ Methylal ..... 5 gm.
Aq. destil ..... 20 "
M. S. Inject a syringeful three or four times a day, subsequently twice daily for five or six days.

—Fischer.

Anæmia in Phthisis.—

℞ Sulphur. loti ..... 10 gm.
Sacch. lact ..... 20 "
M. S. A pinch at beginning of each meal.

℞ Pulv. digitalis fol.,
Ferri lactat ..... āā 2 gm.
Ext. gentian ..... q.s.
M. ft. pil. No. xxx. S. Two pills daily.

—Von Székely.

Blennorrhagic Dysuria.—

℞ Sod. salicylat ..... 10. gm.
Ext. bellad ..... 0.30 cgm.
Aquæ ..... 195. gm.
Tinct. aurant. cort. amar ..... 5. "
M. S. Dessertspoonful every two to three hours.

—E. Gerbert.

Migrating Erysipelas in a child aged four years was cured in three weeks by tepid baths (120° F.).—A. Halipré.

To Cause Sleep.—Inject per rectum:

℞ Chloralamid. . ..... gr. xlv.
Ac. hydrochl. dil..... gtt. ij.
Spt. vini rect..... gtt. xv.
Aquæ destil..... ʒ iij.

—*Agenda Therapeutica.*

Dysmenorrhœa.—

℞ Asafœtidæ..... gr. ij.
Ext. valerian..... gr. i.
Ext. cannabis ind..... gr. ¼
M. For one pill. S. One three times a day.

—Lyon.

Pruritus Ani.—Inject into the bowel for several days in succession from one to two and a half drachms of the following:

℞ Ext. hamamelidis fld..... ʒ i.
Ext. ergotæ fld..... ʒ ij.
Ext. hydrastis fld..... ʒ ij.
Tinct. benzoini co..... ʒ ij.
Olei carbolisat. (five per cent.) ..... ʒ i.
M. S. Shake well before using.

Nasal Spray in acute catarrhal conditions.—

℞ Ac. carbol..... gr. viiss.
Ichthyol..... ʒ i.
Spir. vini rect..... ʒ iiss.
Aq. destil.....ad ʒ iij.
M. S. Use two or three times a day.

In Stomach Washing.—

℞ Sodii biborat..... ʒ ij.
Ac. salic..... ʒ ss.
Ac. borici.....ad ʒ iv.
M. S. Add a dessertspoonful to a quart of warm water.

Anaphrodisiac in gonorrhœa.—

℞ Ext. ergotæ fld..... ♏ xv.
Tinct. gelsemii..... ♏ v.
Potass. bromidi..... gr. xx.
Tinct. hyoscyami..... ♏ xxx.
Syr. aurantii.....q.s. ad ʒ ss.
M. S. Shake and take a dose at bedtime.

—Lydston.

Rachitis.—

℞ Phosphori..... gr. 1/60.
Solve in ol. oliv..... ʒ iiss.
Pulv. gummi arab..... gr. lxxv.
Syr. simplicis..... ♏ lxxv.
Aq. destil..... ʒ iiss.
M. S. One teaspoonful daily.

—Stewart.

Emphysema.—

℞ Potass. iod..... 10
Aquæ destil..... 300
M. S. Teaspoonful at each meal for twenty days of each month.

℞ Sodii arsenitis..... 0.10
Aquæ destil..... 300.
M. S. Teaspoonful three times a day for the other ten days.

—*Journ. de Méd.*

Chronic Alcoholism.—

℞ Zinci oxidi..... ʒ i.
Piperinæ..... ℈ i.
M. ft. pil. No. xx. S. One three or four times a day.

—Chapman.

Acute Alcoholism.—

℞ Tinct. capsici,
Tinct. zingiberis.....āā ʒ i.
Tinct. valerian. ammon.,
Tinct. gentianæ co.....āā ʒ i.
M. S. Dessertspoonful in a cup of hot water three or more times a day.

—Gerhard.

Anaphrodisiac.—Lupulin in gram doses at bedtime. —*Medical Times and Hospital Gazette.*

Thinness.—Avoid condiments, acids, sour fruits, salads, cabbage, coffee, turnips, sour wines, hot drinks, tobacco; take fatty meats and fatty foods, the crust of bread, pastry, beans, peas, nuts, sugars, honey, water; reside in the country and secure rest of mind as well as of body; take Fowler's solution in gradually increasing dose up to twenty drops.—Le Roy.

Tuberculosis of the Kidneys.—

℞ Ichthyol.,
Aq. destil.....āā 20
M. S. Ten drops increased up to seventy, taken in water after eating, to be continued for a long period.

—Goldberg.

Adynamia from withdrawing alcohol in habitués.—

℞ Spir. ammon. aromat..... ʒ ss.
Strychninæ..... gr. 1/30
At dose. Repeat every hour.

—Tyson.

Uræmic Asthma.—Morphine hypodermatically.—Ringer.

Pelvic Neuralgias.—Salicin gr. v.–xv. three times a day in cachet or capsule after meals, followed by a glass of water.—*Journ. de méd. de Paris.*

Gout.—In addition to the regular diet one and one-half pound of cherries, one pound of strawberries, or two pounds of grapes. Quinic acid acts by diminishing uric acid.—J. Weiss.

Post-Syphilitic Tabes.—Electrization of the spine and medulla oblongata; cauterization of the spine with the Paquelin every tenth to fourteenth day. Strychnine pills, atropine and morphine for the lancinating pains.—Tschirieff.

Pneumonia complicating influenza.—In the congestive stage give quinine and mercury with chalk; also fluid extract of ergot in doses of ♏ xx.; in the exudative stage quinine, digitalis, tincture of iron, and dilute hydrochloric acid; give stimulants for asthenic symptoms.—Latchford.

Sciatica.—Apply each night along the painful areas strong hydrochloric acid by means of a glass rod; then, when dry, cotton and a loose bandage; omit if redness or irritation ensues.—Bayliss.

Whooping-Cough.—Spray the nasal mucous membrane with cocaine, and apply to the nose and nasopharynx a two- or four-per-cent. solution of nitrate of silver; wash with a mild alkaline and antiseptic spray. —H. Coggeshall.

Juvenile Obesity.—Thyroid extract gr. iiss. three times a day, gradually increased to gr. vi. four times daily, for a boy of eight years, weighing one hundred and thirty pounds.—J. A. Love.

Bronchial Adenopathy.—Each morning some sulphurated water with warm milk. Cod-liver oil; arsenate of sodium (gr. 1/61 – 1/32) with meals, followed in fifteen days by phosphates. Two or three drops of tincture of belladonna and the same amount of alcoholic extract of aconite root as a calmative.

Asthma.—For the threatening attack paint the nasal mucous membrane as far back as possible with cocaine solution (1 : 20). If the attack is at its height, inject half a syringeful of a one-per-cent. morphine solution. Should the attack persist, repeat this injection. The remedies for the diathesis are potassium iodide, belladonna, and arsenic.—Dieulafoy.

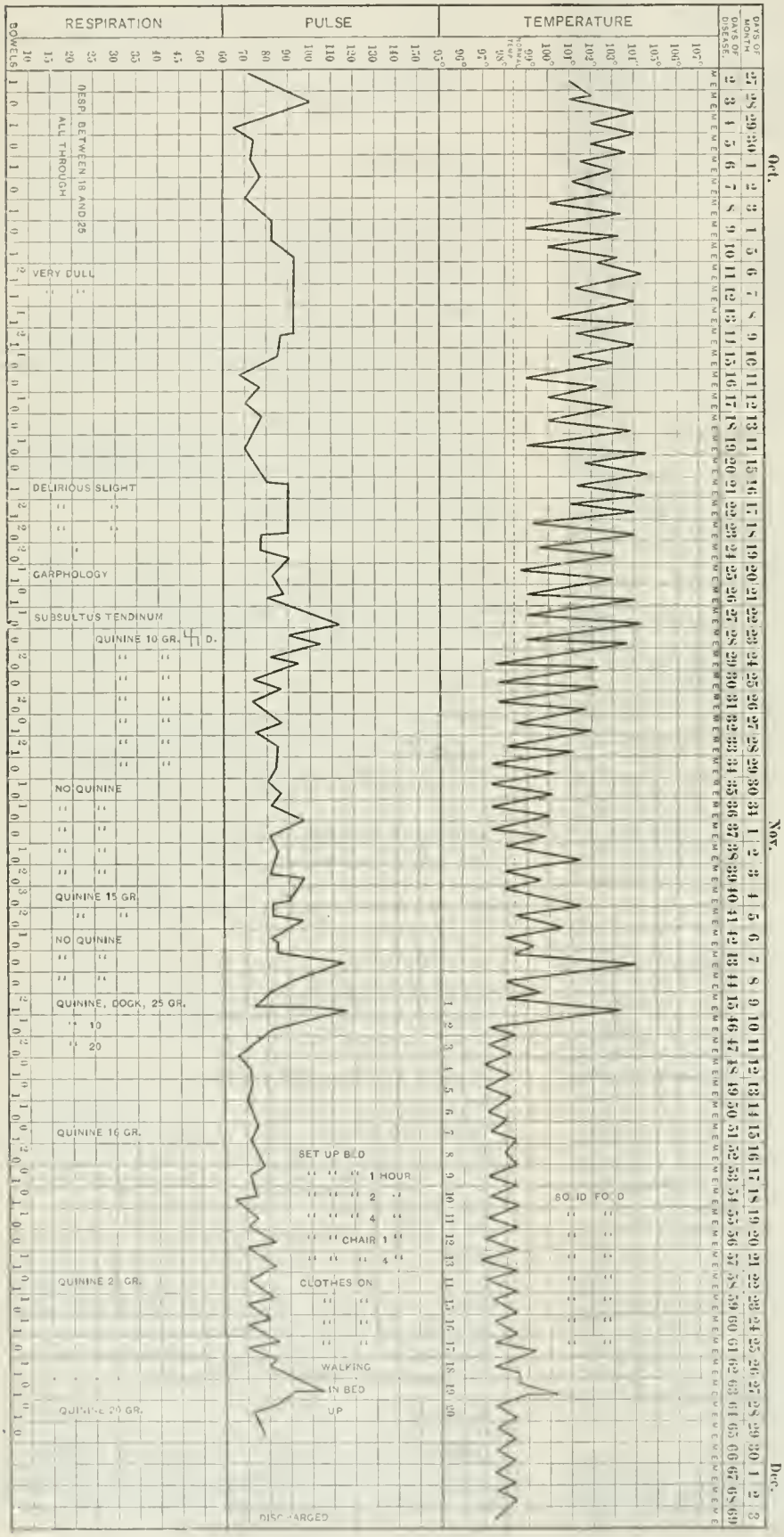
Mercolint is the name of the material recommended for shirts to be worn by anæmic or weakly subjects of syphilis, pregnant women, and infants who need a mercurial course. The cloth is impregnated with an ointment of ninety per cent. mercury, and each shirt contains from ten to fifty grains.—Blaschko.

Clinical Department.

MALARIA COEXISTING WITH TYPHOID FEVER.

By J. G. HANSON, M.D.,
NEW YORK.

THE coexistence of malarial and typhoid fever has been the subject of much discussion. W. G. Thompson, in 1893, writing of typho-malarial fever says: "The name typho-malarial fever must not imply a specific disease, but rather a combination or coexistence of two diseases, typhoid fever and malarial fever, in the same patient." While allowing that these diseases may coexist he further says: "To produce this fever there must be a double infection with the typhoid bacillus and the malarial plasmodium. Unfortunately, positive evidence that these two germs can coexist in the same individual has not yet been obtained, since the natural history of both germs has been studied for only a brief decade."



The following case, under my observation throughout its course, will be of interest in that it demonstrates positively the coexistence of malarial fever with typhoid fever, and bears evidence that the malarial element, while not wholly inactive during the period of typhoid infection, did not materially affect the course of the disease, but made itself more manifest during convalescence.

The patient, a male nurse, twenty-three years of age, of robust health and phlegmatic temperament, became ill during an epidemic of typhoid fever. He was the possessor of a fixed idea that if he should ever take to his bed because of sickness he would never recover, and he therefore carefully concealed his early symptoms. His dull and apathetic condition excited suspicion, and after much persuasion I succeeded in getting his temperature; it registered 102° F. He was taken off duty, but refused to go to bed. The following day, however, his temperature was 104 F., and he was forced to yield to treatment and obey the physician's orders. He presented the typical typhoid symptoms: the headache, pain in the lumbar region, the characteristic tongue, the mental hebetude, and later the low, muttering delirium and subsultus tendinum.

On the seventh day the

Widal reaction was present. The wide ranges of temperature in each twenty-four hours, noticeable throughout the disease, accompanied with sweating at fairly regular intervals, led to a belief that a malarial element might be present, though several careful blood examinations during the first three weeks failed to disclose the malarial organism. On the twenty-seventh day of the disease, however, the plasmodia malariæ of the tertian form were found in abundance. Up to this date the treatment had been as follows: sweeping out the intestinal tract with calomel and salines; salol in gr. viii. doses every four hours as an intestinal antiseptic; baths at 68° F., to reduce the temperature and strengthen the heart; and, for nourishment, liquid food every five hours.

On the day the malarial organisms were found, quinine in gr. x. doses was substituted for salol, and continued a week, then stopped. During the time it was given the temperature fell by lysis. Four days after quinine was discontinued the temperature went up to 101.4° F., falling, to rise on the second day following to 101.5° F., and on this day gr. xv. of quinine was given, and, as seen by the chart, the evening temperature fell, being nearly at normal on the forty-second day of the disease.

The next day (forty-third) the evening temperature registered 104° F., the patient having the chill, hot stage, and the sweating of malaria. An examination of the blood eight hours after the chill showed the malarial organisms in abundance.

In order better to observe the case, quinine was withheld, and after the usual interval in the tertian form of malaria, the temperature again went to 103° F. Quinine was then given after Dock's method, with most favorable results, the slight rise on the sixty-third day of the disease being due to indiscretion in diet. The patient was discharged as recovered sixty-nine days after admission.

Typhoid fever was the initial disease, and its symptoms predominated throughout its usual course, but with the period of defervescence we saw the malarial element, which had been masked, appearing in typical form; and while we are positive that it was present during the latter part of the attack, there is strong presumptive evidence that it developed early in the disease.

The accompanying chart gives the morning and evening temperatures, with the condition of the circulatory, respiratory, and intestinal apparatus during the course of the disease.

LARGE SUBDURAL ABSCESS AND ABSCESS OF THE BRAIN FOLLOWING A PENETRATING WOUND, WITH BUT SLIGHT PRESSURE SYMPTOMS.

By LOUIS J. MANDEL, M.D.,

BROOKLYN,

HOUSE SURGEON TO THE GERMAN HOSPITAL OF BROOKLYN.

C. B——, a male infant, was brought to the hospital on August 28th, by his mother, complaining of partial paralysis of the left arm, of irritability of temper, and of progressive loss of flesh and strength. There was a tumor mass, ovoid in shape and about the size of a robin's egg, on the right side of the skull, about one and one-half inches above the external auditory meatus, corresponding about to the anterior inferior angle of the parietal bone.

On questioning the mother, the following history was obtained: The family history was negative, both parents and other members of the immediate family being in good health; the patient was the youngest of a family of seven children. The child was bottle-fed, and his mother says he always had been in good health up to the time of the accident. About three and a half weeks before admission to the hospital the patient fell out of bed, striking the floor with considerable force, and landing head first upon a large wire nail, which entered his skull. The mother and the older sister of the child, attracted by its cries, rushed into the room, picked up the child, withdrew the nail, and carried the boy, who was bleeding quite freely, to the office of a neighboring physician. According to the mother's story, the physician made an examination of the child, assured her that the skull was not fractured, and that the injury was but a slight one. He then washed the wound and applied a piece of adhesive plaster, instructing her, she says, to return in the course of the week. She called again about a week later, and, after having again washed the child's scalp, the physician informed her that the wound was perfectly healed, and discharged the infant as cured.

The mother states that the child ever since the accident has progressively lost flesh and strength and grown more and more irritable. She, however, regarded these phenomena lightly, attributing them to the heat, and it was not until three days ago, when there simultaneously appeared the symptoms of a tumor on the right side of the head, of vomiting, and of paralysis of the left upper extremity, that she regarded the condition of the child as serious and consulted her regular medical attendant. After an examination of the child, the physician recommended operative interference as the only treatment for the relief of the symptoms. Three days after this consultation with her regular attendant the mother presented herself and child at the hospital.

The child was admitted to the children's ward of the hospital, and a physical examination showed the following: The general condition is poor, the patient is very much emaciated, the conjunctivæ and mucous membranes are pale, the patient vomits immediately after the ingestion of food, the bowels are constipated, and the child has an apathetic and stupid appearance.

Thorax: The ribs are prominent, the intercostal spaces deep, and palpation reveals a slightly developed rachitic rosary. The heart and lungs are normal; the pulse and respiration are regular, being respectively 125 and 25; the temperature is 100° F. The abdomen is prominent and distended, otherwise the examination of this part gives negative results. Extremities: The muscles are atrophied and flabby.

The head is normal in size; the anterior fontanelle is prominent and pulsating though of normal size. There is a tumor mass, ovoid in shape, about the size of a robin's egg, situated one and one-half inches above the external auditory meatus about at the anterior inferior angle of the parietal bone. The tumor is surrounded by an area of œdematous tissue one-half inch in width, and gives an impulse when the child cries, increasing at such times to one and a half times its normal size, the overlying skin becoming tense and shining. The tumor can readily be reduced into the cranial cavity, when there is felt a small, round hole in the bone, about three-eighths of an inch in diameter and occupying approximately the centre of the tumor mass. The skin overlying the tumor shows the scar of the former wound, which has an unhealthy appearance. The pupils are both dilated, the right more so than the left. The left pupil slowly reacts to light, the right does not. The left upper extremity is paralyzed and anæsthetic. There is, however, good function of the lower extremity on this side and only slight impairment of sensation of this limb and of the trunk on this side. There is no stiffness or rigidity of the muscles of the neck or back, and there is no hyperæsthesia. The skin is exceedingly hot and dry, and there is a marked difference in temperature between the paralyzed limb and its unaffected fellow.

Upon the history thus obtained and upon the findings of the physical examination, a diagnosis was made of primary compound depressed fracture of the skull, with subsequent necrosis of the depressed fragment, and abscess formation, this abscess being both intra- and extra-cranial, the two parts communicating with each other by means of the puncture wound in the bone; by its pressure upon the motor cortical area this abscess has caused paralysis of the opposite half of the body; the greatest amount of pressure was in that portion which controlled the motion of the upper extremity.

An unfavorable prognosis as to the success of operative interference in the present condition of the patient was given, but at the urgent request of the parents that the child be given this, its only chance of recovery, Dr. Weisbrod, one of the visiting surgeons, assisted by the house staff, trephined the infant's skull under chloroform narcosis. The skin flap was three-fourths of an inch in diameter, its base pointing downward and backward and its circumference encircling the base of the tumor. As soon as the flap was dissected back, pus in great quantity began to well out of the hole in the bone. A trephine one-half inch in diameter was set, and a button of bone was removed with great difficulty, the underlying thickened dura being a great deal more adherent than normally in a child of this age. The button of bone having been separated from the dura, the hole in the membrane was increased in size, and the pus, which was fairly thick and creamy, flowed freely, in all about fourteen ounces of pus being removed. The abscess cavity was drained with a strip of plain hemmed gauze, and the child was placed in bed on its right side so as to favor drainage.

On removal from the operating-room the child's temperature was 99.2° F.; pulse, 140; respiration, 24. The child had also regained complete control over the movements of the paralyzed limb and in every way seemed greatly improved, it being able to retain some liquid food which was fed to it in drachm doses; its pupils became regular and it seemed brighter and more cheerful. The wound was dressed fifteen hours after operation, the drain being removed, and six ounces of pus was drained from the cavity as the child was held on its right side.

The rally of the child was only transitory, for it soon began to grow worse again, refusing to take food; the palpebral fissures became widely dilated, marked nystagmus developed, and the child emitted sharp, short, penetrating shrieks. The respirations became irregular, the pulse rose rapidly, and the temperature was correspondingly high, these being just before death respectively 50, 180, and 106° F. The child died at 5 P.M. August 29th, twenty-two hours after the operation.

The autopsy disclosed the dura to be greatly thickened and the calvarium was removed with difficulty, efforts at separating the dura from the bone being futile, so that it had to be taken away with the skull cap. The brain thus exposed showed a large area of depression over the superior frontal and a portion of the anterior central convolutions, the area occupied by the subdural abscess. The brain tissue was greatly thinned and softened, and there was an abscess in the posterior portion of the superior frontal convolution which communicated with the lateral ventricle on the right side, which ventricle was greatly distended and filled with pus. Just anterior to this abscess there was a puncture wound made by the entrance of the nail into the skull.

From the above history, the results of the physical examination, and the disclosures of the autopsy, it is probable that early trephining and proper and careful treatment of the wound might have resulted in the recovery of the child; for, as was clearly brought out at the autopsy, the abscess in the brain did not communicate with the wound in its substance, nor did this wound communicate with the subdural abscess, from which it was walled off by stout adhesions.

The lesson of this case is that it is the duty of every practitioner to examine thoroughly under aseptic precautions every scalp wound and to satisfy himself beyond the shadow of a doubt that there is no fracture; or in case there is a fracture, he should see to it that it receives careful treatment at the hands of a surgeon.

A CASE OF PERVERSION OF SEXUAL INSTINCT.

By A. C. PANTON, M.D.,

PORTLAND, OREGON.

The following strange case presented itself lately in my service at Good Samaritan Hospital of this city: The patient was a farmer, aged sixty-eight years, family and personal history good. He was a soldier during the Civil War, and was married in 1865 to a woman who bore him four children. But love took wings when poverty entered the household, and the couple separated in 1883, the husband settling on a farm where he lived alone.

For four years nothing unusual took place in his life (so he says), but thirteen years ago, in order to gratify an abnormal sexual passion, he was prompted to perform a surgical operation upon himself. He thereupon sharpened his pocket-knife, and, with a slash, divided his scrotum into two lateral halves up to the penis. During his military career he had seen a surgeon sewing a wound, so, bearing in mind the method, he took a needle and common cotton thread, and with interrupted sutures united the divided skin of the front and back of the left half of his scrotum, and repeated the same operation on the right side, with the result that each testis now had a separate scrotal investment. He did not wash the wound, but "tied it up in the blood," and went on with his farming. Everything seems to have healed as kindly as if done under modern surgical asepsis.

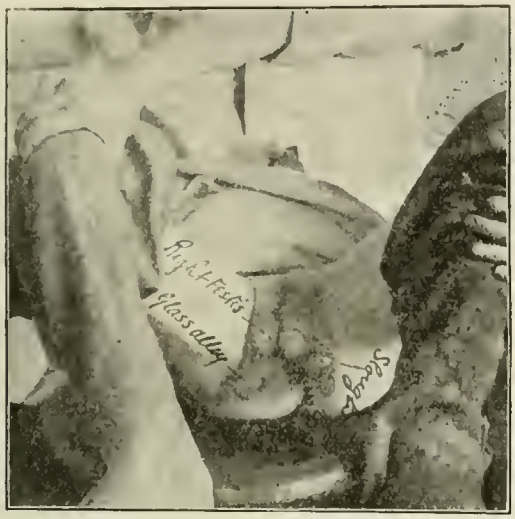
After this first experience, the knife with which this devotee sacrificed to Eros was in frequent requisition. As a rule, a small incision of one or other scrotum, or of the skin about the root of the penis, satisfied his cravings; but eight years ago he indulged in a startling and unique departure, in that he made a free incision into his right scrotum and inserted therein a glass marble or alley, about one inch in diameter, suturing the tissues over it. The operation was a success, the wound uniting firmly, but as time advanced, owing to its weight, this addition became pendulous, and, as seen in the accompanying illustration, hung from a pedicle about an inch in length. It seems, however, to have been quite satisfactory to its owner, who continued at intervals to incise himself, sometimes losing his self-control and cutting himself more freely than his cooler judgment would have approved. This last fact led to his coming under my notice. On July 20th last, he was brought to the hospital suffering from a severe wound of the left scrotum two inches long and two inches deep, upward toward the pubes, accompanied by such bleeding that he tied some cloths tightly about the mangled parts. But the scrotum became distended with blood, which again burst forth, and he removed his first bandage and applied tighter ones. This time the blood flowed no more, but his left scrotum became gangrenous.

When I first saw him his condition seemed rather desperate, as he was suffering from septic fever and the parts involved were in a foul and sloughing con-

dition. I had the wound dressed with hot boracic-acid solution, and put the man on supportive treatment.

It was with great difficulty that I obtained the preceding history. For some days he maintained that the hard mass, which turned out to be a marble, was a testicle that had been there all his life. But finally he confessed the truth, and stated that the pains which he had endured from these mutilations were enjoyable to him.

In a week the sloughs had separated and the swelling had subsided, and believing that it was not imperative



to make a supreme effort to save his left testis, I removed it, and also his glass alley, which was firmly encapsulated, and which being cut down upon was found to be a thing of beauty, with an elaborate spiral of red, green, and yellow colors in its interior.

It is remarkable that this humble operator with his dirty old jack-knife, dirty glass alley, etc., had such immunity from sepsis throughout a series of mutilations extending over a period of thirteen years.

Surgical Suggestions.

To Keep Cocaine.—

℞ Cocainæ hydrochl ..... gr. iv.
Acidi salicylici ..... gr. ss.
Aquæ destil ..... ʒ iij.
—*Journ. de Méd. de Paris.*

Vulvitis in Young Girls.—

℞ Salol ..... gr. ij.
Ol. theobr. ..... gr. xv.

To make a crayon 3 mm. in diameter. This is introduced without aid of speculum twice or three times a week till a cure results.—Comby.

Vulvitis.—

℞ Liq. plumbi subacet. ..... ʒ i.
Tinct. hyoscyami ..... ʒ ij.
Aquæ camphoræ ..... q.s. ad ℥ viij.
M. S. Apply.
—*Medical Standard.*

Rubber Gloves have in their favor the matter of convenience and the fact that they are more easily sterilized than the more absorbent skin of the hands. —E. Wormser.

To Sterilize Gloves.—Wash thoroughly with soda solution, inside and out, and hold for a minute or two over a gas flame or heater to dry. Dust the inside with sterilized soapstone; wrap each pair in a double layer of gauze. Lay on a towel and place in formic aldehyde sterilizer for two hours. Four or five sets may be prepared at a time. After putting on, dip in sublimate solution 1 : 1,000 for five minutes.—C. H. Richardson, in *Albany Medical Annals*, July, 1900.

Chilblains.—

℞ Spir. chloroformi ..... ʒ ij.
Lin. bellad. ..... ʒ ss.
Tinct. benzoini co. ..... ʒ ij.
Lin. saponis ..... ʒ iij.
M. S. Saturate a piece of sheet lint and apply.
—*Journ. A. M. A.*

Cholesteatoma.—

℞ Papain ..... ʒ i.
Ac. hydrochl. dil. ..... ♏ xv.
Aquam ..... ad ʒ i.
M. S. Instill into the ear and retain for at least half an hour.
—Yearsley.

Air Cauterization is the best treatment for inoperable nævi. The hot-air current should be passed over the tumor until incision shows the blood spaces to be empty and the part mummified.—Holländer.

Instruments after use should be cleaned with brush and sapolio, then boiled in plain or soda solution just before using. They should be kept under water to prevent exposure to the air.—C. H. Richardson.

Angina Epiglottidea Anterior is very often primary. Early scarification is advised, and iced ichthyol spray is of value in relieving the acute pain and reducing the inflammation. Steam inhalations are of service when iced sprays cannot be used.—C. F. Theisen.

The Gall Bladder is very tolerant of surgical manipulation. Over ninety per cent. of primary cancer of the organ is due to gall stones. Early operation reduces the mortality.—Roheson and Kehr.

Mortality of the wounded is greatly lessened by the modern small-calibre, small-arm projectile which now produces ninety per cent. of battle-field injuries.—Borden.

Aneurism of the entire right subclavian, of egg size, was cured by ligation of the axillary under the clavicle and of the common carotid close to the innominate trunk.

Lingual Tonsillar Abscess is a condition of extreme discomfort simulating œdema of the glottis. The swelling is at first hard, then fluctuating. Incision gives relief even when pus is not reached.—Frothingham.

Femoral Fracture in an infant was treated by flexing the limb on the abdomen, the foot being over the shoulder and retained by bandages. A loop of bandage was carried around the ankle and fastened to the rail of the cot. A good result followed.—J. D. Rice.

Cancer of the Vagina.—Pryor's radical operation has a surgical basis in the following principles: (*a*) The preliminary and preventive hæmostasis renders the field of operation comparatively dry, and there is less danger of transplantation of cancer-cells during the subsequent manipulations; (*b*) avoidance of injury to the cancerous field until hæmostasis is secured and the cancer charred; (*c*) there is removal of all organs in which recurrence is apt to take place from above downward; (*d*) establishment of an artificial anus near the normal site.—B. F. Kingsley.

The Technique of Lumbar Puncture.—The location for entering should fulfil three requirements: (1)

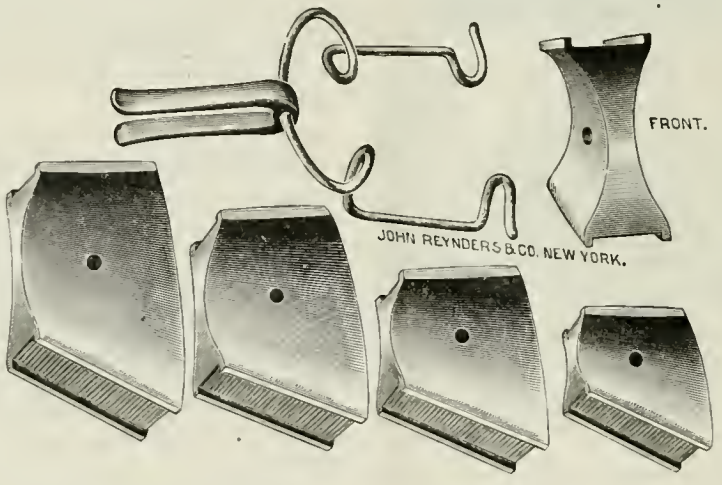
where the needle could find a ready entrance; (2) the tip should point in such a way as least likely to produce damage; (3) the fluid obtained should be rich in sediment. Any one of the three lower lumbar spaces should be chosen. At the lumbo-sacral space the fluid should be richer in sediment. The patient should assume the sitting position, but in the delirious, or comatose, there is greater difficulty in operating in this position. The upright position is generally confined to small children. An essential point to remember is that the greatest degree of flexion should be maintained; if the child is sitting it should be bent well forward; the operator should stand on the right side of the patient and bend over the body.—L. A. Connor.

New Instruments.

DESCRIPTION OF NEW INSTRUMENTS: (1) LIP RETRACTOR; (2) INTERDENTAL MOUTH PROPS.

By S. ORMOND GOLDAN, M.D.,
NEW YORK.

The lip retractor was devised to overcome a mechanical obstruction to breathing not infrequently met with when administering anæsthetics to old patients. This is due to atrophy of the alveoli and atony of the muscles about the cheek and lips. These subjects, in expiration, balloon the cheeks and lips, but do not effectually separate them; during inspiration the lips are drawn together, valve-like, without air entering the oral cavity.



The retractor is of two sizes and made of light-weight rigid wire, twisted into supports for the upper and lower lips and a lateral support united at the centre, which fits the cheek externally and internally at the angle of the lips, and permits the retractor to remain in place during the entire narcosis. Breathing is unimpaired, and the anæsthetic may be administered without any interference with the close adaptation of the face-piece of the inhaler.

Mouth Props. Certain types of patients develop during the administration of anæsthetics a respiratory obstruction due to abnormally small air passages, not discoverable before the administration of the anæsthetic. This is also frequently met with in mouth breathers. When ordinarily the patient is subjected to the mouth gag and barbarous tongue forceps, this is entirely avoided by slight separation of the lower jaws and the insertion of one of the smaller props; breathing continues uninterruptedly throughout the anæsthesia, the prop remaining in place.

The larger sizes for adults, and the smaller ones for children, are particularly useful in dental and oral operations. The props are made of four sizes, either hard-rubber or metal, and are so designed that a rubber band encircles the prop, making a rubber cushion over the serrated surfaces, upon which the teeth rest. The upper surface is horizontal, the lower oblique, conforming perfectly with the lower jaw when it is depressed. The narrowest vertical surface is introduced first and as far back as possible, with the oblique surface inferior. The props are united in pairs by narrow tape knotted on the opposite side of the perforation through the centre.

225 West Forty-fifth Street.

Medical Items.

School of Tropical Diseases for Germany. — A school of tropical diseases similar to those already in existence in London and Liverpool is about to be opened at Hamburg. Dr. Nocht, the port medical officer of Hamburg, has been visiting the English schools for the purpose of studying the work in each establishment, since the Hamburg school will work in co-operation with the two English schools. Dr. Nocht has had an interview with Mr. Chamberlain, the English colonial secretary, who is intensely interested in the subject. It is contended that once malaria is suppressed in West Africa the country will become a second India.

Mortality of Typhoid Fever in South Africa.— There has been much futile discussion, says *The London Practitioner*, as to the mortality of typhoid fever in South Africa, and statistics have been compiled from all available sources to show, according to the controversialist's point of view, that the death rate in Lord Roberts' army has been normal or that it has been excessive. Military statistics are to be distrusted in the matter of typhoid fever. The twenty-one per cent. of deaths admitted by Lord Roberts will doubtless, when the official report of the war comes to be written, be reduced to an infinitesimal fraction by dilution *secundum artem* with cases of "continued fever." Already the employment of his process has been foreshadowed by Bennett Burleigh in his account of an interview with Lord Roberts published in *The Daily Telegraph* of July 2d.

Poisons and Poisoners.—Italy was the sapient nurse of the finer arts of the poisoner. In the fifteenth, sixteenth, and seventeenth centuries professional poisoners were common in Italy and found a large sphere of practice. Poison was recognized by churchmen as a means of preferment, by statesmen as a useful political instrument, and even by governments as an engine of diplomacy. Poison was, in fact, the common means of getting rid not only of a dangerous enemy and an inconvenient rival, but of a troublesome husband or a wealthy relative who lagged too long "superfluous on the stage of life." The character of the Italan mind made it prefer the subtle instrument of poison to the grosser methods of murder practised by more barbarous races. It is largely its historical association with poison that gives the name of Borgia its sinister celebrity. In this particular respect more has been laid to the charge of the members of that unscrupulous family than the evidence fully justifies; nevertheless,

on ne prête qu'aux riches. But the poisoned gloves and flowers, which are said to have been instruments of death in their hands, are almost certainly mythical. Such legends, however, show the fear which the black art of the poisoner had bred in the public mind. The toxic agent chiefly used by professional poisoners in antiquity and in the Middle Ages was arsenic. This remained the poison most in favor up to the present century. The famous "aqua tofana" was a solution of arsenious acid in distilled cymbalaria water, to which was added some alcoholic preparation of cantharides. Arsenic from the poisoner's point of view has the advantage that the symptoms produced by it when skilfully administered are not very characteristic, and may easily simulate natural illness. Examples of this have been afforded by the history of several celebrated criminals of modern times. It was the poison most used by Madame de Brinvilliers, who said of it, "*Il n'en faut pas donner trop à la fois afin que l'on ne s'aperçoit pas, et que cela fût trop precipité.*" Being tasteless it was easily given in food and drink. But when the fear of poison got hold of men's minds this simple plan was difficult to carry out. Recourse was then had to such devices as poisoned shirts, slippers, gloves, etc., or the inside of the cup itself was coated with poison.—*Practitioner.*

The Antarctic Regions.—Dr. Frederick Cook, of Brooklyn, who has the unique distinction of being the only man who has been in both the Arctic and Antarctic regions, has just published a book relating his experiences. Dr. Cook was the surgeon and anthropologist of the Belgian Antarctic expedition which passed the season of 1898–99 in South-polar waters. The *Belgica*, the name of the ship in which he sailed, spent thirteen months frozen in the pack. *The Sun*, commenting on Dr. Cook's book, says: "The effects of the Antarctic night upon the health of the men were serious. They suffered from anæmia in a more severe form than Dr. Cook met in his Arctic experiences, or than is recorded in the literature of polar exploration. Of the eighteen men on shipboard one officer died and another barely escaped death. The men became pale, the heart action grew feeble, and the stomach and other organs were sluggish and refused to work. There was difficulty of respiration if the slightest exercise was taken. All these unfavorable conditions disappeared when the summer day fairly returned."

A Case of Mould Infection in Man.—Ophüls and Moffitt describe a mould parasite from the case of a farm laborer who died after an illness characterized by pleuritis and inflammatory swelling of the joints, with high temperature, cough, slight rigors, and profuse sweating. In the pus of various abscesses which were found after death, a number of protozoon-like bodies were identified which appeared to correspond with the description given by others of a species of sporozoon coccidioides immitis pyogenes. From pus containing these bodies, however, a mould parasite developed on artificial media after forty-eight hours' incubation. After three subcultures had been carried out, a rabbit was inoculated with the mould. The rabbit was killed three weeks after the inoculation, and a number of small white nodules were found in the lungs and kidneys. No mould mycelium was present in the nodules, but there were a number of the protozoon-like bodies which had been found in the original pus. The authors conclude, therefore, that these bodies are not protozoa at all but represent a stage in fructification of the mould parasite.—*Public Health.*

Railway Accidents.—According to the report of the Interstate Commission, the total number of casualties to persons on account of railway accidents during the year ending June 30, 1899, was 51,743. The aggregate number of persons killed as a result of railway accidents during the year was 7,123, and the number injured was 44,620. Of railway employees 2,210 were killed and 34,923 were injured in the course of the year. The number of passengers killed in the same period was 239, and the number injured was 3,442. Corresponding figures for the previous year were 221 killed and 2,945 injured. The total number of persons other than employees and passengers killed was 4,674; injured, 6,255. The total number of persons killed at highway crossings was 693; injured, 1,125. The number of persons killed at stations was 443; injured, 3,306. The summaries containing the ratio of casualties show that 1 out of every 420 employees was killed and 1 out of every 27 employees was injured. One passenger was killed for every 2,189,023 carried and 1 injured for every 151,998 carried.

Gender of Automobile.—The question of the gender of the word "automobile" has just come up for adjudication by the French Academy, and the "Immortals" have decided to make it masculine. Many French purists disagree with the Academy. Still it seems eminently proper to make the rattling combination of iron and fire or electricity masculine.—*Scientific American.*

A Tax for the Benefit of the Tuberculous.—The Paris correspondent of *The Lancet* says that at the Congress of Hygiene Dr. Phicque, physician in charge of the sanatorium in Agincourt, proposed the establishment of an additional tax upon alcohol, of which the profits should be applied to the expenses of the fight against tuberculosis. An additional penny (*décime*) to the present tax of 156 francs per hectolitre would bring in 25,000,000 francs per annum. The French duties were at present much lower than the American, 245 francs; the Dutch 252 francs, and, above all, the British 477 francs per hectolitre. The creation of the "tubercle duty" upon alcohol would, according to Dr. Phicque, be perfectly justifiable, for alcoholism is the principal cause of pulmonary phthisis. With the 25,000,000 francs which the duty would bring in, sanatoria could be built, and all the expenses, which are very high, of disinfecting unwholesome houses could be defrayed.

Physique of Chinese. — Commander Webster, U.S.N., says that in physical appearance the natives of China vary widely from extreme north to south. While our experience in the United States leads us to think that the race is small and undersized, a brief residence in the northern provinces of the empire will go far to dispel this impression. At Chefu, Taku, and Tien-Tsin one is struck by the stalwart appearance and height of the natives. At the first-named port large numbers of the men are six-footers, and among the boatmen of Chefu it is no uncommon thing to see a native over six feet in height weighing nearly or quite two hundred pounds. In the South, however, the average is more nearly accordant with the specimens we encounter as laundrymen, gardeners, and coolies generally in the United States. The cue or pigtail by which Chinamen have become so well known is the visible mark imposed by their Manchurian conquerors in 1644. Notwithstanding the length of years since the imposition of this mark of subjection, there are large numbers who resent the cue.—*Scientific American.*

The Antagonism of Diseases.—According to Hahnemann, his colleagues, when they happened to cure a patient, did so by introducing another and antagonistic disease—that is, by allopathy. This is now what is definitely aimed at in many cases, and it is interesting

to find that it was also definitely aimed at by our remote predecessors. Rufus of Ephesus, for example, a contemporary of Galen, has a chapter on the antagonism of diseases which is preserved in Oribasius, and which may be condensed as follows: "Fevers are catarrhs and spasmodic affections, and burn up morbid humors. Certain Africans use the goat's urine to provoke fevers, as did also the Greek physician, Evenor. Quartan ague will cure epilepsy and asthma, also obstinate leprous eruptions and fevers, which last also cure it. Chronic dysentery will cure epilepsy and vertigo. Hemorrhoids are good for melancholia and mania, epilepsy and vertigo, and protect against pleurisy, pneumonia, and acute fevers. Varicose veins act similarly, but less strongly. Therefore the cure of either piles or varix is not always safe." There may be some truth in the above, though we should now reduce the list, and it omits a notable case of supposed antagonism, viz., that between phthisis and mitral disease or emphysema. This was discovered at the Naples Congress on Tuberculosis by Drs. Fazio and Stefanile, who collected twenty cases of aortic and fifty-nine of mitral disease, only two of which were tuberculous, and thirty-five patients with emphysema, one of whom only was phthisical. They conclude that the antagonism of the two latter diseases to phthisis merits further consideration.—*Medical Magazine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 8, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Nome	August 11th	6	
Louisiana, New Orleans	August 26th to September 1st	4	1
Minnesota, Minneapolis	August 18th to 25th	2	
Winona	August 21st to 28th	2	
Ohio, Cleveland	August 26th to September 1st	9	
Portsmouth	August 26th to September 1st	3	
Utah, Salt Lake City	August 19th to September 1st	4	
Smallpox—Foreign.			
Austria, Prague	August 11th to 18th	1	
Brazil, Pernambuco	July 1st to 15th	..	1
England, Liverpool	August 11th to 18th	2	
France, Paris	August 5th to 18th	..	5
Gibraltar	August 12th to 19th	1	
India, Calcutta	July 28th to August 4th	..	10
Madras	July 28th to August 3d	..	2
Japan, Formosa	June 1st to 30th	39	3
Mexico, City of Mexico	August 19th to 26th	8	1
Vera Cruz	August 19th to September 1st	..	2
Russia, Moscow	August 5th to 11th	4	
Odessa	August 11th to 18th	8	5
Warsaw	August 4th to 11th	..	6
Scotland, Dundee	August 19th to 25th	1	
Glasgow	August 17th to 24th	28	
Spain, Corunna	August 11th to 18th	..	1
Madrid	July 28th to August 11th	..	63
Yellow Fever.			
Colombia, Bocas del Toro	September 1st	1	
Cartagena	August 3d to 17th	3	3
Panama	August 20th to 27th	3	1
Cuba, Batabano	August 18th to 25th	..	1
Havana	August 15th to 20th	..	9
Mexico, City of Mexico	August 19th to 26th	..	1
Vera Cruz	August 19th to September 1st	..	23
West Africa, Dakar	August 15th	14	
St. Louis	August 15th	24	2
Cholera.			
India, Calcutta	July 28th to August 4th	..	18
Madras	July 27th to August 3d	..	13
Japan, Yokohama	July 28th to August 4th	1	
Plague.			
China, Amoy	July 7th to 28th	..	1,150
Hong-Kong	July 14th to 28th	..	78
India, Calcutta	July 28th to August 4th	..	41
Japan, Formosa	June 1st to July 26th	167	135
Philippines, Manila	July 10th to 17th	..	1
Straits Settlements, Singapore	July 14th to 21st	..	1

The Air of Rooms.—Mr. Francis Jones, F.C.S., of the Manchester grammar school, England, has completed a most useful piece of research work on the effects of various methods of lighting and heating on the air of rooms. One of his principal results is that gas, either as a heating or lighting agent, should be used as little as possible if the air of the room is to be kept pure. Taking as the standard of purity an atmosphere containing not more than thirteen parts of carbonic acid in 10,000, the only combination for lighting and heating an ordinary room on an average winter day was found to be that of a coal fire and electric light. This did not raise the carbonic acid to more than 12 parts, whereas a coal-fire with gas speedily ran up the average to 27 parts. A gas cooking-stove, even though provided with a flue leading into the chimney, increased the carbonic acid up to 40 parts per 1,000, and while the burners on the top were in use up to 84 parts. What must the condition of the atmosphere be when, as is often the case, there is no flue? The humidity of the air is also reduced by gas fires. One noticeable point in the pamphlet deserves the attention of those who in carrying out the ordinary quantitative examination for carbonic acid take the most elaborate precautions against possible errors in experiment. Mr. Jones declares that he never quite succeeded in obtaining air free from moisture and carbon dioxide.—*Medical Magazine.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

International Clinics. By Henry W. Cattell, M.D. Vol. II. 8vo, 295 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

Braithwaite's Retrospect of Medicine. Vol. CXXI. 12mo, 447 pages. Illustrated. Simpson & Co., London.

The Kansas University Quarterly. Vol. IX. 8vo, 100 pages. Illustrated. Published by the University, Lawrence, Kan. Price, 50 cents.

Annual Report of the Health of the Imperial Navy for 1897. 8vo, 126 pages. Tōkyō, 1898.

The Medical Directory of New York, New Jersey, and Connecticut. New York State Medical Association, Vol. II. 12mo, 894 pages.

Practical Urinalysis and Urinary Diagnosis. By Charles W. Purdy. 8vo, 392 pages. Illustrated. F. A. Davis Company, New York.

Medical Diseases of Infancy and Childhood. By Dawson Williams, M.D. 8vo, 542 pages. Lea Brothers & Co., Philadelphia.

A Manual of Pathology. By W. M. Late Coplin, M.D. 8vo, 846 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

Transactions of the Southern Surgical and Gynæcological Association. 8vo, 394 pages. Illustrated.

Medical Diagnosis with Special Reference to Practical Medicine. By J. M. Da Costa, M.D. 8vo, 966 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

The Water Supply of the City of New York. By the Merchants' Association of New York. 8vo, 627 pages.

The Law in its Relation to Physicians. By Arthur N. Taylor. 12mo, 550 pages. D. Appleton & Co., New York.

Air, Water, and Food, from a Sanitary Standpoint. By Ellen H. Richards and A. G. Woodman. 8vo, 226 pages. Illustrated. John Wiley & Sons, New York.

Mortality Records of the Mutual Life Insurance Company. By Elias J. Marsh and Granville M. White, M.D. 4to, 245 pages.

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Original Articles.

THE PHELPS OPERATION FOR HERNIA AND METHOD OF CLOSURE OF ABDOMINAL WOUNDS.[1]

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IN 1892 I became thoroughly convinced that the reason why relapses occurred after operation for hernia, and why hernias so frequently followed abdominal operations, was because the scar tissue stretched after the operation. I was perfectly familiar with the fact that the profession had for more than a hundred years used silver wire in various surgical operations; that it had been used for wiring fractures, and had been introduced to the profession by J. Marion Sims more than forty years ago in gynæcological work, and by other operators. I also became convinced from my clinical observations that the reason why silver wire used by the method taught by the great masters frequently gave disturbances requiring its subsequent removal, was because it was improperly used.

These two propositions forced themselves upon my mind, and led to a very careful investigation, the results of which started important experimental work in the New York City Hospital in 1892 and 1893. The results of that work in hernia were reported to the New York Academy of Medicine in April, 1894, and published in the *New York State Medical Journal* in September of the same year. Subsequent to these dates, I have repeatedly offered to this same medical body, and also to the New York State Medical Society, communications upon the subject.

Since 1892, I have operated upon two hundred and sixteen cases of hernia; forty-six were relapsed Bassinis, and fifty-one from other operations, chiefly that of McBurney, and all abdominal wounds I have closed with silver wire, and fortified after a method which is original so far as I know, after looking up the literature upon the subject.

It is a well-known clinical fact that scar tissue will stretch, and it is immaterial whether the wound unites by primary union or not; a certain amount of scar tissue must be the result, and the stretching of this leads to the hernias following abdominal work. To obviate this, I introduce a continued suture of fine silver wire which becomes encysted, and remains so during the natural life of the patient. In extremely thin abdominal walls, in addition to this, a mattress of loops of silver wire is introduced over the transversalis fascia, and underneath all of the muscular coats of the abdominal walls. This wire becomes encysted in the granulation tissue, preventing subsequent stretching. So far as I know, silver wire has always been introduced into tissues as an interrupted suture, the fear being that it might cause disturbances and could be easily removed. If this wire is sewn into the tissue with continued suture, it always becomes encysted and causes no disturbance whatever.

Now, in hernia operations, I take advantage of this idea, and fortify the inguinal canal with a mattress of wire, stitching the muscular layers over it, entirely obliterating the inguinal canal, bringing the cord out underneath the skin, and cutting the aponeurosis of the muscles so as to prevent strangulation of the cord.

FIG. 1.—Mouth of the Sac after it has been Cut Away. A continued suture of wire closes it precisely as is done in any laparotomy. The cord is retracted with gauze.

Relapses in oblique hernia take place at the internal abdominal ring, or, in other forms of hernia, at the external. One of the very serious mistakes made by all operators is the ligation of the sac. Frequently—and I have observed it post mortem—after a ligation of the sac, retraction takes place of the peritoneum and transversalis fascia, leaving a large surface, varying from three-fourths of an inch to two inches in diameter, which is not covered by the fibrous tissue and natural support of the abdominal walls. Then, to obviate this accident, I cut off the sac and retract it from the operation precisely as I would from any other abdominal operation, stitching up the peritoneum and transversalis fascia with a continued suture of silver wire, as seen in Figs. 1, 2, 3, and 4. Over the transversalis fascia and peritoneum a mattress of fine silver wire is placed (Fig. 2), and the deep layer of muscles stitched over it with continued suture of silver wire. A small glass drainage tube is inserted down to the wire mattress for the purpose of drainage. If a large hernial opening is to be stopped,

[1] Read before the Surgical Section of the Thirteenth International Congress at Paris, August, 1900.

and there is very much attenuation of the muscular coats of the abdominal walls, a second mattress of wire is placed between the layers of muscles and a

Fig. 2.—Shows the stitching together of the deep layer of muscles from the spine of the pubis to one inch beyond the internal abdominal ring. The mattress of silver wire, the finest made, is looped or knotted and finally matted together and placed over the transversalis fascia, covering the entire inguinal canal to one inch external to the internal abdominal ring. It can be seen in the figure partially covered by the muscles which are being stitched over it. The cord is retracted with gauze. This is the second step of the operation.

superficial layer of muscles, together with the aponeurosis stitched over it (Fig. 2). The cord is brought out from the inguinal canal externally and inferior to the internal abdominal ring. A notch made by cutting with scissors in the aponeurosis of the muscles prevents strangulation, and the cord lies directly under the skin in its course to the scrotum (Fig. 3).

My paper, presented to the New York Academy of Medicine in 1894, giving the results of my work from 1892, was a preliminary one. Before taking up all of the steps herein enumerated, and a great many others which experience has demonstrated to me are entirely useless, for the reason that I did not wish to present to the profession an incomplete method of operating on hernias, I have deferred presenting anything on this subject until more mature observation and experience in hundreds of cases might verify any statement which I might make.

I am now prepared to urge the profession to adopt the operation which I here present for hernia in any form, and for the purpose of preventing relapses in any abdominal operation of any name or nature. The operations upon the relapsed Bassinis which I have performed are of very great interest, or should be, to the profession. The primary operations had been performed in our best hospitals, and also in private practice, by the best surgeons that the United States of America can furnish, and I predict that the day is not far distant when Bassini's operation, and all others except the one that I here propose, will be abandoned by every operator.

It is very important to the surgeon in private practice to know that he can state truthfully to his patient that he can operate, and guarantee that there will not be a relapse. The operation which I here propose places the surgeon exactly in that position. I know of no other operation for hernia that safeguards the operator against the possibilities of relapse. There is no more danger from the operation than from any other. There is no danger from any irritation of the wire. The mortality in my series of cases is *nil*, and the possibilities of relapse are nothing. For these reasons, if for no other, the method should commend itself to every operator. The method has been accepted by Professor Schede, of Bonn, Germany, and by other distinguished surgeons of that country. It has been accepted by many of the leading surgeons of the United States. And, speaking personally, I cannot too strongly urge the profession to adopt this procedure in preference to all others.

In my original article, I devoted much space to the treatment of the sac, believing this was one of the fertile sources of relapse in hernia, but I am now fully convinced that the sac should be dealt with by radical methods, and a hernia operation should be converted into a small laparotomy to secure the best possible chances of success. As a matter of fact, when we examine into the etiology of oblique inguinal hernia, we must become thoroughly convinced from the time of the descent of the testicle behind the kidney during fœtal life to its future repository in the scrotum, that, to a certain extent, the abdominal walls in this part of the anatomy must necesarily be weakened.

And then again, the distention which follows hernia still further absorbs the muscular and fibrous tissue, resulting in a great loss of substance. And the only way to secure a strong resisting point at this weakened portion of the abdominal walls is by reproducing a large amount of inflammatory material, and preventing its stretching by a material that will not absorb, and so elastic that it will bend with every motion of the body.

Silver wire answers this purpose. The use of catgut, silkworm gut, kangaroo tendon, or any other ma-

Fig. 3.—Superficial Layer of Muscles and Aponeurosis Stitched with a continued Suture of Wire. The cord is retracted and the aponeurosis notched.

terial which will be absorbed, defeats the very object at which we aim. The use of silk is positively contraindicated, on account of the dangers of infection. Silver wire, taken from pure carbolic acid, heated to a red heat with an alcohol lamp before its introduction into the wound, furnishes us a material which is thoroughly sterilized and cannot possibly produce irritation, and all the dangers of infection are avoided.

In two hundred and sixteen operations, I have had infection at the seat of the wire mattress sixteen times.

The question naturally arises in the mind of the operator: "What will you do when infection takes place in this mattress of wire? Will you remove it?"

FIG. 4.—Shows the wound closed finally with a continuous suture of catgut which includes only the skin

Most certainly not. Lay the wound open with a fine curette, curette out all of the infected portion, and fill the wound with pure carbolic acid, afterward wash it out with alcohol, which is a perfect antidote to the corrosive effects of carbolic acid, and allow the wound to heal by granulation. In every one of the cases so treated, not one single case has relapsed, and that portion of the abdominal walls is the strongest part.

Cases with sinuses have been discharged from the City Hospital by the incoming staff before the sinuses were closed. Such sinuses should have been opened and treated before they left the hospital. When the patients were admitted to other hospitals the surgeon

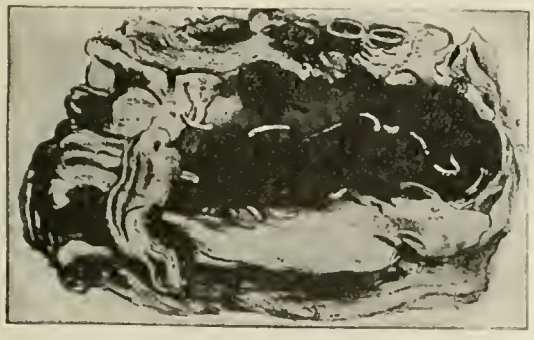

FIG. 5 is the entire inguinal canal removed from a patient who died two and one-half years after the operation for hernia, from a hysterectomy. It shows the wire perfectly encysted and the mass of new tissue held together with the wire, which prevented stretching. The inguinal canal was completely obliterated and was the thickest and strongest part of the abdominal walls. No inconvenience was ever felt from the wire by the patient.

has removed the wire instead of following the plan which I always resort to, mentioned above—leaving the wire in. The results in the infected cases are equally as good as in the non-infected.

Another application of this method of using silver wire is in large cranial wounds with much loss of bony structure, and also in the restoration of ruptured and lacerated muscles. The opening in the skull I close by stitching across it fine wire, including the aponeurosis and periosteum on the other side of the wound. The stitching in the second row is at right angles to the first across the wound; this forms a network which prevents the cicatricial tissue from contracting and making pressure upon the brain. This method also prevents hernia cerebri. In rupture of muscles or in loss of muscular tissue from injury, I stitch the muscle together with a continued suture, and when there is loss of muscular substance the wire is stretched across from end to end of the muscle, care being taken that the wire shall be in the centre of the muscle with no ends projecting when reproduction has taken place. Such muscles are as strong after reproduction as before the injury, and the scar tissue between the end of ruptured muscles—for instance, the quadriceps extensor femoris or the biceps flexor cubiti—will not stretch because the encysted wire will prevent it. There are many other instances in which wire can be used in our surgical procedures, and when introduced as I have already suggested it will never occasion disturbance. Suppuration is never produced by the wire unless the germs of infection are introduced with it; then when suppuration does occur it is always an accident which might have been avoided.

TO WHAT EXTENT DOES "RHEUMATIC AND GOUTY DIATHESIS" ENTER INTO TRAUMATIC JOINTS (SPRAINS AND BRUISES), SEPTIC AND GONORRHŒAL JOINTS, ACUTE ARTICULAR RHEUMATISM, NEUROPATHIC JOINTS, ARTHRITIS DEFORMANS (OSTEOID, RHEUMATOID), AS AN ETIOLOGICAL FACTOR? WHAT IS THE SCIENTIFIC BASIS FOR SUCH A TERM?[1]

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OF the six subdivisions propounded for discussion under the common subject, "Diseases of the Joints Often Diagnosed as Rheumatic or Complicated with Rheumatism," the one given above was assigned to me by your committee. The question is composed of two distinct parts, the last of which calls for elucidation before the first can be logically considered.

Taking up first the question as to the scientific basis of the two terms "rheumatic" and "gouty diathesis" before we can decide their true position in connection with scientific medicine, we are at once forced to analyze the origin and literal meaning of these terms in the light of our present chemico-physiological and pathological knowledge. Take, for instance, the term "diathesis"; what is its true significance in relation to the chemistry of the human economy? For years the term "diathesis" has been used to indicate that something has been handed down from generation to generation, but what that something is has never been made clear to the science of medicine. Taking the literal meaning of the word diathesis from its Greek origin and applying it to the chemistry of the body, it must indicate simply and only that there is a tendency on the part of the animal economy to arrange the chemical phenomena of the system in certain and definite directions. This, however, does not justify the supposition that the individual is of necessity born to develop finally those symptoms recognized as constituting the conditions so long known under the terms

[1] Read before the Massachusetts Medical Society, Boston, June 13, 1900.

"gout" and "rheumatism." Therefore, the term "diathesis" as it is commonly applied has neither fact nor foundation to rest upon; for all the evidence at our disposal tends to prove that all diseased conditions, with the possible exception of syphilis, are acquired after birth. All are abnormal chemical states of the system which can be either fed into or fed out of the human race, so to speak. This, however, is assuming a very high and almost theoretically ideal position; nevertheless, it is one that can be practically accomplished, provided we can succeed in attaining the highest perfection in the hygienic and dietetic conditions influencing animal life. Thus we find, without going further into exhaustive details, that there is no real scientific basis for the term "diathesis" as it has been commonly used in the past. In fact, it would be better if this term were dropped entirely from medical literature.

In like manner, the terms "gout" and "rheumatism," when viewed from a purely scientific basis, are almost as meaningless as is diathesis. Naturally, with this statement before us, the first question that arises is, What is this so-called "gout" and "rheumatism" that we hear and talk so much about? Turning back to the derivation of the word "gout" we find that it comes from the Latin word *gutta*, meaning a drop. According to Dunglison's "Medical Dictionary": "Gout received its name from the French *goutte*, drop, because believed to be produced by a liquid which is distilled drop by drop on the diseased part. The name was first used about 1270." Hence, gout is the drop disease. This, however, gives no insight into the etiological factors entering into the production of the pathological conditions so long honored by this name. Nor does it give any suggestion as to the disturbances of the chemistry of the body, which ultimately bring about the pathological changes and symptoms so well recognized under the name "gout." We might possibly strain a point and say, in a similar manner to what has been said in the past, that the term "gout" was coined to indicate the dropping of the uric-acid radical into the protoplasmic structures of the various tissues of the body as the result of the final and vicarious oxidation of the proteid molecule in the tissues already made pathological by the prolonged disturbances in the chemical activities of the animal economy, vicarious oxidation being synonymous with the term "distillation" of the ancient writers, referred to in Dunglison's definition of the disease. Accepting this more modern interpretation, there might be some justification for considering the term "gout" as a word based upon our present scientific data. On the other hand, as this vicarious oxidation of the proteid molecule in the already pathological structures of the body is but one little factor in the great and complex chemical problem constituting the condition so long known by the name "gout," there is no logical reason for regarding the term as one resting upon a clearly elucidated and perfectly scientific basis. Furthermore, the condition known as gout, as commonly defined, is said to be one in which there is a production of uric acid in the blood, a condition, however, that never occurs, because chemistry forbids the separate presence of an active acid in a strongly alkaline solution without the formation of a salt of that acid; at least it cannot occur unless all chemical laws are suspended in connection with the blood. So far as my observation and researches have carried me, there is nothing to warrant the assumption that the well-known laws of chemistry have been suspended, so that uric acid exists as such in the blood and does not result in the formation of a salt. Furthermore, it can be asserted that uric acid does not exist in the blood, for the reason that the salts of uric acid have never been found there, as must have been the case had uric acid entered the blood stream.

The definition above mentioned further affirms that the phenomena recognized under the term "gout" are due to the non-elimination of the uric acid from the blood stream, and its subsequent discharge from the blood as uric acid into the protoplasm of the various structures of the body, by preference into the cartilage cells of certain joints. But this explanation does not tell why the acid refuses to attack the sodium and calcium compounds in the blood stream, but seizes upon them with intense activity as soon as it is discharged into the semi-solid protoplasmic structures. Thus we find that the whole theory of gout is developed largely without any reliable scientific foundation, at least so far as the name is concerned, and it also disregards, almost from beginning to end, the well-known and inflexible laws of chemistry, as we understand them today. The only indisputable fact in connection with the whole theory of gout, as it is commonly given, is the final deposition of the insoluble salts of calcium, together with some urate of sodium crystals, in the various structures of the body. Therefore, it can very justly be stated that there is no well-grounded scientific basis for the term "gouty diathesis."

When we come to the term "rheumatism" or "rheumatic diathesis," the mystery, so far as the derivation of the name is concerned, is greater even than is the case with gout. There is absolutely no scientific basis for the term. Yet under the term "rheumatism" is included a very great complexity of disturbed physiological phenomena. If we attempt to secure any information through the derivation of the word, we are led still farther away from any scientific basis for it. Taking its Greek origin, *ῥευματίσμος*, from *ῥεῦμα* or *ῥέω*, and translating it literally "rheumatism," would mean a fluxion, or flow, but of what or in what direction we are in total ignorance. The more modern definitions are almost as vague and uncertain as those based upon the old and long since discarded humoral theory of rheumatism. If there is no scientific basis for these terms, it is difficult to see how their relation to the topics under discussion can be elucidated or explained from a scientific standpoint. On the other hand, the natural inference is that both "rheumatism" and "gout" are, in a measure at least, connected with some of these joint affections under discussion. Before we can discuss any etiological relationship between "rheumatic" and "gouty" conditions and the joint affections enumerated, we must first have some fixed and definite conception of the chemico-pathological phenomena that are to be included under these terms. The weight of evidence, however, both chemico-physiological and clinical, points clearly to defective oxidation on the part of the system as the chief predisposing factor in bringing about these two dissimilar conditions.

In the majority of instances the chief cause for a suboxidation state of the system is the ingestion of more oxidizable food than there is oxygen absorbed through the lungs to reduce completely the proteid constituents to the normal end-products. In other instances, diminution in the food supply, together with that of a poor quality, may so deteriorate the nutritive activity of the system, that a pronounced anæmia is produced, thus cutting down the intaking capacity of the animal economy for oxygen to such an extent that there is not sufficient oxygen absorbed through the lungs to oxidize perfectly the little proteid that is taken in the limited supply of food. Hence, too little or too much food may act as determining factors in producing an imperfect oxidation of the proteid constituents. It matters little whether the proteid be derived from the vegetable or the animal kingdom. Its imperfect oxidation, and the toxic products developed in consequence of incomplete oxidation transmutation, are the factors which excite the symptoms.

Attributing these pathological conditions to a sub-

oxidation state of the system does not fully explain why in the one instance the result is "rheumatism" and in the other "gout." This was at one time attempted by assuming from the general clinical history that those individuals who partook freely of starches and saccharine substances developed "rheumatism," while those who lived largely upon an animal class of foods and used alcoholic beverages freely as a rule developed the condition called "gout." This was during the period in which lactic acid was supposed to be developed from the incomplete oxidation reduction of the saccharine elements, and when uric acid was supposed to be the product of an animal diet only. That both uric acid and lactic acid do result from the imperfect utilization of the proteid constituents derived from the vegetable as well as from the animal kingdom is a well-established fact. With this understanding of the oxidation problem it is easy to comprehend how both "rheumatism" and "gout" can be developed from an excessive diet of either vegetable or animal food. It does not explain fully, however, why a liberal vegetable diet is more likely to produce the condition called "rheumatism," and the liberal animal diet is more likely to produce the condition called "gout." At the same time it must be clear to every one who has observed many cases clinically that certain kinds of diet have a decided influence in determining the nature of the suboxidation processes. It should further be remembered that none of these incomplete end products found in the excreta is to be considered as constituting the disease any more than urea constitutes normal nutrition. They should be regarded only in the light of results, or indicators by which the different types of suboxidation can be recognized and differentiated.

The development of the so-called rheumatic condition cannot be explained as it was at one time by assuming that lactic acid is the chief etiological factor in producing the disease, and that this so-called lactic acid or rheumatic condition is due to the imperfect oxidation of the starches and sugar alone, while the gouty condition is due to imperfect oxidation of the proteid constituents. Assuming that such a condition is true from a chemical standpoint, it does not explain the development of the rheumatic condition so called in those who live almost exclusively upon an animal diet, in which there is no excess of the starch and sugar to undergo imperfect oxidation reduction. Therefore, such a theory is absolutely untenable both from the chemico-physiological and clinical data at our command. Hence, we are forced to the assumption that in the so-called lactic or rheumatic condition, as in the so-called uric-acid or gouty state of the system, all the toxic products found within the system and all the abnormal products found in the excreta are due to the imperfect oxidation reduction, or faulty isomeric transformation of the proteid constituents contained in the animal economy. This fact accepted, our theories can easily be made to fit all the clinical facts met with. Now, we can readily understand how it is that overindulgence in the starches and sugars is so prone to excite imperfect oxidation of the proteid constituents. The starches, sugars, and fats, all being easily and quickly oxidized into their complete end products, if taken in inordinate quantities will overtax the oxygenating capacity of the system, and there will not be left sufficient oxygen to complete the more difficult task of perfectly oxidizing the proteid constituents. In this manner they act as very potent factors in bringing about the imperfect oxidation of the proteid elements. Further than this, their oxidation being differently effected from that of the proteids, it is easy to understand how their excessive utilization may have a result upon the system different from that of an excessive use of the proteid constituents, thus, in a measure, explaining why, in the one instance, we are more likely to have "rheumatism," and in the other the "gouty" condition.

As there seems to be so much confusion in the minds of many in regard to the true position and meaning of these imperfect products of proteid oxidation, and especially in reference to the most common of all, namely, uric acid, it may not be unprofitable to enter a little more into the detail of the formation of uric acid and its significance in connection with health and diseased conditions. Uric acid is one of the substances by which nitrogen is eliminated normally from the system. It is an almost insoluble and very stable substance. It was first separated from human urine by Scheele in 1776. It is a dibasic acid, having two replaceable hydrogen atoms, one of which is easily substituted by sodium, forming an acid urate, or biurate, of sodium. Both of the replaceable hydrogen atoms can be substituted by sodium, but, so far as is known, only the acid salt is a product of the animal economy. This urate is relatively soluble. Uric acid is formed by the oxidation of the proteid molecule or its derivatives, and is a lower oxidation product than urea, in the same manner that urea is a lower oxidation product than ammonia and carbon dioxide and water, which are the final products of proteid oxidation, chemically speaking. Why urea is the final oxidation product in man instead of ammonia, carbon dioxide, and water has never been explained, further than to state that it is according to the original plan of nature.

It has been claimed by some that uric acid is not an oxidation product, and they base their claim on the fact that this acid and its salts are the normal and complete excrementitious products in birds, reptiles, etc., in which animals the oxidation powers are said to be exceedingly high. However, there is nothing to prove the capacity of birds, reptiles, etc., to take in oxygen, or of the blood to distribute this oxygen, and of their system to utilize it, and that it is sufficient to oxidize all the assimilated hydrocarbons and proteid compounds into their final and complete products. At any rate, to draw such an inference is begging the question. The chemical fact remains that their excreta, as compared with those of the higher order of animals, are products of a lower proteid oxidation, just as urea is lower than the final product ammonia. Why in the one species the chemico-physiological apparatus of the animal economy is so constructed that uric acid and its urates are the final excretory product, while in another it is urea, is just as mysterious and absolutely unfathomable as are the phenomena of life and death. In what follows I shall endeavor to show that in man the production of uric acid in quantities above the normal is due to a condition of suboxidation.

The two most prominent theories advanced to explain the genesis of uric acid in the system are: (1) That it is an oxidation product manufactured in the renal cells; (2) that it is made in some manner in the liver, spleen, etc., but chiefly in the liver. Minkowski,[1] Schröder,[2] Horbaczewski,[3] are among the more recent defenders of the latter theory, while Garrod[4] is generally credited with the former. The latter view is the one that has been accepted generally and on the following grounds: First, that uric acid is found in the blood; second, that in gout it is found in the tissues; third, that after extirpation of the kidneys uric acid continues to be formed; and, fourth, that at the height of digestion, when the liver and

[1] Minkowski: Arch. exp. Path. u. Pharmak., xxi.
[2] Schröder: Summary of his views in Ludwig's Festschrift, 1887, p. 89.
[3] Horbaczewski: Monatshefte f. Chem., x., 624.
[4] Garrod: Lumleian Lectures. Lancet, vol. i., 1883.

spleen are most active, uric acid is most abundant in the urine. In this connection it may be remarked that in all the experiments which have been brought forward to sustain the theory that uric acid is formed outside the kidneys, or in the liver, there have been produced profound abnormal or pathological states of the system. Therefore they should be completely discarded from a physiological standard, as all deductions founded thereon are upon a purely pathological basis, and not normal.

The claim that is so commonly made that free uric acid is found in the blood is not tenable, as we have already seen; for, on coming into close relation with the alkali metals, salts of the same are immediately formed. Therefore, if this nitrogenous organic acid were in the blood, it would be in the form of a urate only, and, as already stated, such a salt has never been found in the blood. The statement that uric acid does exist in the blood is based upon Haycraft's[1] method for detecting uric acid, or upon others of a similar nature; as they all admit of a possibility of oxidizing the proteid elements, and thus producing uric acid in the process for detecting this compound, they cannot be relied upon as proving the existence of uric acid in the blood. Some have claimed to obtain good results from this method. On the other hand, Salkowski[2] regards the process as of little value even in solutions known to contain uric acid, as the composition of the silver urate formed is not constant; this opinion is further supported by Gossage.[3]

On the other hand, it has been, and is still, distinctly affirmed that free uric acid and its biurate salts do exist in the blood; and the method called upon to explain the possible presence, in some form, of uric acid in the blood is by the so-called "quadurate" (quadriurate) theory. The following statement made by Roberts,[4] the author of this theory, in his description of his method for obtaining the quadriurate, tends to prove that the quadriurate—if it really has a chemical existence—is an accidental rather than a constant product, for he says: "To obtain a product of uniform composition by this process requires a somewhat nice adjustment of the reaction. If the quantity of alkaline carbonate added be faint, the precipitate, on cooling, is apt to be contaminated with free uric acid. On the other hand, if the alkaline carbonate be added too freely, and the resulting alkalescence be excessive, the precipitate is apt to be contaminated with biurate. These risks are greatly minimized by using the alkaline acetates instead of the alkaline carbonates." From this it appears that Roberts failed to obtain the quadriurate with the regular uniformity necessary to establish his theory; in fact, the nice adjustment of the reagents required for the precipitation of the quadriurate might lead one to believe that with this test the precipitate was a mixture of biurate and uric acid in quantities to satisfy the theoretic demands for the quadriurate.

In Watts'[5] "Dictionary of Chemistry" is the following: "NaHO + ½ Aq. (dried at 100) = crystalline powder. Occurs as an amorphous urinary deposit." This statement, together with the fact that the alleged quadriurate is an amorphous deposit and very unstable, makes it appear highly probable that the biurate is still the form of urate most commonly found in the urine. It is not necessary to find a more soluble form of urate than the acid urate, for it is well known that the disodic monohydrogen phosphate,[6] which is often present in the urine in abundance, will hold large quantities of uric acid in solution. It is also known that the uric acid in the urine, and in the absence of any newly added chemical agent, steadily attacks the disodic monohydrogen phosphate, so that when the acid phosphate, which will not hold the uric acid in solution, has replaced the neutral phosphate, the uric acid is precipitated—all of which occurs naturally and without adding anything to the urine as is required for the demonstration of the presence of the quadriurate according to Roberts' theory. The one occurs naturally, and the other requires very nicely adjusted reagents for its demonstration. This method, which may be called the natural one, of precipitating uric acid in urine which apparently contains no excess of the acid, can be artificially quickened by a very simple procedure. This is best done by filling a test-tube with urine and bringing the upper stratum to the boiling-point; then adding a drop or two of a four-per-cent. solution of acetic acid and setting the tube aside in a cool place. At the end of a few hours, if there is an abnormal amount of uric acid contained in the sample and held in solution, as already described, the heat and the acetic acid will excite chemical action between the uric acid and the disodic monohydrogen phosphate, with a rapid formation of the monosodic dihydrogen phosphate, thus destroying the solvent power of the urine for the uric acid. Now the uric acid will rapidly be crystallized out, and the amount so formed, when collected on a filter and weighed, will give the exact percentage of uric acid in excess of the normal amount. In this manner and in a few hours the exact quantity of uric acid can be estimated. When the amount of uric acid is normal in the urine, no precipitation of the acid can be effected by this method. It then requires the use of a considerable quantity of one of the stronger mineral acids, sufficient to decompose the normal urates, and thus set free the uric acid otherwise held in combination with the sodium, before its presence is demonstrated.

The quadriurate, as has been said, is a very unstable compound, and one that is easily broken up by washing with water. This being the case, its decomposition and the subsequent demonstration of the uric acid and the biurate in the blood should be easily accomplished. No mention is made, however, of finding the so-called quadriurate in the blood, but it is introduced artificially into the blood serum and synovia; and from this it has been claimed that it can exist in the blood, but failure to demonstrate its presence directly in the normal blood stream is not a proof that it does not exist in that medium. The production of the quadriurate in the system necessitates first the production of uric acid. So far, in connection with the quadriurate theory, we are in total ignorance as to the point where the uric acid is manufactured, also as to where it attacks the sodium compounds to form the theoretical salt, and where the latter finally gains access to the blood. Until these doubtful points have been cleared up satisfactorily, the quadriurate theory is one grand speculative problem which does not explain the facts as developed by clinical observation. Unless our theories can be made of practical value in the study and management of the case at the bedside, they are of no real value.

From all the preceding, it can be justly deduced that uric acid and its urates have not as yet been clearly demonstrated in the normal blood stream. That uric acid and its urates are found in the tissues in pathological conditions is true. This, however, does not necessitate the assumption that uric acid or its urates existed in the blood stream in defiance of all the known laws of chemistry. But it does demand the hypothesis that, as a result of a faulty nutrition, there is developed an imperfect and abnormal trans-

[1] Haycraft: British Medical Journal, December, 1885.
[2] Salkowski: Zeit. physiol. Chem., xiv., 31.
[3] Gossage: Proceedings of Royal Society, xliv., 284.
[4] Roberts: Proceedings of the Medico-Chirurgical Society, 1890, p. 85.
[5] Watts: "Dictionary of Chemistry," vol. iv., p. 835, edition 1884.
[6] Bunge: "Text-book of Physics and Pathology," London, 1890, p. 332.

mutation of the proteid compounds; that, as a result, these substances are oxidized at an abnormal position, instead of in the renal cells as normally occurs; that when this is the case there is a sudden production of uric acid and the formation of urates in the protoplasmic masses, and that when this happens all the symptoms are those which indicate a profound irritation and an increased chemical activity. Thus, by assuming a vicarious production of uric acid, a theory which holds true in many other abnormal and pathological conditions in the body, the presence of uric acid, or rather the urates, in the tissues is explained by simple chemical phenomena, and without deviating from any well-defined law of chemistry. All this can be done without predicating that uric acid or its urates are present in the blood.

The pathological condition which is produced by extirpation of the kidneys will admit of the formation of uric acid by the vicarious oxidation of the proteid substances in the protoplasm of cells other than those of the renal gland, upon the same principle as given in the foregoing example.

Upon the theory that uric acid is due to a deficiency in the quantity of oxygen reaching the body as a whole, and the renal cells in particular, the manufacture of uric acid by the kidneys should normally be greatest during digestion and least during the interval; for, during digestion, the carbohydrates, fats, and proteids are being introduced into the circulation in large quantities. The two former are rapidly oxidized, the one in the liver and the other in the lungs, tending to use up the oxygen supply, so that a deficient amount of oxygen reaches the kidneys and a less perfect transmutation of the proteid in the renal cells is the result, while the output of uric acid is augmented. Thus, a normal physiological phenomenon, which is called upon to explain the production of uric acid in the liver instead of the renal glands, when viewed in this light, makes it appear quite plain that no such deduction is justified. It rather strengthens the theory which points to the renal cell as the true source of the uric-acid production, except in pathological states of the system, when it can be made at abnormal points by the vicarious action of the protoplasmic masses.

This theory of uric-acid production by the oxidation of the proteid substances in the protoplasm of the renal cells is by far more logical, is best sustained by all the points in evidence, and fits most accurately all the known facts and conditions. This formation of uric acid is one method for the elimination of nitrogen from the system. It is absolutely necessary to have this acid produced at this particular point and poured into the uriniferous tubules; for by its action upon the disodic monohydrogen phosphate in the uriniferous tubules the monosodic dihydrogen phosphate is produced, and the production of this acid phosphate of sodium is absolutely necessary to hold in solution the otherwise insoluble phosphate of calcium, thus preventing the formation of this form of calculi in the urinary passages.

The theory that the uric acid is produced in the renal cells in the manner described above is further substantiated by the steady presence of this acid or the urates in urine, and by their absence from the blood.

When uric acid is herein contrasted with urea as a suboxidation product, it is not meant to intimate that uric acid is the direct antecedent of urea. On the contrary, it is one of the complete end products of proteid oxidation so far as the animal economy is concerned, just as much as urea, carbon dioxide, and water are final products. Chemically, less oxygen has been utilized to produce this particular form of compound than is required to produce urea and the other higher oxidation products. Physiologically, when produced in excess, it is a suboxidation product, for it is found that the output of uric acid is always augmented by anything which interferes with the utilization of the full amount of oxygen by the system, as compared with the quantity of food-stuffs absorbed. A prolonged high tension of the arterial system, under the influence of digitalis, for instance, causes the blood to be driven through the capillary blood-vessels so rapidly that sufficient oxygen cannot be taken up from the blood and utilized for the complete transmutation of the proteid elements of the food. As a result, suboxidation occurs, and the manufacture and output of uric acid by the renal cells are increased. The same is true with every condition of the system which produces a prolonged high tension of the vascular system and a rapid pulse rate. When the intaking capacity of the lungs for oxygen is diminished by mechanical defects in the heart, or by pneumonia, pleurisy, emphysema, etc., the oxidation of the proteid substances falls to an abnormally low degree, the excretion of urea decreases and that of uric acid increases, the latter often to a marked degree. When the carbohydrates or fats are taken in excessive quantities, and especially the former, the oxygenating capacity of the system is exceeded, the more difficult task of oxidizing the proteid elements is imperfectly performed, suboxidation ensues, and, as a result, uric acid increases in the urine, while the urea output decreases. When an excessive amount of the proteid substance is taken, either alone or in combination with the carbohydrates and fats, the oxygenating capacity of the system is exceeded in a similar manner, and the proteids are imperfectly oxidized as before.

When the uric acid rises above the normal, it is simply a symptom found in the urine, which indicates an imperfect state of proteid oxidation and a general condition of malnutrition. This suboxidation may be, in a measure, caused by many different conditions, acting singly or in combination, causes which may arise either in the nervous, digestive, circulatory, or in the respiratory system. In every instance there is more or less profound impairment in the glandular activity and nutritive tone throughout the whole system. In some instances one organ or tissue will suffer more than another, and thus the symptomatic manifestations are varied and irregular in their development. When the renal cells temporarily cease to act, thus failing to produce uric acid, the associated defective state of nutrition results in many instances in the various masses of protoplasm throughout the body, which are now in an abnormal physiological state, assuming an abnormal or vicarious action. In this manner the proteid substances are oxidized into uric acid in the cells of the tissues, with the immediate production of the urate of sodium. This abnormal oxidation may occur in any protoplasmic mass which is in this state of malnutrition, but it is most commonly met with in the cartilage cells of the metatarso-phalangeal articulation of the great toe. It does, however, occur in other parts of the body and in other tissues than the cartilaginous structures. This development of uric acid in the cartilage cells, or at other points of the body, results in its immediate precipitation at such points as a urate of sodium. This abnormal deposit acts as an intense chemical irritant, and excites a local inflammatory process by which a fibro-plastic exudate is thrown around this foreign body until the urates are finally incapsulated, and gradually all the local symptoms subside.

The problem has further been very much simplified by the fact, now generally recognized, that all the non-nitrogenous food products, such as starch, sugar, and fats, are directly oxidized into their end products, carbon dioxide and water, and that they do not yield any

toxic by-products to the system. Therefore we are left to deal chiefly with proteid constituents as the etiological factors in the production of these toxic and suboxidation conditions of the system. This much established, we still have no clear and complete explanation for the different degrees and forms of suboxidation processes which constitute the various diseases, such as so-called rheumatism, so-called gout, etc.

Strenuous attempts have been made in this bacteriological age to associate a specific germ with all pathological problems, and in many instances this has apparently been successfully accomplished. Still, the declaration of the presence of a specific germ as the causative factor in the production of disease does not explain in full the special and characteristic features of the pathological lesions found, or the symptoms by which the different diseases are characterized. Working along these lines, a considerable number of observers profess to have found a specific germ as the causative factor in the production of so-called rheumatic conditions of the system. Among this number may be mentioned von Schueller,[1] Buss,[2] Brunner,[3] Buday,[4] Petrone,[5] Hlava,[6] Tizzoni,[7] Goldscheider,[8] Loeffler,[9] Boulloche,[10] Mantle,[11] P. Guttmann,[12] Fleischhauer,[13] Waibel,[14] Bouchard,[15] Sahli,[16] Lucatello,[17] Leyden,[18] Singer,[19] Chvostek,[20] Humphrey,[21] and Young.[22] All of these observers have given more or less attention to this subject. Buss states that he considers it highly probable that acute articular rheumatism, so-called, is in many, perhaps in the majority, of cases, caused by attenuated pyogenic micro-organisms, among which he includes the Friedländer pneumo-bacillus and the diplococcus of Fränkel-Weichselbaum. Sahli[23] cultivated streptococci from the blood and contents of affected joints in cases of so-called acute articular rheumatism. Singer[24] made bacteriological examinations in seventeen cases of so-called articular rheumatism, and secured positive results in sixteen instances. In ten cases he found staphylococcus albus, in one staphylococcus aureus, in three streptococci, in two staphylococcus albus and streptococci. He further argued from his observations that the constancy of the occurrence of the micro-organisms in the urine, and the fact that the number of the colonies obtained diminished in number as the symptoms improved, were sufficient evidence for considering a coccus infection as the exciting cause of the disease. Chvostek, on the other hand, made repeated observations in twelve cases of so-called rheumatic affections of the joints. In one of these cases he found the diplococcus ureæ; in another, in which the urine was not drawn with a catheter, staphylococcus albus; and in a third, large cocci, which have not yet been described, but which probably, according to Chvostek, are derived from the urethra. In this connection it should be remembered that Krause[1] has shown that bacteria are often excreted in the urine during infectious diseases, which have no connection whatever with the particular infection from which the patient is suffering, and which must not, therefore, be regarded as the exciting cause of the disease. Among these bacteria the staphylococcus albus plays an important part. And this is the form of micro-organism that has most frequently been described in connection with these rheumatic conditions. Krause further says that these bacteria are no longer found in the urine when all the signs of disease have vanished, simply, as he argues, because the conditions of the system necessary for their growth have been removed.

Chvostek[2] extended his examinations and made examinations of the blood, urine, and articular fluids, in cases of so-called acute and chronic articular rheumatism as well as in cases of other infectious diseases in which an acute swelling of the joint takes place. The results which he obtained from his examination of the articular fluids were negative in all his cases, except in the changes in the joints that arose directly in the course of a sepsis or a gonorrhœa. Chvostek sought further to discover whether the bacteria which are present in the blood entered the joints during the life of the patient, and, if so, the conditions necessary for their transit through the wall of the blood-vessels. In this connection it may be mentioned that his experiments on animals showed that certain alterations in the nutritive composition of the vascular wall must be produced before the passage of the micro-organism could be effected. He also demonstrated, to his own satisfaction, that the construction of the synovial membranes and that of their contained blood-vessels resisted to a high degree this nutritive change that makes possible the passage of the germs, thus rendering it very difficult for the micro-organisms to pass through the walls of the blood-vessels and gain access to the joints. This is not the case, however, with the vascular walls of the kidneys. Hence the bacteria, if they appear at all in the joints, will do so at a much later period than they are excreted by the kidneys.

That micro-organisms have been found in the urine, and in some instances in the blood, and in the fluid accumulations in the joints, and in various structures of the body, in connection with the varying conditions which have been described under the common term rheumatism, cannot be denied. We may even go further and state that the prevailing organism, when described at all, is most frequently of the coccus type.

From the great diversity of results obtained, and from the fact that no one form of micro-organism is found with any degree of regularity in connection with these so-called rheumatic conditions, the consensus of opinion is, that the pathological conditions and symptoms classed as rheumatic are not to be attributed to the direct and intrinsic bacterial invasion of the structures of the body, as is the case in connection with some of the well-known and undisputed microbic diseases. Nevertheless, it is reasonable to suppose that in conjunction with over-feeding and with under-feeding, and the consequent suboxidation state of the system, the action of the micro-organism and the toxic products that are developed as a direct result of their presence in the alimentary canal are largely responsible for the different forms and degrees of suboxidation included under the terms gout, rheumatism, etc. The micro-organism in all these instances acts by its presence in the alimentary canal, and by its disturbing influence upon the digestive process, and not by its inherent presence within the intrinsic structures of the system.

[1] Von Schueller: Berlin. klin. Woch., 1893, No 36. Also Fluegge: "Die Mikroorganismen," 3te Auf., ii., p. 287.
[2] Buss: Deutsches Arch. f. klin. Med., liv., p. 35.
[3] Brunner: Correspondenzblatt für Schweizer Aerzte, 1892, No. 12.
[4] Buday: Centralblatt für Bakteriologie, x., 1891.
[5] Petrone: Virchow-Hirsch's Jahresbericht, 1886.
[6] Hlava: Baumgarten's Jahresbericht für Bakteriologie, 1888.
[7] Tizzoni: Riforma Medica, 1891, No. 100.
[8] Goldscheider: Zeitschrift für klinische Medicin, xxi.
[9] Loeffler: Mittheilungen aus dem kaiserlichen Gesundheitsamte, ii., 1884, p. 421.
[10] Boulloche: Arch. de méd. exp., 1891, p. 252.
[11] Mantle: British Medical Journal, June 25, 1887.
[12] P. Guttmann: Deutsche med Woch., 1886, p. 809.
[13] Fleischhauer: Virchow's Archiv, lxii.
[14] Waibel: Münch med. Woch., 1892, No. 5.
[15] Bouchard: La Semaine médicale, 1891, No. 47.
[16] Sahli: Correspondenzblatt für Schweizer Aerzte, xxii. Also Deutsches Arch. f. klin. Med., li., p. 451; liv., p. 38.
[17] Lucatello: Lancet, December 17, 1892.
[18] Von Leyden: Deutsche med. Woch., 1894, p. 913.
[19] Singer: Wien klin. Woch., 1895, No. 25.
[20] F. Chvostek: Wien. klin. Woch., 1895, p. 469.
[21] Humphrey: Medical Press and Circular, cxi., No. 19.
[22] Krause: Wien. med. Woch., 1895, p. 472.
[23] *Ibid.* [24] *Ibid.*

[1] *Ibid.* [2] *Ibid.*

To understand this proposition thoroughly, it must be remembered that the presence of certain kinds of bacterial life is, in all probability, absolutely essential to a perfect performance of the digestive function. In this connection it must also be remembered that only a few years ago Nuttall and Thierfelder,[1] in a series of experiments in which they used young guinea-pigs, apparently proved that the alimentary canal could be kept free from all bacterial influences, and a perfect nutrition at the same time be maintained. In opposition to this is the fact that in almost all instances the alimentary tract at all times contains various micro-organisms. Added to this are the more recent experiments of Dr. M. Schottelius.[2] Dr. Schottelius' series of experiments was carried out in a manner similar to those of Nuttall and Thierfelder, but instead of selecting the guinea-pig, hens and their eggs were utilized for the experimental work. Two sets of eggs were taken, one in which the surface of the eggs was made absolutely free from bacteria by washing with a strong solution of bichloride of mercury, the remaining set remaining contaminated by micro-organisms. The first, so far as their exterior is concerned, will be called for convenience sterilized eggs, while the other batch will be designated as non-sterile eggs. The former were introduced into a sterile incubator, while the others were not. When the chickens were hatched, those from the sterilized incubator were carefully fed upon sterilized food, while those of the control experiment were given ordinary food. The fæces were carefully examined in both instances. In the first set, or the so-called sterile chickens, the fæces were found to be absolutely free from all forms of bacterial life, while the reverse was found to be the case in the control experiment. At the end of a certain period of time the non-sterile batch of chickens were found to have gained in weight much more rapidly than the sterile batch. The gain was two hundred and fifty per cent. greater in those in which the bacteria gained access to the alimentary tract. Further than this, all of the so-called sterile chickens died within three weeks after they were hatched, while the control chickens lived on as usual. Thus it would seem to be clearly proved that for the most perfect working of the digestive function in the alimentary tract, and also for assimilation, the presence of certain kinds and amounts of bacterial life and their chemical products in the alimentary canal are absolutely essential.

To determine which form of bacterial life is essential for the maintenance of a perfect physiological state will require a long series of experiments, in which the composition of the food is accurately determined before being ingested. At the same time the excreta, representing the utilization of the foodstuffs and tissue waste, must be accurately studied. Then the various kinds of micro-organisms at work in the contents of the alimentary tract must be determined through a study of the bacterial life found in the fæces. With this there must also be associated an isolation of the various kinds of bacteria found in the contents of the alimentary canal in connection with the condition recognized ordinarily as the normal state. Then the action of the bacteria should be carefully studied on the normal sterilized and non-sterilized foodstuffs outside the body; and this must be done with the bacteria singly and in combination. Their action should also be studied upon the food in the presence of the various digestive ferments. When all this has been accomplished, a very fair knowledge of the action of germs in the digestive process in the normal state will be secured. Then, in a similar manner, their action upon the digestive process could be studied in connection with the conditions designated as intestinal indigestion, and also in connection with all the pathological processes which appear, in a large measure at least, to take their origin in an imperfect digestion and assimilation, and in which an incomplete oxidation is a leading feature of the disease, as occurs in the so-called gout, rheumatism, Bright's disease, diabetes, etc.

While all this desirable information is not as yet at our command, there is a sufficient evidence at hand to warrant the assertion that the varying degrees and kinds of suboxidation met with, such, for instance, as the so-called gout and rheumatism and a host of other conditions, are the result of some special kind of micro-organism acting in the alimentary canal; or they may be the result of two or more varieties acting together; or may it not be that the absence of certain kinds of bacterial life is the determining factor in the production of the disease process? In either instance it may be assumed that abnormal or toxic products are produced in the alimentary canal, which, when introduced into the circulation with the foodstuffs, act as the direct and determining factor in establishing the special degree or form of suboxidation that we know by these time-honored names, "gout," "rheumatism," etc. By assuming the development of a variety of toxic products it easily explains the great variety in the clinical picture as witnessed under the so-called rheumatic condition.

This line of argument is sustained, so far as the symptoms are concerned, by the fact that with the introduction of certain chemical compounds into the system definite symptoms follow, as when morphine, strychnine, atropine, pilocarpine, etc., are introduced. Why morphine, strychnine, atropine, pilocarpine, etc., are always followed by a pretty uniform train of symptoms depending upon the special one used has never been absolutely explained. Yet no one attempts to deny the fact. In a similar manner it is reasonable to suppose that the symptoms of disease are the result of the introduction into or development within the system of definite chemical compounds; that these chemical products either emanate directly from the micro-organism or are produced from the proteid constituents in which the bacteria grow, by the action of the bacteria upon the proteid molecule. This latter view appears to be the more probable, taking all things into consideration. The modification of the physiological phenomena by the introduction of the varying toxic products can also be made to explain the varying pathological conditions met with; just the same as the introduction of chemical compounds can be made to modify pathological phenomena, and thereby enable the system to be brought back into a more nearly physiological condition. In all these suboxidation diseases the action of the bacteria is on the proteid constituents as they exist in the chyme rather than upon those which exist as integral parts of the body.

Thus we find that the two great predisposing factors in the development of so-called gout and rheumatism are the prolonged intake of a larger amount of nutritive pabulum than the system can perfectly oxidize, or conditions that so reduce the oxygenating capacity of the animal economy that the small amount of food taken cannot be perfectly oxidized. Added to this, as the exciting and determining factors in the production of the special type encountered, are the action of the bacteria on the proteids in the alimentary canal and the formation and absorption into the system of toxic products in conjunction with the food products absorbed. These two factors acting together determine the form of the suboxidation, the nature of the pathological lesions, the character of the symptoms, and the abnormal and by-products that are found in the excreta. It is largely by the latter that we are enabled to differentiate accurately between the different forms

[1] Nuttall and Thierfelder: Zeits. f. phys. Chem., xxi., p. 109.
[2] M. Schottelius: Arch. f. Hygiene, xxxi., p. 240.

of these suboxidation conditions that afflict humanity. In conjunction with the two predisposing factors and the exciting factor in the production of these suboxidation conditions there are a few other things that must not be overlooked, as they often exert a decided influence in determining the final result. They are the varying changes in the temperature, hygienic surroundings, nervous disturbances, etc., for they are all very important factors and help to disturb the perfect working of the glandular system. Just how the *modus operandi* of this bacterial factor working in the alimentary canal can best be absolutely determined is the question that is still pressing for an answer from the physiological chemists. Until it has been fully solved, the absolute etiology of these suboxidation processes under discussion, so-called gout and rheumatism cannot be absolutely elucidated except in theory. But even in the absence of this much-desired complete verification, this explanation, as here given, adheres more closely to all the facts thus far known to modern science than any explanation previously advanced.

With this conception of the chemical conditions that are at work within the system, when affected with so-called gout and rheumatism, the etiological relation of these conditions, if any exists, can be applied to the various diseases that are under discussion. It is nevertheless difficult to comprehend how false feeding, the action of the micro-organisms in the alimentary canal, and a toxic infection of the system therefrom, can in any manner be looked upon as a primary etiological factor in the production of a traumatism to a joint, a sprain or a bruise. Therefore, it must be asserted in the very beginning that there is no direct primary etiological relationship between the so-called rheumatic condition of the system and traumatic lesions of the joints. On the other hand, it is equally true that the abnormal chemical condition of the system which produces that state of the animal economy classed as "rheumatism" and "gout," will assert itself, and modify the whole course of the pathological problem in connection with a traumatism. This does not warrant the supposition, however, that the so-called rheumatic state of the system in any manner acts as a primary etiological factor in producing the traumatism of the joint structures. Penetrating a little more deeply into this intricate problem, we find that the products absorbed from the alimentary canal, and which, if retained in the system, are the determining factors in producing the special type of suboxidation that excites the lesions and symptoms classed as rheumatic, will influence the pathological changes following a traumatic injury to the joint. This is assuming, however, that there have been false habits of feeding, micro-organisms at work in the alimentary canal, absorption of toxic products into the system, and that, in consequence thereof, the animal economy has been or is on the verge of the suboxidation state called rheumatism prior to the receipt of the injury. In other words, after a mechanical or macroscopic traumatism to the joint structures, the nutrition in the injured parts, in one who is suffering from this characteristic chemical state of suboxidation of the system, which just precedes and makes possible the so-called rheumatic condition, will undergo changes different from those occurring in a more normal state of the system. When this term toxic product is used in connection with the diseases under discussion, it is understood that one of two conditions exists: either the system contains one or more by-products which have resulted from an incomplete oxidation reduction of the proteid elements, or the system contains proteid molecules, which, instead of pursuing their normal isomeric transformation course, have been deflected therefrom. When this latter occurs, the proteid molecule is so changed, isomerically, that it becomes toxic in its character, yet it still remains an unoxidized proteid body. This irregular isomeric transformation of the proteid bodies and their change into a toxic form easily explains the toxicity of the system. It further shows the difficulty, if not the absolute impossibility, of detecting the presence of these toxic proteid bodies as they circulate in the blood and lymph stream. In whatever manner produced, the toxic product which, prior to the injury, was eliminated from the system without exciting any active symptoms, will often aid in intensifying the pathological changes and symptoms resulting directly from the traumatism. Lesions and symptoms which would not have developed in the absence of the traumatism are produced by virtue of the presence of the suboxidation and toxic condition of the system called "rheumatic." On the other hand, they would not have occurred in the presence of the traumatism in a system perfectly free from so-called gouty and rheumatic conditions. In instances of this character, the so-called gouty and rheumatic states of the system can be looked upon as etiological factors in the production of some of the pathological changes and symptoms which follow direct traumatisms to the joint structures. They are, however, always secondary and never primary.

This relationship of the so-called gouty and rheumatic condition of the system should always be taken into consideration in connection with every traumatism that implicates the joints. If such a state of the system is found to be present, it must be given due consideration in the general management of the case; otherwise recovery will be greatly retarded.

In one instance that came under my observation, a severe wrench to one of the great toes had occurred in a gentleman past fifty years of age. This injury was followed by all the characteristic symptoms common to an ordinary attack of so-called subacute or chronic gout. So long as the case was treated as one of simple traumatism, which was the method pursued before he came under my care, there was no pronounced or permanent improvement. From the moment the condition was regarded as being primarily traumatic in its origin, and, in a large measure, secondarily kept in motion by the gouty suboxidation condition of the system which preceded the traumatism, and that the treatment was modified in accordance with this latter view, improvement was steady, and a permanent cure was speedily effected. Here the traumatism precipitated the so-called gouty attack, if I may so state it, and the only line of treatment that could be effectual was one directed toward removing the suboxidation state of the system. This is only one of many cases that could be cited in illustration of this principle. The same holds true in connection with the so-called rheumatic conditions. On the other hand, we frequently meet with instances in which slight fractures running into the joint and dislocations of the carpal and tarsal bones are diagnosticated as so-called rheumatic affections. Thus we find that there may be a commingling of the two conditions, both acting as etiological factors, even in connection with simple traumatic injuries of the joints. Therefore, each and every case examined must be carefully analyzed by itself, and due consideration given to the traumatism and to the possible influence that a previously existing suboxidation state of the system may at the time exert in the production of the lesions and symptoms. When this is systematically done, treatment will be more scientifically applied and the restoration of the involved joint to its normal functional activity be more speedily effected.

With the septic and gonorrhœal affections of the joints, all that has been said as to the relation of so-called gouty and rheumatic conditions of the system to

a traumatism can similarly be applied to these two diseases. The so-called gouty and rheumatic states of the system are in no sense primary etiological factors in the production of a septic or so-called gonorrhœal joint. Both, however, may play a secondary part in determining the nature of the lesions and the character of the symptoms as in the simple traumatic affections of the joints; but their influence will not be so well marked as it is in the former instance. This is especially true in connection with a septic joint, in which the intensity of the suppurative process and its symptoms mask all those of a minor character, and also because death usually occurs early in the disease. The same may be said in connection with so-called gonorrhœal infections of the joints; for it is still an open question whether the acute joint symptoms developed during the course of the gonorrhœa, or following as sequelæ, are not due to a direct septic infection instead of a gonococcus invasion of the joint.[1] With so-called gonorrhœal rheumatism, which develops many months after the acute gonorrhœal attack, the suboxidation state and the toxic involvement of the system through the alimentary canal are in all probability more largely responsible for the pathological changes and symptoms than is the gonorrhœal infection. Thus the so-called rheumatic condition may play a large part in the development of the lesions and symptoms in so-called gonorrhœal affections of the joints; but it is always a secondary and never a primary cause. Still, in the management of all these cases it must be carefully considered and the treatment directed accordingly if the best results are to be attained.

When we come to the consideration of those conditions commonly classed as acute articular rheumatism, we for the first time reach a point in which the errors in diet, the action of bacteria in the alimentary canal, and the absorption or the development of the toxic products directly traceable to their presence, act when they are introduced into the system as the direct etiological factors in determining the special type of suboxidation. In this manner we can further look upon the suboxidation and toxic invasion of the system from the alimentary canal as the direct and exciting cause of the so-called gouty and rheumatic affections. The great variety of toxic products which can be produced in this manner in the alimentary canal and that can be developed within the system, as well as those absorbed from the alimentary tract, can be made to explain the varying degrees and types of suboxidation encountered. They can also be made to explain all the different forms and types of so-called rheumatic affections that are encountered clinically. This theory of the production of these lesions is well supported by that of Weigert[2] in his explanation of the various kinds and types of renal lesions that are known to exist. As yet, however, we are not sufficiently familiar with the micro-organisms and the toxic products to trace fully the *modus operandi* from the point of origin of the etiological factor to the final result. If, as seems quite probable, many of the toxic products are simply isomeric forms of the normal proteid molecule, it will be, as before stated, a very difficult matter to trace, isolate, and identify them. At the same time, from the data at our command, it seems reasonable to assume that continued errors in diet, the action of various kinds of micro-organisms in the alimentary canal, and the production of an almost endless variety of these toxic products can easily be made to explain the many forms and types of the so-called rheumatism, even from the slightest myalgia to the most extensive destruction of the joint structures. Even the so-called neuropathic joint affections can be elucidated upon this theory of a disturbance of the nutritive functions of the animal economy as they can in no other way. When one kind of toxic product affects the system, it, like some of the well-known drugs already mentioned, will influence the chemistry of the body in its special manner, and a certain definite train of lesions and symptoms will follow. The introduction of still other kinds will produce their special results, and an almost endless variety of examples might be mentioned. In the one instance the abnormal and toxic condition may result in a simple congestion only of the intermuscular planes with an undue pressure upon the nerve endings distributed to that particular part. Then we have the condition called muscular rheumatism. In another instance the abnormal and toxic condition, by virtue of a difference in the toxic product, will implicate the central or the peripheral nervous system and give rise to that class of cases which are known as neurotic and in which there is no very pronounced joint lesions. In still others the toxic elements will cause a more profound disturbance of the peripheral nervous mechanism, and thereby the action of the so-called trophic centres will be so profoundly disturbed that actual and pronounced destructive changes in the joint structures are produced, such as are found in Charcot's disease. The more common lesions, however, that occur as the result of this special type of suboxidation and toxic infection of the system classed as rheumatism, is one in which the vascular areas in and around the joints become congested, and are followed by a pronounced œdematous swelling of the soft structures in and around the joints affected. In all these cases it is the lowered nutritive activities and the action of the toxic products within the system, acting either upon the central or the peripheral nervous system, that cause the disturbance in the vascular and nutritive supply to the parts affected, and thus give rise to the anatomical changes and symptoms. In the vast majority of instances the injury to the structures involved in the so-called rheumatism is not sufficiently great to excite the phenomena characteristic of a true inflammatory process. Hence, with the removal of the cause and an improvement in the general as well as in the local nutrition, there is perfect restoration of the implicated joints to their normal state. In a few instances the primary injury from the toxic infection may be sufficiently great to excite a truly inflammatory process with all the changes characteristic of inflammation. In all these cases there is a tendency to more or less permanent damage to the structures in and around the joints involved. The amount and permanency of the damage to the joint will depend entirely upon the intensity of the primary injury and the duration of the actual inflammatory process.

The most extensive damage to the joints, however, is met with in those cases which are not inflammatory, but in which there is a long-continued general suboxidation state of the system together with its peculiar type of toxic infection. In these instances the continual augmented vascular supply to one area with a defective supply to another adjacent zone, but in both instances of material poor in quality and also toxic in its nature, causes a very irregular distribution of the nutritive pabulum with which to carry on the functions in and around the joints. So great and varied is this abnormal distribution of the nutritive pabulum, that almost all grades of new formations are met with in and around the joints. These vary from simple swellings consisting of atrophied fibrillated connective tissue infiltrated with a watery exudate into its meshes, to well-defined enlargements composed of dense fibrillated connective tissue almost as firm and well developed as the normal tendon tissue. These new formations are located chiefly in the ligamentous structures and around the ends of the bones at the point of the

[1] Young: Welch's Festschrift, p. 677–707, 1900.
[2] Weigert: Volkmann's Sammlung klinischer Vorträge, 1879, Nos. 162, 163.

attachment of the ligaments and tendons. This newly formed tissue in some cases is infiltrated with the insoluble salts of calcium and the urates, but it differs from the so-called gouty deposits in position rather than in kind. In the latter the salts are deposited by preference in the cells of the cartilage structures, while in the condition under consideration it is outside the joints and in the newly formed tissue.

In some rare instances there may be developed both a carious condition and the formation of new bone in and around the joint. These two latter conditions are very rare and always suggest the possibility of a syphilitic infection as an accessory etiological factor.

In all but this latter class this complex chemical suboxidation problem, with its associated toxic condition of the system which has for so many years been included under the so-called rheumatic condition, can be looked upon as the direct etiological factor in producing the lesions and symptoms of so-called acute articular rheumatism in all its varied forms, also the neuropathic joints, and some of the forms of arthritis deformans. This is especially so in all cases in which the joints become enlarged and distorted by the undue and irregular position of newly formed connective tissue.

In the osteoid types and in those cases in which a certain amount of caries occurs, it is highly probable that other etiological factors must be taken into consideration in explaining the loss of bone and the development of new bone. As already mentioned, it is highly probable that syphilis plays a decided part in producing graver changes, as it is well known that syphilis causes a decided tendency on the part of the system to bring about a carious state of the bone and a tendency to the formation of new bone.

This method of explaining the phenomena that occur in connection with the condition of the system so long known under the names "gout" and "rheumatism" places us in a much better position to prevent their development, and to displace them from the system when they have developed. It further shows in which of the diseases under discussion the "gouty" and "rheumatic" condition of the system acts as a direct etiological factor, and also in which its influence is only of a secondary nature.

PRIMARY CARCINOMA OF THE PAROVARIUM.

By B. S. TALMEY, M.D.,

NEW YORK.

For the pathologist, says Doran, the parovarium should be of great interest, as it plays such a prominent part in the pathology of cystic tumors of the broad ligaments. The vertical tubes of the parovarium have a tendency to develop solid growths. When they commence in the ovary they first appear in the tissue of the hilum, where rudiments of the Wolffian body exist. For the better understanding of the epithelial structures of the urogenital organs, I think it would not be amiss to review the embryonic development of these organs.

The urinary secretion is effected throughout the animal kingdom by three systems, the pronephros or head-kidney, mesonephros or primitive kidney, or Wolffian body, or "Urniere," and metanephros or true kidney. The pronephros must be regarded as the phylogenetically oldest part, since only traces of it are found in the human embryo. Here in the earlier stages of embryonic development the Wolffian body is the organ for the urinary secretion. The Wolffian body appears as two longitudinal protuberances on either side of the mesentery, along the spinal column, the ducts running alongside the abdominal aorta. The transverse excretory tubules or nephridia open into these pronephric ducts. Nephridia and ducts are lined by a high cylindrical epithelium. Very soon a small longitudinal ridge of the genital fold appears on the ventral side of the Wolffian body with the free surface toward the cœlom or body cavity. The Mullerian duct, the primitive female duct, arises from the mesothelium of the Wolffian body and lies close alongside of the Wolffian duct on its medial side. At the caudal end of the abdomen both the Wolffian and the Mullerian ducts open into the cloaca or hind end of the alimentary tract. The metanephros or true kidney appears first as an epithelial or renal evagination of the Wolffian duct on its dorsal side near its opening into the intestinal canal (cloaca). This bud grows forward on the dorsal side of the Wolffian body and becomes a long narrow tube (ureter), while the blind end changes into the kidney. The Wolffian body is now replaced in its function by the true kidney and

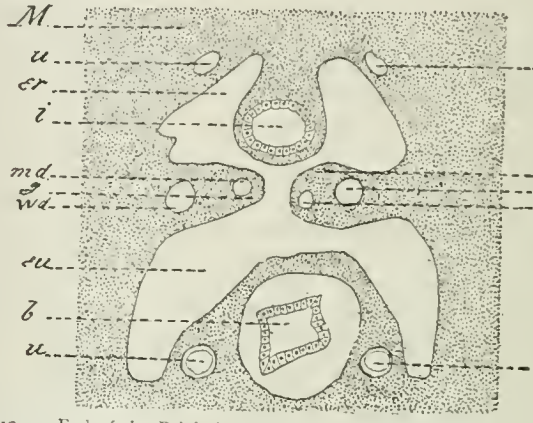

Fig. 1.—End of the Pelvis in the Height of the Bladder. Embryo three weeks old. *M*, Mesoderm; *u*, ureter; *er*, excavatio recto-uterina; *i*, intestine; *md*, Mullerian duct; *wd*, Wolffian duct; *g*, genital fold; *eu*, excavatio utero-vesicalis; *b*, bladder.

enters into special relation with the sexual organs. The genital folds are transformed into the indifferent genital glands and appear as two protuberances into the cœlom. In the female sex the genital glands or ovaries soon become bean-shaped with a free surface on the one side, the other being attached by the mesovarium, the later ligamentum latum. While the development of the ovaries is thus going on, the Mullerian ducts unite at the caudal end into the vagina and uterus, the upper blind ends diverge and form the Fallopian tubes. The Wolffian tubules and ducts lying between the Fallopian tubes and ovaries degenerate. The relics of the tubules, lined by a 16 μ high cylindrical epithelium, are called parovarium. While the epithelial elements of the ovary, the genital epithelium, "Keimepithel," as well as the follicular epithelium are cubical, the epithelium of the parovarium is a high cylindrical one (compare Figs. 1–4).

Epithelial tumors, even larger ones, embracing the ovary, parovarium, and ligamentum latum show, therefore, their origin by the shape of their epithelium. The erroneous conception of the possibility of a metaplasia of flattened epithelium into columnar is scarcely shared nowadays by any earnest observer. Columnar epithelial tumors of the adnexa, not starting from the tube, must therefore by necessity arise from the remains of the Wolffian body. This thought especially led me to declare the tumors in our case as of parovarian origin. The specimen to be described came from a woman, forty-three years of age, who died in June, 1899, after having been operated upon for a cancer of the pylorus several weeks previously. The autopsy was performed in the pathological institute of the University of Zurich. The following are the notes made of the autopsy of the genital organs:

Bladder empty; its mucous membrane pale and smooth. Vagina wide and smooth. Introitus externus of the cervix fissured. Uterus of the size of a

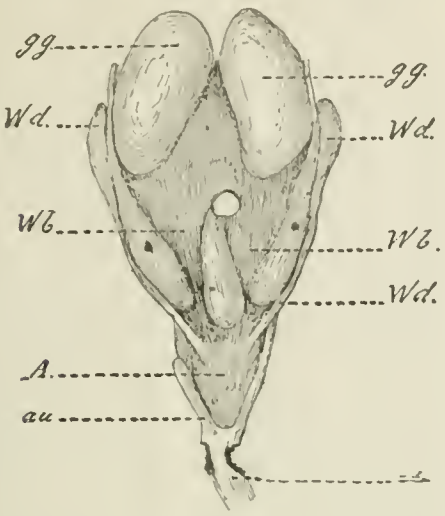

FIG. 2.—Genital Gland of a Human Embryo Forty Days Old. *gg*, Genital gland; *wd*, Wolffian duct; *wk*, Wolffian body; *a*, allantois; *au*, arteria umbilicalis; *vu*, vena umbilicalis.

small apple, its muscles firm, mucosa without particular alteration. Left ovary changed into a tumor of the size of an apple. On the cut surface yellow and gray transparent nodules are noticed. Peritoneum intact. Right ovarian tumor of the size of a fist. The cut surface shows a partly opaque and partly transparent yellow appearance. Numerous minute cysts varying in size, with clear bright yellow contents,

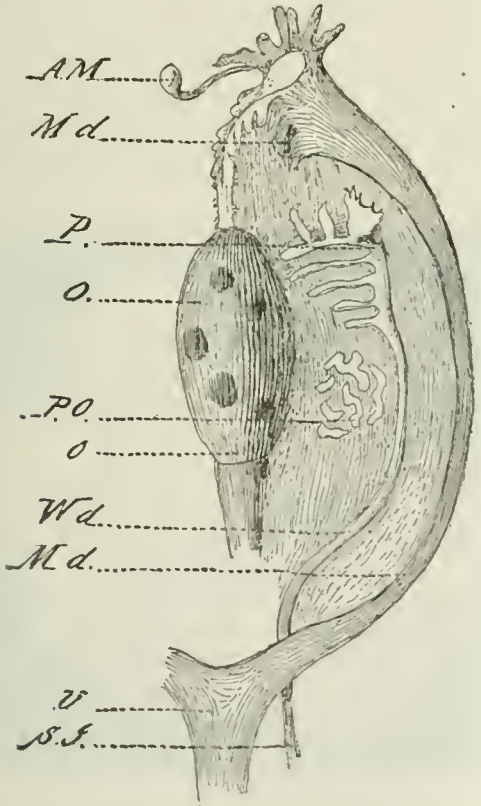

FIG. 3.—*AM*, Appendix vesiculo-Morgagni; *Md*, Mullerian duct; *P*, par-ovarian tubules; *O*, ovary; *PO*, par-oophoron; *Wd*, Wolffian duct; *u*, uterus; *SI*, Gartner's duct.

are seen on the surface. In the rectum nothing noteworthy. No implication of the floor of the pelvis.

Clinical diagnosis: Carcinoma pylori.

Pathological diagnosis: Peritonitis fibrinosa universalis perforativa, carcinoma ovarii.

The next day Professor Ribbert handed me the internal genital tract for the microscopical examination.

Uterus, vagina, bladder, peri- and parametrium are without any changes. A careful examination, particularly of the parametrium, showed nothing pathological. I failed to discover any enlargement of the lymphatic glands. The Fallopian tube runs alongside the upper boundary of the left tumor. The fimbriated extremity is somewhat enlarged. The fimbriæ are well developed. About 4 cm. beneath the tube a small oval outgrowth, measuring 3 cm. long and 2 cm. wide, projects from the main tumor by a small pedicle. This polypus-like appendix shows in its interior a circular flattened nodule of 1 cm. diameter. At the right larger tumor the Fallopian tube is not quite so distinctly limited as on the left side. A great many fimbriæ are here also preserved. Three to four centimetres below the Fallopian tube a polypus similar to that on the left side is attached to the main tumor by a broad, short pedicle. In its interior a similar nodule

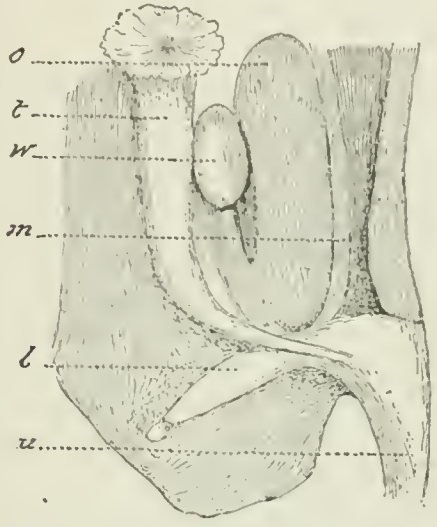

FIG. 4.—*o*, Ovary; *t*, Fallopian tube; *w*, Wolffian body; *m*, mesovarium; *l*, ligamentum teres uteri; *u*, uterus. (After Kollmann.)

to that on the left side is found. Both tumors were fixed in Zenker's fluid, hardened in alcohol, cut partly in paraffin, partly in celloidin, stained with hæmatonin Van Gieson and hæmatonin-eosin, and mounted in Canada balsam. The left tumor was first examined.

The microscopic examination showed the main mass of the growth to be composed of various irregular spaces lined with a single layer of high cylindrical epithelium within a richly cellular stroma. The lumina are oval or spherical and have a glandular aspect. They are sometimes occluded with broken-down epithelium. The cylindrical cells lie in a regular row, with the oval-shaped nuclei at the base. The protoplasm toward the lumen is three to four times longer than the nucleus. The contents of some lumina have a cystic appearance. At other points of the tumor the meshes are very small, containing only two to five single epithelial cells in regular rows and appearing to be on the point of forming an alveole, though I failed to find any cells in the state of mitosis. Sometimes single epithelial bodies are found in the midst of the stroma, and then the cylindrical character of the cell is not easily determined. The stroma contains numerous enlarged vessels with thickened walls and oval-shaped nuclei. Solid nests of epithelial cells are not rare, and even these cells are cylindrical in shape. Often nucleolated nuclei are observed. Some epithelial cells show at the top distinct vacuoles.

Examining under the microscope sections of the above-mentioned appendix, I found normal ovarian tissue with well-formed Graafian follicles lined with a

cubical epithelium. The stroma of the ovary has the normal amount of vessels. Cellular infiltration is nowhere to be seen, but there is a distinct increase of the fixed connective-tissue cells. At the border of the above-mentioned nodule within the ovary the mutually intergrowing of the connective-tissue and epithelial

FIG. 5.—Cut through the Left Cancer. *a*, Stroma; *b*, alveoles lined with a single layer of epithelial cells; *c*, cell nests; *d*, broken-down epithelium within the alveoles.

cells can be noticed. Single epithelial cells are surrounded by connective tissue. A little farther the epithelial cells become very numerous, and the tissue gives the appearance of being infiltrated by epithelial cells. They are now often lying in a regular row, are cylindrical in shape, and begin to assume a glandular appearance. Soon the meshes become larger and are lined with columnar epithelium. They are not, though, round or oval as in the larger tumor, and appear more like enlarged lymphatic spaces. The epithelial cells are not so high as in the main tumor, and where they are lying single the nucleus is not distinctly recognizable. The hilum appears normal. Old corpora lutea are noticed. Often the epithelial cells show a distinct degeneration, being more homogeneous and having lost their nuclei.

In the right tumor the conditions are similar. The tumor has an adenomatous structure, and can be classed among those growths which have been often called cylindrical epithelioma or malignant adenoma. The alveoles are of irregular size and lined with a high columnar epithelium. The larger alveoles contain a cystic mass, the smaller appear empty. Some epithelial cells are found in semilunar rows. Here and there solid epithelial nests are found. The tumor is sharply limited toward the ovarian tissue. The ovary contains some Graafian vesicles and corpora lutea, and resembles in every respect normal ovarian tissue.

The microscopical examination corroborates the assumption that the appendices represented the preserved ovaries. The invasion of the ovarian tissue by the cancerous process has already begun. But the partly preserved ovaries show that the tumor is not of ovarian origin. The intact hilum, as well as the high cylindrical epithelium of the alveoles, shows its parovarian origin. For granting even the correctness of the former generally accepted view of columnar epithelial cells being able to change into flattened epithelium, it is hard to understand how and why cubical and flattened epithelium should first change into the higher organized columnar epithelium, when already doomed to destruction. The metaplastic theory, as well as the assumption of a primary penetration of epithelial cells into the surrounding tissue, presupposes a change of the cells, for which we have no reason. However, we often see that various external or internal irritations cause a proliferation of connective tissue. The favorite organs for the cancer, on the other hand, are also those which are often exposed to such irritations. Hence Ribbert's theory ascribes the histogenesis of cancers to a primary proliferation of the connective tissue, which, penetrating between the epithelial cells, separates them from their continuity and encloses a variable number of them. The isolated cells, separated from their organic connection, continue their normal proliferating tendency within the connective tissue, dislodging and supplanting the latter and giving rise to a cancerous growth. They do not change their character, and less so do they alter their shape. This theory of Ribbert became a subject of debate. His most conspicuous opponent, Hauser, ascribes the growth and spreading of the primary cancer to a continual ingrowing of the proliferating epithelial cells into the connective tissue. The passing downward of single or rows of epithelial cells into the changed stroma is due to the faculty of the cancerous cells to perform amœboid movements. But the question remains the same, how a primary columnar-celled cancer could originate in an organ possessing normally only cuboidal epithelium. Now the main mass of our tumor is situated between the ovaries and the Fallopian tubes, where normally the pronephric relics are found, that in an early embryonic stage are lined with a cylindrical epithelium. Our tumors are, therefore, certainly of parovarian origin.

That these growths are metastases of the carcinoma pylori is scarcely to be thought of. The formerly widely accepted view, that cancerous cells could drop down from the stomach into the pelvis and continue their proliferation in the broad ligaments, is not shared nowadays by any earnest observer. The cancerous cells could, therefore, reach the broad ligaments only by the way of the lymphatics or blood-vessels. But it is scarcely probable that the cells on their long way from the pylorus to the pelvis would pass all the lymphatic glands without causing any metastasis anywhere, as in the liver and the easily affected mesenteric glands. If the cells had passed the vena porta, they would surely have left some changes in the liver. There is no plausible reason why the cancerous cells should just settle in the broad ligaments. In what relation does the epithelium of the pylorus stand with that of the parovarium or ovary? The shape of the epithelial cells in our case is also against the assump-

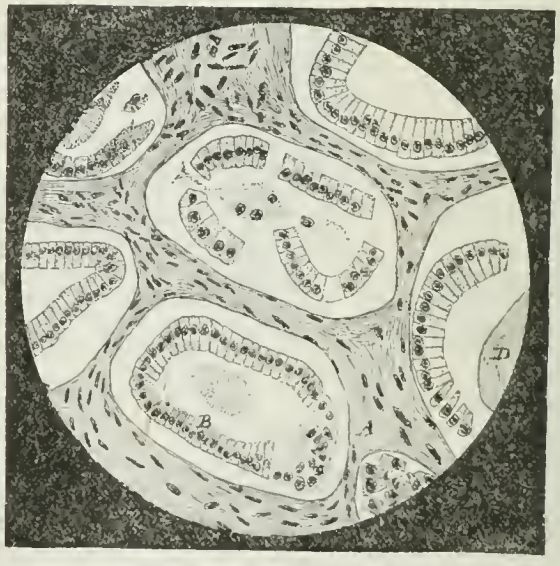

FIG. 6.—Portion of Fig. 5 more highly magnified.

tion of our tumors to be metastases of the carcinoma pylori. If Ribbert's account of the origin of cancers be correct—and I fail as yet to find any better theory—there is no possibility of epithelial cells changing their character, and the structure of the metastasis must be the same as that of the primary cancer. The cylindrical cancers of the pylorus are generally solid, true

cancers, the alveoles being filled with epithelial cells. In our case the alveoles are lined by a single layer of high columnar epithelium. The tumor is the true adeno-carcinoma as described by Ziegler, and it is improbable that a primary simple cancer will set up a metastasis of an adeno-carcinoma.

I am therefore led to the conclusion that the right parovarian growth is certainly a primary cancer. As to the left growth it is difficult to decide. The path by the lymphatics could be excluded, since the parametrium is in no way affected. There is no direct path across the uterus from one parovarium to the other. I would, therefore, rather incline to the belief that both tumors are two independent growths excited alike locally by a lower vitality and called into existence by a morbid substance existing throughout the body. Similarly Williams, in accord with Sir James Paget, declares in a case of his the cancers of both thighs to be independent of one another. Other writers also have observed multiple primary cancers in the same person. Mandry saw two cases, one of two primary cancers of both thighs, and the other of the external part of both ears. Johannowsky saw two cases of carcinoma ovarii bilaterale. Volkmann describes primary cancers of both thighs. Bruns affirms the existence of deposits of cancerous masses on two or more remote points of the body in one and the same person, which lie beyond the anatomical reach of the primary cancer, so that the younger growth could not have arisen from the primary tumor by a structural continuity of the cancerous masses. Hutchinson describes a case of two separate growths of epithelial cancer developed almost simultaneously on the opposite sides of the tongue. Bucher in describing two cases of primary cancers of the stomach and intestines says: "With our present knowledge we are not justified in assuming another path for the metastasis of tumors than by continued proliferation of the cell-elements to the other points." Billroth answers the question, whether in a given case the multiple cancers are primary or secondary, by demanding that, (1) the cancers should have a different anatomical structure; (2) that one cancer could not be derived histologically from the epithelium of the primary growth; and (3) that every cancer should set up its own metastasis. Of these three requirements the third is the least important, as we often see single primary cancers that do not set up any metastases. The other two conditions are given in the present case. We are therefore justified in assuming in our case a primary carcinoma of both parovaria.

A few words will now suffice to show how any connective-tissue proliferation in the broad ligaments could give rise to cancerous growths. The old authors have long given to the connective tissue an important part in the origin of cancers. Thiersch is of the opinion that any weakening change of the connective tissue enables the naturally energetic epithelial cells to penetrate into the deeper layers. Waldeyer also believes that epithelial remains, when enclosed in connective tissue and thus disturbed in their natural growth and function, often begin to proliferate in an abnormal way, and give rise to cancerous growths. Klebs demands as the characteristic features of the cancer a metastasis of the epithelial cells within the connective tissue at the outset. Boll finds also at first proliferation of the connective-tissue cells, which then give rise to the formation of embryonic vascular germ tissue. The resulting struggle for mastery between the connective tissue and the epithelium leads to an invasion of one another's territory, *i.e.*, to a cancerous growth. Recently, as above mentioned, Ribbert claims as the main cause for the origin of a cancer always the proliferation of the connective tissue elements resulting in a separation of the epithelial cells from their organic coherence and their implantation within the connective tissue. At the beginning of the cancerous proliferation a distinct boundary line of the two tissues cannot always be made out; instead a gradual transition of epithelium into connective tissue is always observed. It gives one the impression of the epithelium and connective tissue rushing pell-mell into the combat—no arrangement of cells of the former, rather small groups or even single cells. The isolated cells are not inert, however. The isolation of the epithelial cells once accomplished, they begin to proliferate within the connective tissue and form the alveoles, the epithelium growing in the line of the least resistance. The malignant metastasis of *a priori* benign growth (*e.g.*, adenoma strumæ) furnishes us the best proof for Ribbert's contention, that cells in other respects unchanged, once separated from their organic union, continue their proliferating tendencies in other organs under more favorable conditions and give rise to malignant growths. Ribbert has since completed his theory of the origin of flattened epithelial cancers from columnar epithelial growths. The increased proliferation of the connective tissue causes a kind of amputation of the lower ends of the glands. These separated ends do not always undergo cystic degeneration, but following the natural tendency of normal glands they penetrate incessantly into the deeper layers. In short, Ribbert attributes the origin of growths to an intra- or extra-uterine separation of the tissue-germs from their organic union. The isolated cell aggregations, withdrawn from the influence of their organic continuity, continue to increase on their own account and lead to atypical growths.

In our case there was from the start a natural metastasis of epithelial cells within a connective tissue. The relics of the Wolffian body are parts of an embryonic organ which has lost its function, and which in the female is doomed to degeneration. Now Zahan's experiment shows that non-embryonic tissue grafted from one animal upon another becomes encapsulated and inert, while embryonic tissue continues to proliferate. In our case the metastatic cells were of embryonic origin. Leopold says: "If a superfluous or foreign heap of cells occurs within another tissue, homologous or not, this cell heap, in accordance with its embryonic nature, has the faculty to increase enormously, needing only an increased blood supply, as is found in the human body during puberty or menstruation." Ribbert says: "Every mechanical stretching and every hyperæmia of the tissue which causes an increase in size of an organ, and in that way a separation of the individual parts of the tissue from one another, can also effect an abnormal proliferation." In our case we have a natural metastasis of embryonic epithelial cells in the connective tissue of the broad ligaments, that are certainly often exposed to natural changes of the blood supply and to various chronic irritations. If by any cause the tissue of the broad ligament undergoes modification, then all the conditions for the development of a cancer are present. The slumbering embryonic cells are again awakened to a new existence, and a tumor is the result.

Parovarian tumors are, therefore, not so rare. If all the so-called ovarian tumors were systematically examined under the microscope, a great part of them would certainly be found to be of parovarian origin.

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SIMPLE FRACTURE OF THE SHAFT OF THE FEMUR, WITH REPORT OF TWO CASES OF DELAYED UNION.[1]

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The successful treatment of fractures of the bony framework not only embraces union of the broken fragments, but restoration of function as well, and only when the two conditions are realized can it be said that we have achieved a perfect result.

Even under the most favorable circumstances, insuring the exercise of the highest skill, this is not always possible, and the results thus attained, while not so satisfactory either to patient or surgeon, in no sense militate against the skill or watchfulness of the latter, but in a majority of cases are due to causes over which he has no control. Fortunately the cases are rare in which, if the proper skill and care are exercised, the results are entirely unsatisfactory.

Apparently there is nothing specially brilliant in the setting of a broken bone or conducting the case to a successful issue. If we obtain satisfactory results, well and good; nothing else is tolerated by our professional brethren, while the laity at large look upon the healing of a broken bone as an everyday occurrence for which the surgeon is entitled to no special commendation, and, as a rule, he neither gets nor expects it. Once in a while, however, the results are not just what he had hoped for, and he is then not infrequently cheered by the kindly criticisms of his brethren in the profession, especially by that member who has been uniformly successful in every case he was called to treat. We all have met this personage—I know I have—and have seen specimens of his handiwork, too.

I well remember when years ago a student of medicine attending the lectures of that skilful surgeon and prince of clinicians, D. Hayes Agnew, hearing him lecture upon the subject of fractures in general. "Gentlemen," he said, "no class of cases coming under your notice in after-life will give you more anxiety or at times call for the exercise of greater judgment and skill than the diagnosis and treatment of fractured bones, and especially when they involve the neighborhood of the joints." "With all my experience," he added, "I to this day never approach a fracture of the elbow joint without realizing I am dealing with a grave injury, the outcome of which I cannot with certainty predict." When a surgeon of Agnew's attainments gives utterance to sentiments such as these, who will justify the indifference with which the general practitioner sometimes approaches this class of injuries?

And now just a word upon the medico-legal aspect of the subject. This always annoying complication may never have appealed to you, but it is likely to thrust itself upon you when least expected: consequently it is not amiss to devote to it brief consideration.

As before stated, notwithstanding our best efforts, occasionally deformity or more or less loss of function is the unpleasant sequela of injuries of the kind to which we allude, and too often the surgeon in charge is unjustly held responsible. It behooves us, then, as physicians and surgeons to exercise the greatest charity in our criticisms of these untoward results.

Unfortunately the tendency is to take advantage of our brother's misfortune, if such it be, and not infrequently by look or word furnish the pretext for a legal action that may be productive of untold evil to our medical associate. I have made it a point for years when requested to pass upon the treatment of a fractured bone, to avoid all semblance of unfavorable criticism even when it would seem circumstances justified it.

Years ago a noted surgeon said: "It has been my invariable rule to discourage in the most emphatic manner possible any criticisms reflecting upon the skill of a professional brother." Only recently he added: "A man came to my office with a decided limp, the result of a fractured thigh that had solidly healed, but with marked deformity and shortening. Divining that his purpose was merely to obtain an expression from me as to the treatment of the case, I proceeded to examine the limb carefully; which accomplished, I said to him: 'You should be very grateful at making so good a recovery.' As a result he left my office, disappointed with the verdict perhaps, but certainly with a very different feeling toward his attending physician than he had previously entertained."

I would that all of us exercised the same charity; were this the rule malpractice suits would be rarely heard of. Probably nine such cases out of ten owe their origin to the dishonesty of the patient, a dishonorable or thoughtless action of some member of our profession, and the cupidity of a shyster lawyer. These constitute the trinity that have to do with most of the cases that find their way into our courts seeking fictitious damages.

I will say to the younger men here present, watch your fracture cases most carefully. In most instances it is better far to call in some medical friend to assist at the first dressing; he will not only be of great assistance at the time, but may be of even greater service later on. The fracture cases I am most wary of, and in which I almost invariably call in outside aid, are those in the transient guests, who are with you today but away perhaps to-morrow, then to pass into the hands of some other surgeon or physician, who, in case of any untoward result following, is quite likely to attribute the same solely to the treatment instituted at the first dressing. But all this is a digression, a pardonable one I trust, from the subject proper of this paper, delayed union in fracture of the shaft of the femur.

In private practice probably not more than three per cent. of all fractures we are called to treat will be fractures of the femur. Of 1,712 cases of fracture treated in the Pennsylvania Hospital, 256 or fifteen per cent. were fractures of the femur. Of 51,938 cases treated in the London Hospital, covering a period of twenty-five years, 3,243, or more than six per cent., were fractures of the thigh. Edward Martin, of Philadelphia, in an article published in *The Therapeutic Gazette* for May, 1900, gives some exceedingly interesting statistics upon the subject of fractures of the femur, and from the results following treatment of the same draws conclusions for the most part not at variance with those of Holthouse, of London, Hamilton, Buck, and Manley, of New York, and Agnew, of Philadelphia, and calculated to make those of us in private practice who achieve good results triumphant, and somewhat comforted when we are less successful.

To quote from Martin's paper: "In the hope of determining with some degree of accuracy the ultimate prognosis of simple fracture of the shaft of the femur when treated by skilful surgeons and in accordance

[1] Read before the Burlington County Medical Society, June 19, 1900.

with generally approved methods, I have had a list made from the leading hospitals of the city, comprising all the cases treated in the wards of these institutions from 1890 to 1899. An effort was then made to find each patient in the list and to determine by direct examination the seat of his fracture, the method of treatment, the period of total disability, the period of partial disability, the amount of shortening or other deformity, and the amount of ultimate crippling."

Out of a list of several hundred, one hundred careful observations were made. Of the 100 cases, 45 were in children and 55 in adults, 85 male and 15 female. In 30 cases occuring in childhood the fracture involved the middle third of the bone, in 10 cases the upper third, in 5 cases the lower third. Nineteen of these patients were totally disabled for two months, 15 for two and a half months, 10 for three months, 1 for five months. There was a further partial disability averaging two months. In 14 cases there was no shortening; in 2 the shortening was ½ cm.; in 18 the shortening was 1 cm.; in 8 the shortening was 1.5 cm.; in 3 the shortening was 10 cm. There was no disability in 30, but 11 of these suffered from slight limp, stiffness, and pain in wet weather. There was slight permanent crippling in 7. There were 2 cases of delayed union.

In the series of 55 cases occurring in adult life, 2 were double fractures. In 32 the fracture involved the middle third; in 17, the upper third; in 8, the lower third. In 2 cases there was no shortening. In the remaining 53 cases, the shortening ranged from 1.5 to 7 cm.

In 12 cases there was no permanent disability; in 43 cases there was permanent crippling, the limp, stiffness, pain, and swelling being so great as seriously to interfere with ordinary activity. The period during which these patients were bedridden was from two to twenty-four months, or longer.

The cases were in the main treated by sand bags and extension, secured by weights attached to the leg and thigh by adhesive strips, the foot of the bed being raised to secure counter-extension.

From a study of the one hundred cases, which Martin says are too few to justify dogmatic assertion, the following conclusions seem tenable:

In children the average period of treatment in bed with crutches, splints, and bandages is five months. In about one-third of the cases there will be no shortening; in about one-half a shortening of 1 cm.; the remainder will show a shortening of between 1 and 2 cm.

In adults the average period of treatment is eight months. In four per cent. there may be no shortening; in five per cent. a shortening of 1 cm.; in nine per cent. a shortening of 1.5 cm.; in twenty-six per cent. a shortening of 2 cm.; in nineteen per cent. a shortening of 2.5 cm.; in seventeen per cent. a shortening of 3 cm.; in twelve per cent. a shortening of from 3 to 4 cm.; and in the remainder an even greater shortening.

An ultimate shortening of less than 2 cm. after fracture of the shaft of the femur in an adult is the exception, and in men past the age of twenty-one years will not occur in more than one case out of ten. An ultimate shortening of from 2.5 to 4 cm. is so commonly observed after skilful treatment of simple fracture of the shaft of the thigh that this circumstance is in itself not even suggestive of carelessness or improper treatment on the part of the surgeon. Martin makes no reference to the fact so emphatically urged and so clearly demonstrated by Thomas G. Morton, that in most cases careful measurement of the human skeleton shows an almost constant deviation from bilateral symmetry. A man with limbs of equal length is, according to Morton, the exception; this he first demonstrated in one of his patients as far back as 1873, when on measuring the two limbs it was found that the fractured limb was slightly longer than its fellow. This led to further investigation, and a series of measurements of different individuals, including those who had suffered injury of the thigh and those who had not, justified the conclusion that asymmetry as to length in the lower extremities of the same person is the rule and perfect symmetry the exception.

"Not more than one man in five who has sustained a simple fracture of the thigh will never again be able-bodied; the other four will suffer from weakness and swelling of the leg and harassing pain, and if laboring-men will be debarred from their usual work."

In speaking of treatment, Martin says that the unsatisfactory results following the weight-extension treatment of fractures of the thigh suggest that this method is either inadequate in itself or is unskilfully applied, or that the ambulant treatment of fractured femur after consolidation of the bone is not sufficiently guarded. If with all the appliances of modern surgery, such as every hospital affords, the results are as described by Martin and confirmed by such authorities as Agnew, Hamilton, Bigelow, and others, those of us in private practice, so far as my limited observation goes, have no special cause for humiliation.

One of the complications, if so it can be termed, sometimes following fracture of the shaft of the femur is what is known as delayed union, differing from non-union in that consolidation eventually takes place. Granted that the fragments are in good apposition and the subsequent treatment combines all that modern surgery approves, it is difficult to explain why in some instances prompt union fails to take place. In such cases I believe the cause can generally be traced to some constitutional vice or fault, which, when recognized and prompt treatment instituted, is followed by good results.

In support of this proposition I ask your attention to the following cases occurring in my practice:

Case I.—On January 20, 1893, S. L——, a young woman seventeen years of age, unmarried, while coasting was violently thrown from a sled against a tree, sustaining a fracture of the right femur at about the junction of its middle and lower third. She was at once carried to her home, placed upon a firm mattress, and sand bags and extension by weight and pulley were employed.

The patient, an exceedingly nervous but intelligent girl, recognized from the start the importance of keeping the fragments in position, and labored in every possible way to avoid disturbance of the limb; so determined was she in this respect that she avoided in so far as possible a regular evacuation of the bowels, although assured of the folly of such a course. Having a most capricious appetite, it was difficult for the first six weeks to get her to take a sufficient quantity of nourishment, although the necessity for this important aid in bone repair was constantly urged upon her. At the end of four weeks the dressings were removed and the limb was carefully inspected. No shortening was detected, but to my chagrin no attempt at union had taken place, notwithstanding the parts were in perfect apposition. The dressings were carefully reapplied. On March 20th, two months after the injury, an examination showed entire absence of bony union. At this juncture I requested Dr. Thomas G. Morton, of Philadelphia, to see the case with me. It was agreed to resort to daily massage of the entire limb, especially in the vicinity of the fracture and to lessen the amount of the extension, the weight at no time exceeding eight pounds. The limb was also incased in a firm dressing made of two Russia-felt splints, carefully moulded to the limb—a posterior one extending from the great trochanter to within six inches of the ankle; an anterior one extending the entire length of the thigh, firmly

held in place by a roller bandage. Four weeks later the patient was allowed to get out of bed daily and walk about on crutches, care being taken that no weight be borne upon the limb. This plan of treatment, together with the daily use of the hypophosphites of lime and soda, was faithfully carried out; the appetite of the patient in the mean time materially improved. In the course of three weeks the circumference of the limb had visibly increased and an evident attempt at bony union was noticed. From this on the limb gradually improved in size and strength, until at the expiration of eight weeks from the commencement of massage, or sixteen weeks from the date of injury, consolidation was complete. The dressings were continued for a few weeks longer, when a roller bandage took the place of splints. Careful measurement of the two limbs failed to show any appreciable shortening. Ultimately no evidence of the injury was apparent to the observer.

Case II.—February 6, 1897. C. L——, male, twenty-six years of age, weight one hundred and sixty pounds, while working in a rubber mill had occasion to move a heavy roll of rubber belting from a platform to a truck below. In some way he slipped to the floor, the roll falling upon his right thigh, causing fracture of the bone both at its upper and middle thirds. He was conveyed to his home, a distance of eight miles. With the assistance of Dr. Macfarland, of Bordentown, the patient was etherized and reduction of the fracture was made. The treatment in this instance was essentially like that employed in Case I., except that the limb was encased in the felt splint at the initial dressing, and for the outer sand bag was substituted a well-padded wooden splint, long enough to extend from four or five inches below the axilla to about five inches below the heel, four and one-half inches wide by one-half inch in thickness. At the lower extremity of the splint was attached a cross-piece, two feet long by three or four inches wide and half an inch thick; the object being to prevent tilting of the splint and consequent reversion of the limb. This splint is recommended by Hamilton, of New York, for all fractures of the thigh, and is, I think, superior to the sand bag as an outside splint. The case apparently progressed satisfactorily. In this instance, as in the first case, the patient was of a very nervous temperament, but possessed of a fairly good appetite and digestion.

On removing the dressings at the end of four weeks no union whatever had taken place. The bandages were reapplied, and two weeks later the limb was again examined; still no union. Two weeks later there seemed to be a slight attempt at consolidation in the upper fracture, but none in the lower. I now began the use of hypophosphites of lime and soda, together with daily massage. In the course of three or four weeks longer I was gratified to note bony union throughout. The patient was now allowed to get about on crutches, the massage and hypophosphites being meanwhile continued. What gave me more or less concern was a feature that played no part in Case I., namely, almost complete ankylosis of the knee joint. Not to prolong the history of the case, the patient in about four months from the time of accident was able to bear some weight upon the injured limb; but it was fully nine months before he ventured without the support of a cane. Ultimately he, too, made a good recovery, save for about three-quarters of an inch shortening and some remaining stiffness, both of which cause a perceptible limp, but in no sense interfering with his ability to do a hard day's work.

These cases teach several lessons: (1) Delayed union is possible notwithstanding the conditions for repair are apparently every way favorable; (2) consolidation is readily effected by systematic employment of massage and the use of the hypophosphites; (3) the advisability of the early employment of massage in thigh fractures, say as early as the fourth week, both for the purpose of facilitating consolidation by improving the nutrition of the parts and to prevent knee stiffness or ankylosis, a not infrequent accompaniment of such injuries; (4) the early use of the hypophosphites of lime and soda in all cases of fracture when there exists doubt of prompt bony union.

The Use of Inflammation-Producing Agents in the Treatment of Wounds.—G. Meyer takes the stand that absolute asepsis is impossible, and that, no matter how nearly perfect the operative technique, there will still inevitably be some infection of the wound. Inflammation is now universally regarded as a conservative process, and its production in a mild degree means an increased power of resistance of the organism through the more active formation of bactericidal toxins. Arguing along these lines he advocates the use of some mildly irritant application to the neighborhood of the wound; tincture of iodine answers every purpose, and gives the requires stimulus without in any way jeopardizing asepsis.—*Centralblatt für Chirurgie*, August 11, 1900.

Subphrenic Abscess following Appendicitis.—J. F. Baldwin reports two cases, which make the forty-fourth and forty-fifth on record. In the first case, that of a woman aged forty-nine years, the appendix was removed by inversion in June, 1899. Convalescence was satisfactory, but in two weeks' time pain and soreness reappeared above the location of the appendix. On July 20th a large abscess pointing on the right side at about the tip of the twelfth rib was opened, and gave exit to an enormous amount of pus. In the second case, that of a young girl aged sixteen years, a gangrenous and perforated appendix was removed on July 26th, and convalescence was uninterrupted. From August 16th to 28th, however, the patient had irregular fever, with rapid pulse and profuse perspiration. There was no bulging, but the septic condition called for interference. An exploratory incision showed a pus cavity back of the suspensory ligament of the liver, which was evacuated and drained. Recovery was prompt, abscess and wound healing in about two weeks.—*Cleveland Journal of Medicine*, August, 1900.

A Case of Anthrax Successfully Treated by Local Injections of Pure Carbolic Acid.—W. E. Fisher relates an instance of anthrax, which he considers a comparatively rare disease in this country. The lesion developed on the forearm seven days after a punctured wound. On the eighth day swelling was followed by a bluish-colored bleb one-eighth inch in diameter. Cultures showed the anthrax bacillus. The temperature was 104° F. The lymphatics of the axilla were not painful or enlarged. Nausea, malaise, and the same high temperature persisted under wet bichloride dressing till the next day, and new blebs of bluish color formed about the site of puncture. One drachm of ten-per-cent. carbolic solution was now injected into and around the eschar. Pure carbolic acid in drachm doses was continued for six days, and the conditions improved, while no carbolic acid was detected in the urine. After the third injection the temperature fell to normal, and after the fifth the eschar ceased spreading. Jarnovsky reports seventy-two cases treated in this manner in which cure resulted. Other forms of treatment recommended are bichloride injections, the internal use of large doses of ipecac, and excision.—*Therapeutic Gazette*, August, 1900.

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EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

THERE is hardly need to emphasize the importance of early recognition of pulmonary tuberculosis in order that appropriate treatment may be promptly instituted. Tuberculosis is no longer properly synonymous with consumption or phthisis, for we have learned that restoration to health takes place in a large number of cases, sometimes with, sometimes without the intervention of therapeutic art. It is true that for practical purposes one must make a distinction in this connection between anatomical and clinical recovery. The latter implies subsidence of activity on the part of the morbid process and cessation of clinical symptoms. It may be associated with fibroid changes in and encapsulation of the tuberculous lesions, in which, however, tubercle bacilli, while perhaps not actually destroyed, are rendered innocuous, for the time being at least.

The good that can be accomplished by treatment must be effected early for the attainment of the most satisfactory results, and existing records should stimulate the physician to his best endeavors to bring about such a desired end. The diagnostic difficulties are by no means inconsiderable, inasmuch as the disease may, and often does, have a most insidious beginning, and it may have progressed considerably before ordinary physical signs and symptoms become obvious. Some of the more important and valuable of these are dwelt upon by Strauss (*Berliner klinische Wochenschrift*, 1900, Nos. 25 and 26) in an address delivered a short time ago before the Association of German Railway Surgeons. It was pointed out that inspection should be general as well as local. The preservation of the general nutrition is of less importance than its impairment, and the absence of the tuberculous habitus than its presence. Comparative inspection of the upper part of the chest on both sides, particularly with reference to its length and breadth and the respiratory expansion at the apices and in the infraclavicular region, is more important than a consideration of the general conformation of the chest. In some persons predisposed to pulmonary tuberculosis the acromial extremity of one clavicle, generally the right, occupies a lower level than that of its fellow.

Percussion frequently does not yield so much information as auscultation. The topographic are more important here than the qualitative results, and are obtained by exact determination of the expansion of the apices upward (by percussion from above downward) and outward (by percussion anteriorly from the acromion toward the middle line). High-pitched tympany is of considerable diagnostic significance. All of the signs yielded by percussion, as well as by auscultation, are, however, of value only when considered in association with other signs. The significance of the auscultatory phenomena is all the greater the more they are confined to one apex, especially the posterior portion of the right apex. In some cases, however, symptoms of diffuse bronchitis predominate, especially in persons who have been exposed to the inhalation of dust. Nor does the presence of emphysema or of disease of the heart necessarily exclude the existence of tuberculosis. Occasionally auscultatory phenomena indicative of tuberculosis are found in other portions of the lung than the apex, as, for instance, just below the clavicle or at the base between the mammillary and the anterior axillary line, while percussion of the anterior aspect of the chest often yields better results. The reverse is true of auscultation. Muscle-murmurs or physiological crepitation on deep inspiration should not be mistaken for râles. It is of great importance to find that the abnormal physical signs are always present in the same situation on repeated examination. Auscultatory phenomena may be rendered more obvious by cough or by the administration of small doses of potassium iodide for the purpose of increasing the secretion of an already irritated bronchial mucous membrane.

Evidence of active disease will be afforded by the presence of certain constant symptoms, especially progressive loss of weight and fluctuations in temperature, and also anæmia or chlorosis and their sequelæ, symptoms of irritability or of exhaustion of the nervous system, especially of the cardiac nervous apparatus, and signs of digestive derangement. Of especial significance are certain symptoms that, while not arising directly from the lungs, point to disease in the air-passages, such as persistent hoarseness, which should lead to laryngoscopic examination. Night-sweats, transitory flushing of one cheek, chest-pains, radiating pains in the muscles of the shoulder, should likewise suggest examination of the lungs. Especial consideration should be given to hæmoptysis or to pleurisy, present or past. The former should be considered a symptom of pulmonary tuberculosis until proved otherwise, and the latter is always highly suspicious, as about one-half of the cases of pleural effusion of obscure origin are tuberculous. In order to establish the diagnosis some of the fluid obtained on exploratory puncture should be injected into the peritoneal cavity of a guinea-pig, and the results that take place in six weeks awaited.

In the history some importance is to be attached to hereditary influences, to general and local lowering of the powers of resistance, and to association with tuberculous patients. No one or all of the symptoms mentioned are definitely conclusive as to the existence of pulmonary tuberculosis. For this the demonstration of tubercle bacilli in the sputum is necessary. Fail-

ure to detect the bacilli does not, of course, exclude the existence of tuberculosis, as the micro-organisms can appear in the sputum only when communication exists between a softened tuberculous focus and the bronchial apparatus. Should tubercle bacilli not be demonstrable in the presence of other symptoms of tuberculosis, the tuberculin test should be employed; but it should be borne in mind that a reaction will be obtained whatever the situation of the tuberculous lesion.

THE PRESENT STATUS OF BACTERIOLOGY.

Though one of the youngest of the medical sciences, bacteriology has had a most rapid, yet withal lusty growth in recent years. It is true that great and many changes in hypothesis and theory have been necessary with advances in knowledge, but this is a natural evolutionary process. Great progress in etiology and prophylaxis has been made, and the promise of therapeutic success has been in part fulfilled; but many problems yet remain to be solved, many obscure points to be cleared up. Of the present status of bacteriology a most interesting summary is given in a didactic article by Baumgarten (*Berliner klinische Wochenschrift*, 1900, Nos. 27 and 28). He points out that bacteria are still classified, not in conformity with the principles of natural history, but in accordance with their morphological appearances. Such classification is, however, based upon more than the external characteristics, in so far as the several forms, apart from minor variations, never pass one into another. Nor does the knowledge that bacteria that under natural conditions exert definite effects, and should, therefore, be designated specific, under artificial conditions exert effects approximately those of other species justify the assumption that the individuals of one species pass over into those of another. It is true that atypical cultures can be maintained under certain conditions, but a return to the normal takes place when these conditions are removed.

The bacterial cell is a more or less solid structure, consisting of a protoplasmic body (by some thought to be a nucleus) contained within a membrane, and surrounded by a more or less distensible sheath (by some considered to be the cell body). It is generally free from chlorophyl, only a few containing an allied pigment (bacterio-purpurin). In addition to molecular movement, bacteria may be propelled by flagella. Multiplication takes place by fission; perpetuation through spores occurs only as the result of a provision of nature in case of necessity, in order to defer proliferation to a more propitious time, when the mature cells are surrounded by conditions not favorable to multiplication.

A study of the vital conditions of bacteria has shown that it is their function to convert the refuse of the organic world so that, eliminated from the living, it shall be adapted to enter the sphere of life again, and that which never possessed life is introduced into organic life. The bacteria induce in the products of organic life, in organic but not organized substances, not dead but not living, in which the molecules have reached a state of relative rest, movements or activities that constitute the distinctive feature of ferments or zymotic bodies. Others invade active life, being naturally true parasites, and thus pathogenic, entering the animal body and vegetating therein. In order that the latter result shall take place, the bacteria must find the necessary conditions for their existence. The absence of these constitutes natural immunity.

If the bacteria find lodgment and undergo multiplication, they induce disease, which is an expression of the reaction of the body to irritating influences. Some of the resulting symptoms, such as fever and inflammation, are due alike to various bacteria, but in general each micro-organism gives rise to a peculiarly characteristic and distinctive symptom complex and course. Bacteria constitute the specific cause for a number of specific diseases: the diseases are specific because the bacteria are specific. The infecting micro-organisms and their injurious effects may remain confined to the site of invasion, or the products of their activity may be taken up and distributed by the circulating fluid. A number of bacteria, however, proliferate only in the blood or in remote parts, or simultaneously at the site of inoculation and in both of these. The bacteria whose effects are due principally to the poison to which they directly or indirectly give rise have long been designated toxic, in contradistinction from those that give rise to symptoms by reason of their enormous multiplication within the body, and which are designated infective.

The bacteria live and multiply at the expense of the cells and the tissues, and, without diminution in the volume of the plasma, they so alter the chemical constitution of the molecules by selective action that the cell or its derivatives are starved and die in consequence of disintegration of the plasma, or are stimulated to the formation of cells that are incapable of performing the specific function of the mother cell. The elimination of a large number of important cells from the economic apparatus of the living body in this manner or their perverted functions may, in accordance with the parts affected, be manifested in various forms of disease. As in the cells, bacteria, when they multiply in the blood, would be capable of harm not only through impoverishment of the blood, by the taking up of nutritive matters, but also by interfering with the organic associations of these substances at innumerable points. A mechanical factor may also be present, the bacteria surrounding the blood corpuscles, occluding the capillaries, giving rise to thrombi, preventing interchange between the blood and the cells.

The bacteria are capable through their secretions of converting nutrient material into poisons, which are sent to all parts of the body, where they enter into relations with parts for which they have chemical affinity, giving rise to nutritional changes and functional disturbances and thus to the characteristic outlines of the clinical picture.

In addition to these specific poisons there occur also substances derived from them and not possessing similar activity—so-called toxins; and others that are common to various bacteria and cause similar effects, such as fever and inflammation. Then also certain

effects are attributable to absorption of substances generated in considerable amount from decomposition of the nutrient substratum. The symptoms of intoxication are thus due to several factors and are accordingly variable. The assumption of a multiplicity of poisons generated by specific bacteria affords an explanation not alone of the variability in virulence of epidemic bacterial diseases, in accordance with the amount of the specific poison, but also of the character peculiar to almost every epidemic.

As the bacteria find the conditions for their proliferation only where they can enter into interchange with the nutrient medium, so the possibility of activity on the part of the poisons produced by them presumes a reciprocal relation between the poison and the part attacked; that is, the bacterial poisons are not injurious everywhere or to all of the tissues of the body; they are not omnipotent. Upon this exclusiveness of action upon certain cell-territories is in part dependent the claim of specificity for the bacteria. It is believed that the poisons enter into chemical combination with the structure of the cell, rather than that they merely cause injury to the cell without entering into its structure, by inhibition of its functional activity through simple contact. The poison is neutralized, probably in some instances at least, not by substances generated by the bacterium itself or from its own transformation but through the activity of the invaded body, which is stimulated to the production of a counter-poison.

Active immunization, *i.e.*, the conferring of protection against fatal amounts of bacteria or their toxins, not only has been of great service in practical therapeutics, but it has also shed much light upon the causation of the immunity induced naturally or artificially by recovery from disease. Artificial active immunization may be looked upon as the analogue or successful experimental imitation of natural immunity, the antitoxin being prepared by the cells of the body as a result of influences exerted by the toxin. Recovery from disease with the final elimination of the bacteria is thought to take place through a process of bacteriolysis by the action of a ferment set free in the blood through cellular activity.

News of the Week.

Dr. Ellwood R. Kirby has been appointed by the mayor of Philadelphia a member of the bureau of charities and correction.

The Dangerous Celluloid Comb.—A young woman in a town near Philadelphia was recently burned about the head from the combustion of celluloid combs worn in the hair. The accident resulted from the practice, in itself not free from danger and scarcely to be commended, of putting burning joss-sticks in the hair for the purpose of keeping away mosquitos.

A Parsee Woman Physician.—The first Eastern lady admitted to the licenses of the Royal College of Physicians and Surgeons in Ireland, and the first, according to the belief of the *Medical Press*, to be admitted to any qualification in Great Britain, received her diplomas recently. The lady is a Parsee named Miss Aunnie M. Treausurywala, and she appeared at the capping ceremonial in the full costume of her caste. She made a most brilliant examination for her final, having been the only candidate who passed with honors.

An Edict Against Long Skirts.—The local board of health in one of the districts of Vienna has placed placards in all the public gardens and parks, directing the women who visit these places to hold up their skirts if they trail upon the ground. The notice states that as these enclosures are devoted to the recreation of persons desirous of escaping from the dusty town, the authorities forbid dust to be swept there into heaps by trailing skirts.

The Royal Disease.—Dr. Bachmann, of Shanghai, has recently stated, in a letter to the *Gegenwart*, that Emperor Kwang-Su suffers from cancer of the throat, and is unable to reign. The same view is taken by Dr. Dethère, a French physician, and by Dr. Sheng Lian Feng, both of whom have examined the emperor. This seems to be the disease to which rulers are specially prone.

Threatened Famine in Ireland.—Fears of a potato blight and failure in the grain harvest in Ireland are beginning to be expressed, and priests recently returned from that country say that the outlook for the natives of the Green Isle this winter is fast becoming as serious as that of the famine years of 1846 and 1847, when nearly two million people died as the result of the blight of the potato crop.

Anti-Rabic Inoculations in Paris.—During the years 1886-99, or since the Pasteur Institute in Paris was founded, 23,245 persons, suffering or supposed to be suffering from the bites of rabid animals, have been treated there by means of preventive inoculations. Of this number only 103 died. The figures for each year are as follows:

Year.	Number of Persons Treated.	Number of Deaths.	Rate of Mortality. Per Cent.
1886	2,671	25	.94
1887	1,770	14	.79
1888	1,622	9	.55
1889	1,830	7	.38
1890	1,540	5	.32
1891	1,559	4	.25
1892	1,790	4	.22
1893	1,648	6	.36
1894	1,387	7	.50
1895	1,520	5	.33
1896	1,308	4	.30
1897	1,521	6	.39
1898	1,465	3	.20
1899	1,614	4	.25

Protest against Vaccination.—A report from Berlin states that owing to the unusually heavy passenger traffic, as well as to the reduction in number of passenger steamers, many American citizens have recently been compelled to take steerage passage in returning to the United States. The physicians of the North German Lloyds Steamship Company have very properly insisted upon vaccinating all these to meet the re-

quirements of the United States laws. Recently an American filed objections with the United States consul at Bremen, who wrote to Washington for instructions, meanwhile forbidding the physicians in question to vaccinate Americans in the steerage on the ground that the law was intended to apply to immigrants only. We do not know whether or not an American consul has the right to set up his authority against the law of his country, but in any case it is cruel to deprive any man of the security afforded by vaccination just because he happens to be an American citizen.

Dr. Archibald Church has been recently appointed professor of nervous and mental diseases and head of the neurological department in the Northwestern University Medical School (Chicago Medical College).

The Southern Surgical and Gynæcological Association.—The next annual meeting of this association will be held in Atlanta, on November 13th, 14th, and 15th, under the presidency of Dr. A. M. Cartledge, of Louisville. Members of the medical profession are invited to attend.

The Woman's Medical College of Philadelphia.—Dr. W. L. Rodman has been appointed professor of the principles and practice of surgery at the Woman's Medical College in Philadelphia, and Dr. W. V. Laws has been appointed professor of operative and clinical surgery at the same institution.

Dr. William C. Woodward has been reappointed health officer of the District of Columbia, and the order of 1894, limiting the term of office to three years, has been suspended. This secures to Washington the services of a particularly efficient commissioner of health.—*Maryland Medical Journal.*

Tuberculosis has now been declared officially to be a disease subjecting the sufferer to quarantine. In the case of a Japanese with tuberculosis recently arrived at San Francisco, the Commission of Immigration has decided that the disease is contagious and that the sufferer cannot land and must return to the port whence he sailed.

Dr. Julian Calleja y Sanchez, professor of descriptive anatomy and embryology at the University of Madrid, has been chosen president of the Fourteenth International Medical Congress, which will meet in Madrid in 1903, and Dr. Fernandez y Caro, inspector-general of the Spanish navy, has been appointed secretary general of the congress.

A Vegetarian Colony.—The president of the Vegetarian Society of America is in the South looking for a suitable place where members of the society can establish a colony. Association with meat-eaters is said to become disagreeable to real (no-egg, no-milk) vegetarians, and so they wish to flock by themselves. They want to go to a place where all sorts of fruits and vegetables can be grown, and if a suitable one is found many of the members of the society will go there and engage in fruit and vegetable farming and in the manufacture of preserved fruits and peanut butter.

Phosphorus in Oysters.—Some French chemists have recently made very extensive analyses of several varieties of oysters in order to ascertain the quantity and form of phosphorus which exists in these toothsome bivalves. They found that a dozen Portuguese oysters contain about six grains of phosphoric acid, which represents about fifteen grains of the tribasic phosphate of lime. About four grains per dozen was obtained from French oysters.

Typhoid Fever at the Children's Asylum in Syracuse.—The annual epidemic of typhoid fever has broken out in the State Custodial Asylum for Feeble-Minded Children at Syracuse, and twelve persons are down with the fever, including the resident physician. Every year it has been thought that the cause of the disease had been eradicated, but its recurrence again has led the State board of health to undertake a thorough investigation of the origin of the infection.

An Alleged Death from X-Ray Burns.—A death certificate recently presented to the St. Paul board of health stated that the deceased came to his death in consequence of burns received during an examination by means of the Roentgen rays. The man met with a street-car accident last winter, and, it is said, desired to have *x*-ray photographs taken of his injuries for use as evidence in a suit for damages. The doctor who took the radiographs denies that the patient was burned so seriously as to cause fatal injuries.

A Medicine Man's Failure.—The penalties for insuccess in therapeutics are somewhat severe at times among the aborigines as well as in civilized communities. Not long ago Illowaho, an aged medicine man and chief of the Yakima tribe, in the State of Washington, was stoned to death in his tent by an Indian named John. He had been called to save John's child, who was sick, and went through the usual formalities, with no more success than a "Christian scientist." The child died, and the enraged father went to the medicine man's tent and stoned him to death.

The Standardization of Antitoxins. — A firm of manufacturing chemists in England having applied for a license to perform experiments upon living animals for the purpose of standardizing antitoxins, the Royal College of Physicians was requested to give an opinion as to the advisability of granting the license. The reply of the college was that, while these experiments were absolutely necessary to the advance of pharmacology, the granting of such licenses to commercial firms was very undesirable. The standardization of antitoxins should be done in a government laboratory, into which the question of money-making did not enter.

An Unfortunate Decision.—A judge in Towanda, a Pennsylvania town, has just reversed a judgment by which $2, the penalty for non-attendance at school, was recovered by the school board from a Christian Scientist who declined to have his son vaccinated, in consequence of which the latter was refused admission to the school. The judge expressed the opinion that the vaccination law is not mandatory, but optional,

and that the parent did all the law required in sending his son to school, although the latter was refused admission. This opinion is opposed to that expressed recently by a learned Philadelphia judge, who declared in favor of the validity of the compulsory vaccination law.

Fatal Hemorrhage from Ritual Circumcision.—The death is reported at Philadelphia of a Jewish child, fifteen days old, as a result of hemorrhage following the performance of circumcision as a religiousrite.

The American Academy of Railway Surgeons met in seventh annual session in St. Paul on September 5th and 6th, under the presidency of Dr. Charles A. Wheaton, of that city. The election of officers for the ensuing year resulted in the following choice: *President*, Dr. D. S. Fairchild, of Clinton, Ia.; *First Vice-President*, Dr. W. L. Estes, of South Bethlehem, Pa.; *Second Vice-President*, Dr. W. J. Mayo, of Rochester, Minn.; *Secretary* and *Treasurer*, Dr. T. B. Lacey, of Council Bluffs, Ia. The next meeting will be held in Chicago.

The British Hospitals in South Africa.—The testimony which is gradually coming in regarding the conditions of the medical relief service in the Boer war tends to offset the exaggerated statements of Burdett-Coutts, Kipling, and others. Medical men and laymen who were on the spot, and saw with their own eyes what they describe, admit that at Bloemfontein and Kroonstad there was some extra suffering when the pressure became great, owing to the lack of skilled orderlies, but there was nothing to warrant Mr. Burdett-Coutts' statements. During Roberts' march there was some difficulty in coping with the sick and wounded. For the first sixteen days the Bloemfontein supply trains that arrived were insufficient for the daily requirements. Then they began slowly to accumulate a reserve until they had forty-five days' stock when they moved forward. The wounded were sent back with the least possible delay. General Roberts frequently visited the hospitals and was satisfied that the surgeons did their duty. The commissioner of the Red Cross Society at Cape Town reported only recently that he had visited the hospitals at Pretoria, Johannesburg, and other centres of operations, and had found the arrangements for the care of patients excellent and the hospital supplies abundant. Dr. Ryerson, who was the Canadian Red Cross commissioner in South Africa, stated a few weeks ago that the hospital arrangements could not have been more admirable. In war, one could not expect the same comforts, hospital and otherwise, as in peace, but nothing that was deemed necessary was wanting. What astonished him especially, Dr. Ryerson said, was the testimony of Kipling that medicine had been taken into the hospitals by the back door. There was no necessity for taking it in surreptitiously, he asserted, and no reason why the surgeons should have so received it.

Conjunctivitis is very prevalent in New York, and the eye clinics are reported to be thronged with sufferers from this unpleasant malady. It is attributed by some to contagion acquired in the public baths.

A Congress of Polish Medical Men was recently held at Cracow. The opening address was delivered by Professor Kostanecki, who took as his theme the universality of medical science. The two principal subjects discussed during the general sessions were the means of combating tuberculosis and alcoholism. The work of the congress was divided among twenty-four sections, and there was a large attendance of physicians from the three divisions of Poland.

Vacancies in the Naval Medical Service.—A board for the examination of candidates for admission to the medical corps of the navy is in session at the Naval Laboratory, Brooklyn, N. Y., and will remain in session for several months. There are now seventeen vacancies in the list of assistant surgeons. Congress at its last session passed a law taking assistant surgeons out of the steerage and making them ward-room officers as soon as they entered the service, giving them the rank of junior lieutenants and the pay of assistant surgeons in the army. Candidates must be between the ages of twenty-one and thirty years. A circular of information can be obtained on application to the surgeon-general of the navy, Navy Department, Washington.

The "Maine" at Wei-hai-Wei.—The medical officer on the hospital ship *Maine*, which was equipped for service in South Africa through the contributions of Americans and afterward went to China, cables to the London committee under date of Wei-hai-Wei, September 13th, that the vessel has been ordered to remain at that port and await the arrival there of sick and wounded.—*The Sun.*

The State Hospital for Tuberculosis.—The New York board of pensions recently passed a resolution recommending that the State Hospital for Consumptives be erected at Dannemora. This place, where there is already a penitentiary, is in the Adirondack region. The hospital commission has a number of sites under consideration.

The Marine-Hospital Station at Biloxi, on the Gulf of Mexico, concerning the safety of which grave fears were entertained at the time of the Galveston disaster, escaped all damage from the hurricane.

A New Epileptic Colony in England.—The David Lewis Trustees, who have the disposal of a large sum of money left for public charities, are engaged, the *British Medical Journal* states, in completing arrangements for a munificent gift to the public, representing a sum which may possibly approach £100,000. There were negotiations a year or two ago between the trustees and authorities of the Southern and St. Mary's hospitals, Manchester, with a view to the presentation to the city of a hospital for women, which was to cost about £60,000. These negotiations fell through, but the trustees have now decided to purchase a considerable estate at Warford, near Manchester, where preparations are being made for the erection of extensive buildings for the accommodation and treatment of epileptics. Every effort will be made to produce a thoroughly efficient modern institution in which the most advanced scientific treatment may be given. The new

colony will not be designed for the reception of pauper patients, and will be distinct from the undertaking of a joint committee of the Manchester and Chorlton unions, which is said to contemplate the erection of a hospital to accommodate about one thousand epileptics and imbeciles.

Health Conditions in Havana.—The mortality report of Havana for August, including deaths from all causes, shows a lower total than for any previous August in ten years, the figures being 559 as against 620 in 1899 and 1,978 in 1898. The death rate for August was 2.76, yellow fever furnishing 49 victims and tuberculosis 65. On September 13th there were 78 cases of yellow fever in the city. *La Habana Médica* says that the gravity of the present epidemic of yellow fever in the city is truly alarming. In 1895 the number of cases was greater, but the general character of the disease was fairly mild. This year, however, the gravity of the fever is marked, the mortality exceeding thirty per cent. Thus yellow fever continues to dominate among the local diseases, while other diseases are decreasing with the improvement in hygiene. Our contemporary despairs of controlling the disease by hygienic measures only, and says that it can be conquered by some effective specific remedy, which as yet is wanting.

Report of Cholera in Madrid.—An alarming despatch from Madrid was sent out last week stating that Asiatic cholera had appeared in that city. Investigation, however, showed that the disease was simply cholera nostras, of which numerous cases occur every summer.

The Congress of Spanish Surgeons was to have held its second meeting in Barcelona in September, but in view of the meeting of the Thirteenth International Medical Congress at Paris this summer the organizing committee decided to postpone the meeting until the autumn of 1901.

Fire in City Hospital.—A defective flue on the fourth floor of Charity Hospital on Blackwell's Island caused a small fire there one afternoon last week. The call brought a lot of fire apparatus to the foot of East Twenty-sixth Street, and a steamboat was all ready to hurry it over to the island, when a telephone message was received saying that the fire was out. There was no damage and little alarm was caused among the patients.

British Mortality in the Boer War.—A careful analysis of the statistics shows that of the British officers in South Africa 72.1 per thousand have been killed or have died from wounds, and 30.6 per thousand have died from disease. Of the men, 19 per thousand have been killed or died from wounds, and 31.8 per thousand have died from disease. These statistics show that, while the officers and men suffered nearly equally from disease, the risks of the officers in action were greatly disproportionate.

The Plague in Glasgow continues with an occasional new case, the number of suspects being one hundred and sixteen, and of declared cases twenty-two. On September 17th five new cases were discovered. They were in the persons of the wife and two children of a hospital worker and his mother and sister. It seems that they had been in constant contact with suspected plague cases since August 22d, and had been ill without the knowledge of the authorities. The family comes from the neighborhood where the plague appeared at first. This new outbreak has caused some uneasiness in the public mind, as it suggests that the health authorities are not completely in control of the situation. In Hong Kong the epidemic has abated by the efforts of the health authorities or has exhausted the soil upon which it formerly thrived. For the first week in September four cases and four deaths were reported.

The Search for the Missing Link.—It is stated in *Science* that Mr. George Vanderbilt is defraying the expenses of an expedition to Java by Mr. David J. Walters of New Haven, who purposes to search for remains of Pithecanthropus erectus.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 15, 1900. September 7th.—Assistant Surgeon C. A. Crawford detached from the *Eagle* and ordered to the *Dixie*. September 8th.—Surgeon M. F. Gates detached from the naval hospital, Norfolk, Va., September 12th, and ordered to the *Atlanta*, September 15th. Passed Assistant Surgeon A. M. D. McCormick ordered to the naval hospital, Norfolk, Va., for duty, when detached from the *Montgomery*. September 12th.—Passed Assistant Surgeon L. Morris detached from the *Baltimore* when put out of commission, and ordered home and to wait orders. Pharmacist J. Pearson detached from the *Wheeling* and ordered home and to wait orders. September 13th.—Assistant Surgeon W. E. G. High detached from the naval hospital, Yokohama, and ordered to the *Oregon*.

Obituary.

HUNTER McGUIRE, M.D.,

RICHMOND, VA.

Dr. Hunter McGuire, of Richmond, Va., died September 19th, at his country residence near Richmond, Va., as the result of exhaustion from hemiplegia, with which he was attacked six months ago.

For a long period he maintained the proud position of the leading surgeon of the South, and his loss to the profession and his numerous friends and admirers is irreparable. Identified with all matters tending to the advancement of the interests of his calling, a writer of authority, and a leading and distinguished educator, he exerted an influence for good along many and varied lines, which can scarcely be overestimated. He was born at Winchester, Va., October 11, 1835, his father being Dr. Hugh H. McGuire of that place. His early education was in his native town, where he also commenced his medical studies, completing them in the Winchester Medical College in 1855, and the following year in Philadelphia. He first located in Winchester, assisting his father in practice, and occupying

the chair of anatomy at Winchester Medical College. In 1858 he resided temporarily in Philadelphia, and after distinguished service in the Confederate army as chief medical officer on Gen. Stonewall Jackson's staff, he settled in 1865 in Richmond. Here his success in practice and his influence as a leader of medical thought became assured from the first, and in 1869 he was made president of the Richmond Academy of Medicine. He was also president of the Association of Confederate Officers, and was one of the vice-presidents of the International Medical Congress of 1876.

His voluminous and varied writings on surgical subjects proved him a thorough scholar, a skilled anatomist, and a judicious and conservative counsellor. As an occasional contributor to general periodical literature he took a high rank, which was well deserved after his admirable and touching history of the death wounds of Stonewall Jackson.

He was a hard and constant worker, but his main ambition centred in the foundation and prosperity of the University Medical College of Richmond, with which he was so long and honorably identified.

Obituary Notes.—Dr. John McMahon Brown died of cardiac trouble at his home in this city on September 12th. He was born in Ireland fifty-five years ago, and was graduated in medicine from the University of Dublin in 1868. He practised for many years in Dublin and later in London, and came to this country in 1888. He was a visiting physician to the Metropolitan Dispensary.

Dr. Frank C. Merriam of this city died at Waterford, Conn., on September 16th, at the age of forty-six years. He was a graduate of the University Medical College in 1880. He had been in poor health for over a year.

Progress of Medical Science.

Boston Medical and Surgical Journal, Sept. 13, 1900.

Actinomycosis.—Charles Allen Porter reports eight cases with the object of attracting attention to the possibility that a proportion of the cases ranking as alveolar abscesses may be due to the specific organism of this disease. Though it cannot be a rare affection, he says, few cases enter the hospital with advanced actinomycosis of the jaw, and it seems therefore certain that many recover after simple incision of the abscess, and even through a natural rupture of it. Simple opening, curetting, and drainage have proved sufficient in many cases; though recurrences may be frequent, healing eventually takes place. When possible, excision of the inner half of the abscess wall or sinus is the best treatment. The danger from swallowing the granules, when the discharge empties into the month, is hard to estimate. Certain cases of generalized disease in the lungs, intestinal tract, liver, etc., occur in which the organism gained entrance through the food, or was swallowed, and therefore the surgeon should aim at making external drainage.

Tendon Suture.—Edward S. Hatch describes the case of a patient who plunged his right hand through a window and cut the anterior part of his wrist on the ulnar side. The tendons of the palmaris longus, flexor carpi ulnaris, and flexor sublimis digitorum were found to be divided. The ulnar artery and the median nerve were also found to be cut. The ulnar nerve was cut about half-way through its structure. The tendons and nerves were united with fine silk sutures. The ulnar artery was tied, both the proximal and distal ends. No attempt was made to unite the tendon sheaths. The skin wound was united with interrupted silkworm-gut sutures. The results of the operation were excellent. At the present time, seven months later, the patient has normal flexion and extension, with normal sensation over the distribution of the median nerve. He can separate the fingers and draw them together again with perfect ease.

The Radical Cure of Hernia.—J. Collins Warren, urging the radical operation rather than the wearing of a truss, gives statistics of a series of ninety-eight cases operated upon between 1888 and 1900, showing in a striking way the marked change which the improvement in aseptic technique has brought about in the prognosis of the healing of the wound. Prior to 1895 there were thirty-three cases operated upon, of which sixteen, or forty-eight per cent., were septic; whereas, after 1895, of sixty-five cases operated upon, nine, or sixteen per cent. only, were septic. The term "septic" includes all cases that did not heal by first intention throughout the wound. The slightest infection of a stitch would place it under the above heading. When silk was used for sutures only seventeen per cent. of the wounds were septic, but in the case of catgut septic conditions were found in forty per cent. The author describes several points in the technique of the operation.

Four Cases of Actinomycosis.—John C. Munro reports four cases, in one of which the tumor was situated below the angle of the scapula. The three face cases showed invasion of the soft tissues only, the bone being free. In none of them could any definite trace of the original affection be found. All the patients were given iodide of potassium, and the wounds were treated with peroxide, tincture of iodine in full strength or solution, and packed in iodoform gauze until all evidence of presence of the fungus had disappeared.

A Method of Teaching Practical Medicine.—By Thomas F. Harrington.

The Medical News, September 15, 1900.

Post-Apoplectic Temperature and Disturbances of the Alimentary Tract: their Management.—Henry Lyle Winter believes that a continued high temperature, at times irregular in its fluctuations, and various disturbances of the digestive organs, usually of the fermentative type, which occur frequently after cerebral apoplexy, may be dependent entirely upon the absorption of the infective material in the alimentary canal. Hitherto these symptoms have been met with small doses of calomel, but the writer thinks hydrogen dioxide much more effective. After its administration he has found that it not only improved the condition of the alimentary tract, but that the temperature subsided. It has been his practice to give the drug combined with an eqnal quantity of chemically pure glycerin.

In What Relation does Occupation Stand to Tuberculosis?—In studying the statistics of tuberculosis as related to occupation, W. Freundenthal notes one striking fact, viz., the extraordinary large number of tailors and those with similar occupations who suffer from this disease. The writer finds the causes for this condition of things in lack of exercise, bad ventilation, overwork, undernutrition, and lack of all hygienic precautions, resulting in that condition christened by Bouchardat "physiological misery." His general conclusions are in accordance with Flint's, "that occupation has an agency in the etiology of pulmonary tuberculosis, in so far as it is sedentary and involves confinement within doors."

A Simple and Efficient Treatment of Talipes Calcaneus Paralyticus in Young Children.—Dr. V. P. Gibney reports several cases evidencing the efficacy of prolonged and uninterrupted extension of the foot. The writer prefers a plaster-of-Paris dressing, but says that almost any appliance which is worn night and day, the management of which is taken completely out of the patient's hands, should bring about like results. He has not resorted to the method in older patients, for the reason that it is difficult to keep plaster of Paris on a limb sufficiently long to secure a good position.

Multiple Traumatic Hemorrhages of the Liver Associated with Multiple Pulmonary Emboli of Liver Cells and Giant Cells Resembling Bone-Marrow Cells.—By Alfred Scott Warthin.

New York Medical Journal, September 15, 1900.

The Treatment of Tuberculous and Purulent Joints with Large Glass Speculum Drainage and Pure Carbolic Acid; with Report of Seventy Cases.—A. M. Phelps summarizes his results in the following statements: in the seventy cases there have been twenty excisions. In all the other cases the joints have been freely opened and portions of bone and cartilage which were found dead in the joint removed in nearly every one. In fifteen of the cases the head of the bone was found separated from the neck and lying as a sequestrum in the joint. In thirty cases the disease was confined to the acetabulum, with some secondary infection of the neck of the bone. In twelve cases the abscess had burrowed into the iliac fossa, necessitating an operation there. In forty cases the capsule had ruptured anteriorly into the iliac muscle, finding its way into the iliac fossa or into Scarpa's triangle. In two cases the abscess had gone through the thigh from Scarpa's triangle and had appeared in the gluteal fold posteriorly. Fifteen patients who had been subjected to excision of the hip left the hospital with their splints on four weeks from the day

of the excision, three left the hospital at the end of two months; two required subsequent operations, and one of these left the hospital at the end of four months, and the other, with extensive disease of the pelvis, has been in the hospital five months and will be discharged within a week or two; and three more are reported as having been operated on last week. In all the cases requiring excisions or extensive bone operations the patients were discharged from the hospital in an average of three weeks from the time of the operation, wearing hip braces or using crutches. The wounds were firmly closed in all the cases, except those reported as not closed, and remain so.

The Lingual Tonsil.—Robert Levy says that depending upon the prominence with which certain individual symptoms exist, one may class these cases into: (1) those of simple discomfort; (2) those of severe cough; (3) those of vocal distress; (4) those of respiratory distress; (5) those of distress in swallowing; (6) hemorrhagic cases. The symptoms referable to these various conditions are considered in detail. He offers a word of caution and warning to the effect that many individuals present comparatively large lingual tonsils, but that they are not responsible for any symptom, and, moreover, it is not always safe to conclude that because certain peculiar nervous symptoms are relieved by the application of the galvano-cautery to the base of the tongue, these symptoms were the direct results of disease at this situation. In certain highly neurotic patients the effect of counter irritation or the profound mental impression made by rather severe and, to some, formidable local treatment, cannot be excluded.

Generalized Tuberculous Lymphadenitis, with the Clinical and Anatomical Picture of Pseudoleukæmia: the Study of a Case.—By T. R. Crowder.

A Consideration of the Statistics of Operations for the Relief of Malignant Disease of the Larynx.—By D. Bryson Delavan.

Were these Unusual Cases of Partial Paralysis of the Vocal Bands Caused by Over-Use of the Telephone?—By Clarence C. Rice.

The Philadelphia Medical Journal, September 15, 1900.

Mental Disturbances after Operations upon the Eye.—William Campbell Posey reports twenty-four cases in which delirium followed various operations upon the eye. The delirium was of the same character in all, beginning with mild restlessness and developing into active delirium with hallucinations and ideas of persecution, but passing rapidly under control by the proper administration of narcotics; permanent affection of the brain was not remarked in a single instance. The writer is convinced from a critical study of the subject that the cause of this delirium is largely psychic, and he agrees with Parinaud that it is due to the preoccupation upon the part of the patients prior to and after the operation; this is still further favored by the constraint of the supine position and the unusual stillness of the surroundings. Treatment consists in the free and repeated administration of chloral and the bromides. There is no reason to discontinue the employment of atropine. Constant oversight and judicious and tactful nursing are most essential.

Resolution as an Etiological Factor in Post-critical Temperature of Lobar Pneumonia in Children.—By William N. Fisher.

Post-diphtheric Paralysis of Both External Recti Muscles; Report of a Case.—By Harry Friedenwald.

A Few Cases of Diphtheria and What They Taught Me.—By John Leverett.

Inversion of Uterus; Uterine Inertia; Short Cord.—By Edward K. Bacon.

Neurasthenia.—By J. T. Eskridge.

Journal of the American Medical Ass'n, Sept. 15, 1900.

Some Facts Medical and Surgical about Appendicitis.—J. H. Carstens sums up his conclusions as follows: (1) It ought to be a general rule to operate on every case of appendicitis as soon as the diagnosis is made, but when it is a first attack and mild, or no proper facilities are at hand for operation or subsequent care of the patient, it is often good policy to wait and watch the case. (2) In cases of second or subsequent attacks, however, the patient should be sent to a hospital, even if it is at quite a distance—unless good facilities can be had at home—and an operation promptly performed. (3) Statistics of cases operated on as they come along, good, bad, and indifferent, by experienced surgeons, give a mortality of only eight per cent. (4) Statistics collected by general practitioners who are able and up to date, and who advocate surgical interference, show that medically treated cases have a death rate of at least fifteen to twenty per cent.; that at least sixty per cent. have recurrences; while in the cases operated on the patients are absolutely cured.

Cutaneous Manifestations in Diabetes Mellitus.—S. Sherwell gives the following list, made out in the order of relative frequency. (1) Xeroderma, or a condition of dry skin; (2) pruritus, without any, or at least any noteworthy, objective lesions, the genital regions in both sexes apparently suffering most; (3) eczemas, partly neurotic, at other times catarrhal; (4) furunculosis, often general in character, but sometimes regional; (5) conditions of erysipelatous manifestations and gangrene; (6) xanthoma diabeticorum, a disease accompanied by formation of xanthomatous new growths, often in immense quantities, and more particularly over extensor surfaces of body and limbs; (7) possibly, the recently recognized and not much investigated "blastomycetic dermatitis," in which tumors looking like verrucous lupus, or the so-called "tuberculosis verrucosa cutis," become fungoid in character, and on microscopical examination are found to be filled with the fungi of saccharine fermentation; (8) dermatitis herpetiformis—Duhring's disease.

Diabetes Mellitus in Children.—Henry Dwight Chapin gives the following conclusions as to this disease in children: First, it is exceedingly rare. Second, it is a disease exceedingly fatal to young children, although this writer cannot tell why. In the two cases he reports there was no evidence of assimilative disturbance, and the children had been in a state of good nutrition. Third, this disease in children is accompanied by very rapid emaciation. The author believes that whenever a child is brought to the physician with a rapid atrophy, he should examine the urine for sugar.

Improved Lantern for Testing Color Perception.—By Charles H. Williams.

Improved Method of Testing Color Perception.—By William Thomson.

Influence of Sea-Air and Sea-Water Baths on Disease.—By W. Blair Stewart.

The Identification of Dextrose in Human Urine.—By Heinrich Stern.

Measurements of Chicago School Children.—By W. S. Christopher.

Infantile Cerebral Palsy. Classification of Twenty-five Cases, with Illustrations.—By A. C. Cotton.

The Milk-Control in the Kaiser und Kaiserin Friedrich Hospital, Berlin.—By Sommerfeld.

The Milk-Supply in the Kaiser und Kaiserin Friedrich Hospital, Berlin.—By A. Baginsky.

The Relative Value of Homatropine as a Cycloplegic: a Clinical Study.—By E. C. Ellett.

British Medical Journal, September 8, 1900.

Yellow-Fever Expedition of the Liverpool School of Tropical Medicine.—In these preliminary notes Herbert E. Durham and Walter Myers say it appears certain that neither the handling of or contact with yellow-fever patients nor the performance of necropsies is capable *per se* of conveying the disease to non-immunes. It also appears probable that general ships' cargoes and the fomites of patients are not directly infective, although the evidence as to this point is not conclusive. It seems to be fairly definitely established that a patient may become a danger by "infecting the house" in which he is placed. Given that a house is "infected," a visit by a non-immune person entails considerable risk of contracting the malady. Complete and absolute immunity is not acquired by a single attack, though second attacks are usually comparatively mild, or at any rate of a recoverable type. The statement so frequently repeated in text-books, to the effect that colored people and natives never suffer from the disease, seems not to be true. The writers saw one negro during the course of a typical attack, and although Cubans and Cuban doctors assert that the Cuban system is incapable of contracting yellow fever, they are known to suffer from a disease called "borras" and also from "pernicious malarial fever," the symptomatology and pathological anatomy of which are very suggestive of yellow fever. In "borras" there is sometimes black vomit with suppression of urine, and the lesions of yellow fever are said to be present in fatal cases.

On the Treatment of Blisters.—Arthur H. Ward advocates the following: The blister is incised and the raised epidermis cut completely away with sharp scissors; no overlapping fragment beneath which microbes might develop is left. The surface is then carefully dried and painted with several layers of salicylated collodion. A circular piece of soft linen is cut rather larger than the exposed surface, and this is plastered on with more collodion, which is worked well into the meshes of the material. Several more coats of collodion are put over all. This makes a strong protection to the abraded surface, and the patient can at once walk with comfort. If a blister has been neglected and is inflamed it should be treated with antiseptic lotions for a day or two before the method is applied.

Hay Fever.—George H. R. Dabbs says that not for many years has he been free from hay-fever symptoms until this summer. This immunity he thinks may possibly be due to the use of an ointment of the liquor carbonis detergens as strong as it can be made, with benzoated lard, and not too thick to be easily painted on the inside of the nostrils and snuffed up well from the loaded brush.

Two Cases of Amputation at the Hip-Joint for Gunshot Fracture of the Thigh during the Intermediate Stage, followed by Recovery in One.—By F. J. W. Porter.

Diphtheria and its Treatment by Antitoxin.—By R. W. Marsden.

Cervello's Treatment of Phthisis.—By Nevell E. Norway.

Splint for Fractured Humerus.—By Richard Francis Tobin.

Obstruction of Steno's Duct Caused by Stomatitis.—By Chichele Nourse.

A Case of Supposed Foreign Body in the Œsophagus.—By G. P. Newbolt.

The Lancet, September 8, 1900.

Expectancy of Life in Cases of Cancer of the Breast.—Arthur E. Barker, in a clinical lecture, after dwelling on the present methods of radical and extensive removal of not only the breast but surrounding parts, goes into figures and gives statistical tables grouped as follows: Group I. includes cases of patients known to have died long after excision, presumably from recurrence, though one certainly died from calculous pyelitis without recurrence, and possibly others. Fifty-two patients have died at intervals ranging from two months to over seven years. Group II. comprises cases of excision of the breast in which the patients were known to be alive at the intervals given, grouped with those alive and without recurrence respectively ten years and one month, one year and seven months, and one year and two months when last heard of more than a year ago. Of these twenty were known to be alive at the intervals given, and of these fifteen are, or were, alive over three years. Group III. includes cases of patients known to have died, taken together with those still alive and examined as to duration of life. From this it will be seen that sixteen per cent. lived over five years and 33.7 per cent. over three years. These figures appear to justify the hope that the expectancy of life is improving as time goes on. It is clear that over thirty-three per cent. of patients live more than three years after the operation, which has suggested to some surgeons that such cases should be regarded as permanent cures. But some of the cases (26.9 per cent.) have resulted fatally, most likely from recurrence, in all but one after an interval of immunity of over three years, so that such a presumption is unwarranted. Another interesting point comes out from this analysis—namely, that only seven suffered from local recurrence. Those in whom the disease has returned have shown it in internal parts. This is another good feature of the modern operations, local recurrence being most depressing and painful, while internal generalization is often not so. The entire set of figures is based on one hundred consecutive cases.

Some Remarks upon the Treatment of Heart Disease, with Special Reference to the "Hill Heart."—H. J. Campbell speaks of the physics of the Nauheim system, calling attention to the fact that while it is most excellent in its results, and that while Oertel's system of graduated walking exercises is of service, both presuppose a heart which has muscle substance capable of either exerting more force under increased stimulation, or increasing its power on contraction as the result of its hypertrophy, or at least of recovering itself if nutrition is favorable. The difficult cases are those in which the heart muscle is so degenerated that it is unable to react to the means employed for its relief. Here an endeavor must be made to lessen the work the heart has to do. Another set of cases is found in which the heart acts very well under normal circumstances, but does badly under any sudden strain. Here there are alarming and dangerous attacks. These may cause only distress, dyspnœa, or anginal pain, or they may induce syncope, or even lead to seizures of an epileptiform or apoplectiform character, and may, and not infrequently do, terminate in almost sudden death. Illustrative histories are given of the different varieties of cases. As to therapy, the author lays stress on balneology and gymnastics, which, however, must be interdicted in any advanced stage of arteriosclerosis.

Case of Diffuse Suppurative Peritonitis from Gangrene of the Appendix; Laparotomy; Recovery.—H. A. Duffet gives some statistics bearing on the subject, and details the history of a boy aged fourteen years treated for acute pain and abdominal distention, with vomiting and constipation. The symptoms of peritonitis gradually developed, and the abdomen was opened by a four-inch incision below the umbilicus. Free offensive pus was found in the pelvis, with a gangrenous appendix. No concretion was seen. The patient did well for five days, when the temperature rose with symptoms suggesting a recrudescence of the peritonitis. A fresh abdominal incision disclosed a small pus pocket in the right iliac fossa. Thereafter the boy did well, though healing of the incisions was slow.

A Note on Pathology and Treatment of Gastric Ulcer.—W. Stuart-Low believes that gastric ulcer is favored by the deficient secretion of the glands of the alimentary tract, more especially the mucous secretion. He consequently orders in such cases mucin in ten-grain doses. It is prepared in cachets from animal bile and is given in doses of gr. x. along with an equal amount of sodium bicarbonate just before meals, with a little water. Diet and other measures are as usual.

The Removal of Septic Effusions from the Cavities of the Human Body.—Edward Armitage advocates the use of mercurial ointment, believing that this time-honored remedy has fallen into an undeserved disuse.

Some Aspects of Biology.—Presidential address by Sir William Turner before the British Association for the Advancement of Science.

Note on a Case of Acute Glaucoma, the Result of an Operation for Secondary Cataract.—By C. B. Taylor.

Tracheotomy with Antitoxin in Laryngeal Diphtheria.—By W. Blair Bell.

On the Pathology and Therapy of Angina Pectoris.—By T. Schott.

A Case of Malignant Disease of the Ovaries.—By P. J. Baily.

Prussic Acid in Sweet Cassava.—By Professor Carmody.

Berliner klinische Wochenschrift, August 27, 1900.

The Treatment of Antral Empyema.—Max Halle advocates the procedure followed in Krause's clinic in Berlin. The antrum is opened by a trocar in the interior nasal meatus and its contents are evacuated by syringing through the opening thus made, out through the natural opening in the middle meatus. By means of the syringe an air douche is driven through the antrum and it is again syringed. The air douching is again resumed until the interior of the cavity has been made fairly dry. Iodoform is then freely insufflated into it. No packing whatever is used. Halle claims that this plan of treatment (the dry method) is not difficult, can be done without narcosis, avoids all communication with the mouth, relieves the patient from the disagreeable taste of iodoform packing, as is so often necessary in operations through the canine fossa, and produces healing in less time than by other methods.

The Especial Danger of Acute Purulent Middle-Ear Inflammations in Advanced Life.—Heine gives a study of sixty-three fatal cases of meningitis following middle-ear trouble, in which the antecedent history was one of acute or subacute ear inflammation in thirty-one, and of chronic trouble in thirty-two. Of the latter only five cases occurred in patients over forty years old, but of the former no less than sixteen fell in this category. He is disposed to explain this fact by the late disclosure of meningeal trouble in this last-named class, a result due in turn to the fact that in later years the bone surrounding the inflammatory area becomes hardened and even eburnated so that external escape of the inflammatory products is rendered difficult. Necessity for operation is consequently not so evident, and meningeal infection occurs before the true condition is recognized.

Affections of the Nose in their Relations to General Affections.—A. Seifert reviews familiar ground, calling special attention to the fact that various cardiac neuroses are dependent on intranasal conditions. Chlorotic girls often suffer from a dryness of the nares, and in the various blood diseases, so-called, bleeding from the nares is a frequent occurrence. The nose is often the channel of entrance of the infective agents in many contagious diseases, such as scarlatina, diphtheria, tetanus, etc. The same observation holds true with reference to the chronic infectious maladies such as tuberculosis and lupus. The article contains nothing new.

Kidney Operations in Cases in which One Kidney is Absent or Diseased.—By Mankiewicz.

Deutsche medicinische Wochenschrift, August 30, 1900.

Queirolo's Method of Determining the Stomach Boundaries.—Edel and Volhard have experimented with this method to determine its accuracy and utility. The apparatus devised by Queirolo and Landi consists of a stomach tube, the lower extremity of which is closed by a distensible balloon, while the free end is provided with two pieces of tubing. One of these is connected to a Marey's tambour, while the other is simply closed by a stop-cock. After in-

troduction of the tube the balloon is lightly inflated through the open tube, and the membranes of the tambour are thus made tense. On now gently percussing the abdomen and watching the index of the registering apparatus, an excursion of the lever is observed as soon as the stomach is reached, while it stays at rest so long as only the intestine is being percussed. The inventor claims that by this means much greater exactness of diagnosis in stomach diseases will be made possible, and that our ideas of the normal limits may have to undergo change. In order to test the method the authors first determined and marked out the gastric boundaries by means of the instrument, and then inflated the stomach with carbonic-acid gas and repeated the percussion. It was found that the results of the two methods were identical, though some skill is necessary in interpreting the movements of the registering index. For routine use the instrument offers no advantages over the far simpler and equally accurate inflation with air or carbonic-acid gas, and gives no information not obtainable by the customary methods of diagnosis.

A Myxomatous Endothelioma of the Soft Palate.—H. Cordes reports a case of this rather unusual new growth and discusses its pathological aspects. Only one hundred and thirty-eight cases of tumor in this situation are to be found mentioned in the literature, and of these nearly one-half are either sarcoma, carcinoma, or adenoma, only four being endotheliomata. These tumors originate in the endothelial lining of the tissue-clefts or lymph and blood-vessels, and are characterized by a strong tendency to degenerative changes. Colloid, hyaline, or myxomatous metamorphosis nearly always is found to a greater or less extent, which greatly enhances the difficulties of a microscopical diagnosis. The clinical manifestations are slight, and after years of growth the tumor may be discovered only by accident. Even when of large size these tumors are painless and give rise only to mechanical symptoms, dysphagia, aphasia, or dyspnœa through pressure on the epiglottis. In general they are non-malignant in type, having no tendency to the formation of metastases, and when removed in season do not recur.

Can Roentgen-Ray Transillumination Differentiate Aortic Aneurism from Intrathoracic Tumor?—E. Gebauer answers this question in the negative, and in illustration cites a case in which the fluoroscopic diagnosis and post-mortem findings did not agree. The symptomatology and physical signs gave evidence which might be interpreted as indicating either aneurism of the aorta, pulmonary phthisis with considerable glandular infiltration, or an intrathoracic new growth. On *x*-ray examination a mass was made out just above the heart and exhibiting very distinct pulsation, so that the diagnosis of aneurism seemed assured. The necropsy revealed a carcinomatous growth of the œsophagus, which had spread to the lungs and broken down in places; the pulsation observed was apparently purely transmitted.

The Examination of the Thorax with the Roentgen Rays and Some Results.—By Levy-Dorn.

Hæmatological Investigations.—By E. Becker.

Münchener medicinische Wochenschrift, August 28, 1900.

Immunity.—Buchner divides the general subject into two headings, natural immunity, or preferably resistance, and specific immunity either acquired by chance or produced experimentally. Regarding the former our views are changing somewhat, and it is being recognized that in addition to the phagocytic power of the leucocytes they possess at least one other property of use in fortifying the organism. This is the faculty of producing alexins, which by many observers are supposed to appear only on the death of the cells themselves. The author differs from this view, however, and emphatically affirms that the leucocyte is not the easily destructible thing it is usually considered, and that even during its life if the proper stimulus be present alexin secretion can take place. We can no longer rely on the microscope alone in our study of this subject, and advance is to be made along chemical rather than histological lines. In discussing the subject of specific immunity the greatest difficulties are encountered owing to the hopelessly confused state of the terminology. A simple and logical nomenclature would be to make the two groups of alexins and anti-bodies, and, keeping the general prefix anti-, to subdivide the latter into antihæmatins, antitoxins, etc., according to their specific nature.

Traumatic Tetanus Complicated by Intestinal Obstruction.—Krey and Sarauw were called to treat a boy twelve years old giving the typical clinical picture of intestinal obstruction. Soon after coming under observation characteristic convulsions and rigidity set in, which were ascribed to tetanic infection of a scalp wound. A laparotomy revealed the cause of obstruction as an intussusception of the small intestine, which was readily reduced and the abdominal symptoms were relieved. Tetanus antitoxin was not available, but under symptomatic treatment the patient did well and was discharged cured in a month. No definite connection between the tetanus and the intestinal condition could be established.

Observations on the Prognostic Significance of the Diazo Reaction in Tuberculosis.—F. Becker finds that a positive diazo reaction does not always indicate a bad prognosis in phthisis. Temporary and unimportant complications may cause the phenomenon quite independently of the main trouble. If the reaction appears in cases in which it is usually absent, a complication of infectious nature is to be looked for. In some cases the reaction is doubtful, and a positive interpretation cannot be made. Usually the appearance of a green precipitate after the solution has stood twenty-four hours is taken to indicate a positive reaction, but sometimes this coloration is observed also in negative cases.

The Treatment of Tetanus Uteri.—Jacob describes a case of transverse presentation in which version was accomplished with great difficulty, and the child was extracted as far as the head. The uterus spasmodically contracted on this, but finally relaxed under the prolonged application of hot compresses to the abdomen. The delivery of the head was followed by copious hemorrhage and atony of the uterus. This was controlled by traction on the anterior lip of the cervix with Museux's forceps, massage, and ergot. Attempts at expression of the placenta by Credé's method failed, and its removal was not effected till the following day, when it was extracted by digital curettage.

Antitoxin Treatment of Tetanus.—Reuter's case forms an interesting pendant to the one reported by Krey and Sarauw, in which a severe tetanic infection was recovered from without any specific treatment. In the present instance death resulted though antitoxin was promptly given, and in spite of the fact that the slow onset of the symptoms made the case seem a favorable one for treatment. Nevertheless the convulsive seizures steadily increased in severity and reached their acme forty-four hours after the first injection, and death followed sixteen hours later.

A Case of Gonorrhœal Metastases in the Joints and Skin Secondary to Blennorrhœa Neonatorum.—Paulsen says that although joint affections of gonorrhœal etiology are frequent enough after genital infection, it is very rare for metastases to follow specific ophthalmia. He reports a case in which both knees and one wrist of an infant ten days old became inflamed secondarily to the eye disease. Gonococci were found in the joint fluid and also in the secretion obtained from vesicles forming a well-marked eruption on the face, body, and limbs.

A Further Contribution to the Origin of Cutaneous Emphysema after Laparotomy.—By Heil.

A Failure with Dührssen's Tamponade in Atonia Uteri.—By Spaeth.

The Topography and Diagnosis of the Stomach.—By Rosenfeld.

Acute Osteomyelitis of the Atlas.—By Eichel.

The Tonometer.—By Gaertner.

Bulletin of the Johns Hopkins Hospital, September, 1900.

The Distribution of Connective Tissue in New Growths.—W. C. White concludes that elastic fibres are frequently present in new growths, in the stroma, among the cells, around the blood-vessels, and in breast tumors around the lactiferous ducts which have been included and invaded by the growth. They are usually in connection with pre-existing elastic tissue elements in the original tissue in which the tumor has grown. New formation probably occurs. Sarcomata present a large increase in connective tissue and possess a fine intercellular network similar in structure to the reticulum present in normal glandular tissue. Carcinomata possess a stroma of white fibrous tissue outlining the cell spaces, but have no intercellular network. The digestion methods present a possible means of diagnosis between carcinomata and sarcomata in doubtful cases. Uterine myomata have a large amount of both white fibrous and reticular connective tissue, possessing a connective-tissue capsule for each muscle-cell; and they would be more correctly termed fibromyomata.

A Contribution to the Study of Malignant Tumors Arising in Congenital Moles.—R. H. Whitehead says that among the widely differing opinions one finds it difficult to reach a definite conclusion as to the nature of the nævus cells, but the pictures of Scheuber and of Gilchrist are suggestive, and one may be permitted to hold the view that in some moles, at least, the groups of cells are modified epithelial cells of epidermal origin. Should a tumor spring from such cells, we should naturally expect it to follow the type of carcinoma. This expectation, however, is not always realized. Nine tumors of this class, which the author has been able to examine, had that histological structure which most pathologists have agreed to call alveolar sarcoma, and were so pronounced by competent observers. The author reports two cases in which the tumors

springing from congenital moles represent the same processes as those going on in the melanotic tumors, with the exception that they totally lack true melanotic pigment.

On the Histology of the Islands of Langerhans of the Pancreas.—Eugene L. Opie reaches the following conclusions: (1) The islands of Langerhans are composed of cells having the same origin as those of the glandular acini, but forming structures which are independent of the secreting apparatus and in intimate relation with the vascular system. (2) In the splenic end of the cat's pancreas they have a definite position within the lobule, each of which contains one of these structures. (3) In the human pancreas they are more numerous in the splenic extremity or tail than elsewhere. (4) Prolonged stimulation of the gland does not, as claimed by Lewaschew, transform groups of acini into islands of Langerhans.

On the Relation of the Electrical Conductivity of Blood Serum to its Alleged Bactericidal Power.—By Emma Lootz and Alice Weld Tallant.

Morbid Conditions Caused by Bacillus Aerogenes Capsulatus.—By William H. Welch.

The Sterilization of Catgut.—By G. Brown Miller.

Inorganic Ferments.—By Harry C. Jones.

Archives of Pediatrics, September, 1900.

Typhoid Fever in Childhood.—A. D. Blackader analyzes the features of one hundred consecutive cases occurring in children under fifteen years of age. Concerning the use of the bath he finds that the nervous system of the child responds more quickly and energetically to the cool bath than does that of the adult, and the amount of response has to some extent an inverse proportion to the age. It is therefore unnecessary and undesirable that as low temperature should be employed in the case of a young child as in the case of an adult. He believes it to be a great shock to a young child to plunge it at the outset into a bath of 68° or even 75° F.; while a bath of 90° cooled to 85 and repeated regularly for the first few days of the attack gives rise to neither resistance nor signs of shock or collapse on the part of the child. Later on in the disease lower temperatures may be employed if found necessary. Even after the pyrexia falls below 102° F., he believes that the regular use of the cool bath once or twice a day strengthens the heart action and tends to a more rapid convalescence.

General Subcutaneous Emphysema.—A. C. Cotton reports the case of a child aged seven and a half years who, during hard coughing incident to a severe bronchitis, developed a ridge over the right clavicle from which point extension took place in all directions. Examination of the surface showed great distention about the neck and chest, completely obliterating clavicular depressions, and extending downward over the trunk, especially in the dorso-lumbar region along each side of the spine. Pressure elicited distinct crepitation and left no pitting. Respirations were shallow and rapid (50 per minute); the pulse was rapid and barely perceptible; temperature 102° F. During the six subsequent days of life, infiltration of the subcutaneous tissue extended, involving both upper and lower extremities with the exception of palms and soles, the skin becoming tense and shiny. The paroxysms of coughing increased in frequency, being nearly continuous the last twenty-four hours. There were increasing dyspnœa and deepening cyanosis.

Two Cases of Fatal Lead Poisoning.—Allen Baines mentions as a characteristic symptom of this condition in childhood a very pronounced dark blue circle about the anus, more marked in his two cases from the fact that the children were of fair complexion. The meals of the family of his patients were cooked with firewood procured from the staves of old barrels which had contained white lead, so that the fumes of lead not only entered the food but permeated the atmosphere. The children affected were brothers. Urine examination showed the presence of lead. In both convulsions were a prominent feature.

A Case of Hysteria with Laryngeal Manifestations in a Boy Aged Eleven Years.—By C. Herman.

Exclusive Soup Diet and Rectal Irrigation in Typhoid Fever.—By A. Seibert.

Annals of Surgery, September, 1900.

Massage in the Treatment of Recent Peri-Articular Fractures.—G. Woolsey reviews the arguments advanced in favor of this form of treating fractures, stating that the claim is made that a certain amount of motion is favorable to the repair of bone, and that massage, in addition to furnishing this, prevents atrophy of the muscles, reduces swelling, and restores the circulation. In this and other less clearly known ways it causes the repair of bone to be rapid and, in combination with passive motion, prevents the stiffness of the neighboring joints. He has followed this plan in Pott's cases, in fracture of the patella, obtaining in one case firm union and almost perfect motion in twenty-four days, and in fractures about the elbow-joint. He sees no advantage in discarding splints in the early period of the treatment. Their use gives confidence to the patient and the surgeon alike, and a sense of security that no displacement is likely to occur. Particular attention should be paid to the position of the limb by carefully reducing any deformity, and keeping it reduced during massage and between the periods of massage, when the limb is in a splint. If this is not possible from the outset, after a preliminary massage, plaster should be applied, and kept on for from eight to fourteen days, and then massage commenced. The result in these cases is better as far as position is concerned, equally good functionally, and nearly, if not quite, as quickly obtained as when massage is employed from the first. If, again, after massaging for some time, the position is found to be imperfect, or if, after three weeks, quite firm union has not taken place, Woolsey believes in using a plaster splint for eight to fourteen days, though the functional result is thereby delayed. The application of massage and passive motion is easy. It relieves pain and swelling, hastens callus formation and solidification, and prevents atrophy of the muscles and stiffness of the joints and tendons.

The Ileo-Cæcal Orifice and its Bearing on Chronic Constipation; with Report of Two Cases Relieved by Operation.—W. J. Mayo believes that a narrowing of the ileo-cæcal valve is the cause of certain cases of obstinate constipation. In a case requiring removal of the appendix, he noticed that the calibre at this point of the bowel was markedly reduced, having almost the appearance of constriction by a string. There was no evidence of previous disease or ulceration. Obstinate constipation of the patient led the doctor to expose the valve and make an incision two and a half inches in length at right angles to the ileo-cæcal junction, having its centre at that point, and so to suture the wound transversely as considerably to increase the calibre of the valvular opening. Recovery was uneventful, and the constipation practically disappeared. The writer advances the following theory as explaining the good results obtained: The secretions in the small bowel are alkaline, in the large bowel slightly acid, and in the production of this change gases are evolved which materially aid the passage of fecal matter along the large bowel. The thinness of the muscular coat of the large bowel and its sacculation make it evident that flatus is a necessary adjunct to fecal progress. It becomes a question, also, as to whether or not the greater amount of absorption which takes place in the small bowel under such circumstances leaves the contents, when passed, in a condition less favorable to stimulate the peristalsis and production of gases in the large bowel.

The Results of Castration and Vasectomy in Hypertrophy of the Prostate Gland.—This is a statistical article by A. C. Wood, who has collected the records of all ascertainable cases since the date of the papers on the same topic by White and Cabot. Wood has gathered the records of one hundred and fifty-nine additional cases of castration and of one hundred and ninety-three additional cases of vasectomy. In the former series there were thirteen deaths from sepsis due to pyuria, pyelonephritis, suppression, emphysematous phlegmon, pneumonia, exhaustion, etc. The results in general were as favorable as in the previously reported cases: of the vasectomies, general improvement followed the operation in sixty-seven per cent. of the cases. There were thirteen deaths, from about the same general run of causes as above stated. Dr. Wood's article is a most valuable contribution to the literature of this subject.

On the Influence of Anæsthesia on the Effect Produced on the Circulation and Respiration by Irritation of a Sensory Nerve.—S. P. Kramer notes that in experiments on dogs there was in each instance a stage of narcotization at which the irritation of the central end of the crural nerve produced a fall in blood-pressure. The conclusion may be drawn from these experiments that severe vasomotor shock is more liable to follow operations done under partial anæsthesia than such as are done under complete insensibility.

Tetanus: a Study of the Nature, Excitant, Lesions, Symptomatology, and Treatment of the Disease, with a Critical Summary of the Results of Serum Therapy.—By A. V. Moschcowitz. A continued article.

Cubitus Varus; or, "Gunstock" Deformity following Fracture of the Lower End of the Humerus.—By L. A. Stimson.

Hernia of the Bladder through the Pelvic Floor from the Traction of a Subperitoneal Fibroma.—By F. B. Harrington.

The Pathology of Fracture of the Lower Extremity of the Radius.—By F. J. Cotton.

Excision of the Wrist by a Modification of Mynter's Method.—By W. J. Taylor.

Scottish Medical and Surgical Journal, September, 1900.

A Case of Erythema Induratum Scrofulosorum.—The patient of D. S. Doughty was a girl aged twenty years with pulmonary tuberculosis, who did well on open-air treatment with full feeding and guaiacol carbonate and creosote internally. Seen again a few months later, she was found in bed complaining of aching all over the body but especially in her legs, on which, she said, there were spots. Her temperature was 100.4 F.; her pulse somewhat quicker than usual. A careful examination of her chest failed to reveal any return of the former mischief. There was no cough and no expectoration could be got for examination. On the lower two-thirds of the calves of her legs there were several nodules, more numerous on the left leg than on the right. These nodules were of various sizes and mostly of a purple violet color, some darker than others. In one or two of them there was a small hole in the centre from which exuded a slight discharge. Some which were not visible to the eye could be felt under the skin. Doughty's first impression was that the lesion was syphilitic. Sodium salicylate was given, followed by the iodide. The latter gave no evident benefit. The case ran an indolent course, the nodules growing less in size and color but not entirely disappearing as long as the case was under observation.

On Transfusion.—T. Annandale concludes as follows regarding this therapeutic measure: (1) It may be a valuable aid in saving life in the case of patients suffering from serious loss of blood, provided they show no signs of reaction after the ordinary means have been carefully tried. (2) The best form of transfusion for ordinary use is the injection of human blood mixed with a solution of phosphate of sodium, and kept at a proper temperature, so as to prevent clotting. (3) If the former method cannot be properly carried out, the injection into a vein of saline solution (chloride of sodium) is the next best procedure. Both of these procedures must be carried out with the most strict and careful antiseptic precautions. (4) Intra-peritoneal injections of warm water, or of warm saline solutions, are most likely to be useful in cases in which the abdomen has already been opened, for without an opening there is always a risk of injuring the intestines or other internal organs with the trocar and cannula. (5) Injections of warm water or of warm saline solutions into the rectum, or into the cellular tissues, is a safe and simple procedure, which may be usefully employed in any sudden emergency.

The Importance of Accurate and Detailed Diagnosis in Abdominal Cases.—Three cases illustrating the importance of this proposition are described by William Russell. Their titles are respectively: Gastric Ulcer with Appendicitis simulating Perforating Gastric Ulcer; Dyspepsia with Chronic Œsophageal Ulcer simulating Chronic Gastric Ulcer; Calculus in the Lower Extremity of the Ureter simulating Appendicitis.

Inflammation of the Uterine Appendages.—A clinical lecture by A. H. Freeland Barbour.

A Case of Cæsarean Section followed by Subperitoneal Hysterectomy.—By N. T. Brewis.

The Edinburgh Medical Journal, September, 1900.

Can the Period of Infectiveness of Diphtheria be Shortened and its Tendency to Spread Diminished?—William Ewart urges thorough disinfection of the nasal cavities and naso-pharynx in all cases of diphtheria, before children are allowed to return to the companionship of others. Whatever the method adopted, it should be applied early during the attack, and perseveringly and continuously during the period of convalescence. At St. George's Hospital it is the author's practice to have all cases of diphtheria under his care receive local treatment for the nose and naso-pharynx by the introduction of carbolized oil twice daily throughout their stay at the hospital, with a view not only to relieve local discomfort or lesions, and to prevent the spread of the latter, but also to insure, if possible, in all cases a gradual cleansing and disinfection of the entire mucous surface, by the spreading upward of the oil, which is dropped in with a camel's-hair brush, with the patient's head thrown back.

Jacksonian Epilepsy due to Cerebral Abscess following upon Typhoid Fever.—Andrew Cassels Brown reports a case which is of interest: (1) Because it followed apparently upon an attack of typhoid fever. Presumably the same pyogenic organisms gained access to the system by means of the intestinal ulcerations and were deposited in the brain, becoming foci for the abscess which resulted. (2) Because of the position of the abscess. It was situated in the Rolandic area of the right side, extending practically all over the ascending parietal and ascending frontal convolutions, involving the upper, middle, and lower thirds of the motor area. (3) Because of the difficulty of making a correct diagnosis of the exact nature of the lesion. Abscess, in fact, was excluded, and the diagnosis of a rapidly growing tumor was made. (4) Operation was performed, and was entirely successful. The patient has entirely recovered the use of her leg, and to a certain extent of her arm. She is well, and much pleased with the results of the treatment.

Clinical Lectures on Circulatory Disorders: II. The Cause of the Presystolic Murmur.—By John Orr.

A Contribution to the Mechanism of Articulate Speech.—By S. W. Carruthers.

Two Cases of Poisoning by Cannabis Indica.—By James Foulis.

Norsk Magazin for Laegevidenskaben, September, 1900.

A Case of Intoxication from Camphorated Naphthol.—Sinding-Larsen reports the case of a girl aged twelve years, suffering from white tumor of the knee. An injection of 5 c.c. of camphorated naphthol was made into the articulation on February 8th, with no bad results. Eight days later another injection was made with some difficulty, owing to beginning obliteration of the joint. Only 4 c.c. was administered, when suddenly the patient had epileptiform convulsions, delirium, and symptoms of cerebral weakness (weak pulse, cyanosis, pulmonary œdema). The expired breath two minutes after the injection had a strong odor of camphor. The cramps and the delirium ceased in about ten minutes, but the symptoms of cerebral weakness continued for twenty-four hours, and did not entirely disappear for several days. The author advises caution in the use of the remedy, and believes that an injection should not be forced when obstacles are met with, as in cases of obliterated articulations and sclerosed glands.

The Etiology of Chorea Minor.—Theodor Frölich reports forty-seven cases in children from three to sixteen years old. In twenty-four of these there was a family history of rheumatism or of psychical trouble. Fifteen of the patients had had acute rheumatism. In sixteen the chorea was ushered in or accompanied by febrile symptoms with angina, articular affections, or erythema nodosum. These sixteen cases the author considers to be infections. In four patients the chorea followed other infectious diseases—scarlatina, influenza, and epidemic muscular rheumatism. In twelve cases there was no previous infection, but three of them had cardiac lesions. On the whole, the author holds that in 80.85 per cent. of the cases infection was proved, and not proved in 19.15 per cent.

Milk Diet in the Treatment of Stationary Scotomatous Atrophy of the Optic Nerve and Special Alexia, in Spite of Good Visual Perception (Central Annular Scotoma) after Relative Cure of the Affection.—By S. Holth.

A Case of Color-Blindness following Beri-beri.—By F. Tillier.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CLIMATIC FREAKS—BUBONIC PLAGUE IN GLASGOW—EUTHANASIA ADVOCATED BY "A PHYSICIAN"—THE WAR HOSPITALS—MR. BURDETT-COUTTS CONTRADICTED—THE COMMISSION.

LONDON, August 24, 1900.

AGAIN we have been having a cold snap while reading telegrams of your sufferings under another heat-wave. The thermometer marking barely 60° F. in August made us feel that autumn if not winter had really set in. Last year at the same time it was in the eighties. On Monday and Tuesday it was quite curious to see men going about in overcoats with collars turned up and ladies in sealskins and muffs. The shops, too, were suddenly transformed, for the windows were dressed with winter garments. Yesterday the rigor had relaxed and the thermometer was in the seventies. But the sky was overcast and we had only forty minutes of clear sunshine. To-day is just the same. The meteorologists are divided as to whether we are entering a period of summer or must first pass through storms.

Glasgow has had a week of anxiety on account of a visit of the plague. A suspicious death occurred in hospital on Monday, and precautions were at once taken, while experiments were being carried out by Professor Muir. The result of these is that to-day the medical officer of health officially announces that the death was caused by plague. One or two other suspicious deaths have occurred. You must not think the last few days have been passed without great activity on the part of the sanitary staff, which has been doubled. It is believed that the outbreak will be

soon stamped out. There are nine suspected cases being carefully watched in the hospital, and fifty-five contacts have been isolated, and one is under observation. The sanitary offices will be kept open night and day. The Paris Pasteur Institute has supplied serum. Quarantine regulations will no doubt affect Glasgow and the Clyde ports, but the Scottish local government board does well to let the truth be known and to second the efforts of sanitary offices to limit the outbreak.

An unfounded report that two ships in Dublin harbor had cases of plague on board gave rise to no little fear on Thursday, when the city was full of visitors to the great horse-show.

In this country suicide is criminal, and persons are often brought before the magistrates for attempting it. Unless under very exceptional circumstances the act is generally regarded as cowardly or disgraceful. Nevertheless, there have never been wanting those who hold it to be justifiable. To assist another in putting an end to his life might lead to a charge of being an accomplice in murder. And yet the question has often been raised, whether the promotion of euthanasia is justifiable by the medical attendant in hopeless cases. Discussion of the point has been started again by a letter in a provincial newspaper signed "A Physician." The writer starts with the assumption that suicide is justifiable—nay, may often be honorable and brave. From this he goes on to argue that as a man has a right to determine his own life, it may be equally right for the physician to assist him in thus ending the sufferings of a patient whose case is hopeless. He would limit this course to those cases in which a rapid but painful end is near, and says he has in a number of cases closed them with chloroform. Religious or moral objections he considers it the business of the sufferer to settle. As to the legal questions he might find it awkward to make this confession to a magistrate, and he does well to write anonymously lest the nearest policeman should fail to appreciate his logic. An academical discussion on the morality of promoting euthanasia may be very well in a medical journal—though, often as the question has been raised, the profession has invariably repudiated the thought of becoming a party to taking or shortening life.

The statements made by Mr. Burdett-Coutts respecting the sick and wounded have been contradicted by another of our consulting surgeons in South Africa, and one, too, who had the opportunity of knowing the facts at Bloemfontein, for he was there at the time covered by Mr. Coutts' letters to *The Times*. This surgeon is Mr. Kendall Franks, who was attached to the army headquarters and accompanied Lord Roberts in his famous march. His testimony is therefore of special value. "I confess," he writes in *The Telegraph*, "I have not been able to locate the especial field hospital described by Mr. Coutts," and then he slyly suggests that perhaps he was "not able to recognize it under the description given by that gentleman." He says, although he has seen overcrowding which was unavoidable, and even men lying on the ground because every available stretcher and bed was occupied, he never saw "in any hospital, field or otherwise, anything resembling the state of affairs described by Mr. Coutts." Mr. Franks further denies that funerals were going on "from morning to night," or that the dead were buried in "unknown crowded graves," as asserted by Mr. Coutts. He says the funerals took place between 2 and 5 P.M., and declares on the authority of the chaplain on the headquarters staff that every body had its own grave, every grave being numbered and the names and numbers registered in the cathedral books. This seems a facer for Mr. Coutts, whose "hysterical word-painting" is once more exposed. Mr. Franks explains why some supplies had to wait—it was because "to supply the troops with proper and sufficient food was the most humane precaution to prevent the spread of disease," and he declares that Lord Roberts should be shielded by the public "from the unfair and carping criticism of an irresponsible itinerant." As to Mr. Coutts' sensational account of the appearance of the troops on arrival at Bloemfontein, Mr. Franks says, "It is not a true picture; it is not exaggerated—it is false."

On the other hand, Mrs. Dick Chamberlain has returned and been interviewed. She says, "Every word that Mr. Burdett-Coutts has said with regard to the dreadful mismanagement of the hospitals is true." Perhaps the common report is correct that Mrs. Dick Chamberlain got hold of Mr. Coutts and through him vented her revenge for being excluded from the hospitals as useless and in the way. If so she would have been well advised to take the hint of Sir A. Milner and return to the excitements of London Society (with a capital S). She told her interviewer that "the army doctors, with but few exceptions, were an inferior class of men." Perhaps some of them will retort that would-be fashionable ladies are an inferior class of women. She further said six cases of drunkenness among them came under her observation, and after coming in contact with the police were sent home in charge of invalids on transports. This statement should be capable of support or otherwise by the police records. I pass by other allegations more difficult of disproof and which will probably be contradicted in due course. So, too, anonymous statements are not worth repeating.

But it appears that there will be evidence submitted to the commission on the defects noticed by competent observers, and we may well await their testimony. The commissioners are quite qualified to weigh the evidence. They have already visited Wynberg and taken the evidence of Colonel Anthonisz, who has been in charge for the last ten months. He denies Mrs. Dick Chamberlain's allegations and attributes them to spite. Professor Dunlop, who was there for six months, has nothing to complain of except excessive red tape.

THE DISCOVERY OF "UREINE," THE PRINCIPAL ORGANIC CONSTITUENT OF URINE.

To the Editor of the Medical Record.

Sir: Kindly permit me to add the following remarks as a postscript to the paper recently published under the above title in the Medical Record:

In order not to weaken the toxic qualities of ureine by exposing it to a high temperature, and also to simplify the method of its isolation, I have found the following procedure to be preferable to the one recommended in my paper: We evaporate the urine at a temperature of 50–55° C. until we are certain that no more evaporation takes place. Then we reduce the temperature of the liquid, if possible to 0° C., and add a convenient quantity of cold absolute alcohol to facilitate filtration. We now separate the urea present by adding pulverized pure oxalic acid, until no further precipitate is formed, and then we filter the alcoholic liquid and evaporate it at 50–55° C. The ureine resulting from this method is sufficiently pure to satisfy all exigencies of clinical-medicine and of physiology, for it is evident that the presence of some saline matter cannot influence the qualities of ureine, and, furthermore, I have convinced myself that the presence or absence of urinary coloring-matters does not alter the symptoms observed in experiments upon animals. If we wish to isolate the ureine for chemical purposes, we continue the above procedure by treating the alcoholic liquid successively with barytes, to remove the sulphates and phosphates, with nitrate of silver to separate the chloride of sodium, and finally with mercuric nitrate to remove the coloring-matters of the urine; it is better not to neutralize subsequently with sodium carbonate. There is one rather important point which I have observed since the preparation of my paper. If we add nitric acid to ureine, a solid, wax-like mass will be formed at once, and this is a fact worth remembering, as otherwise one might think that this solid, wax-like substance was the result of a chemical combination of nitric acid and urea.

William Ovid Moor, M.D.

121 Monte Citorio, Rome, August 12, 1900.

Reviews and Notices.

A Memoir of Henry Jacob Bigelow, A.M., M.D., LL.D., who was Emeritus Professor of Surgery in Harvard University and a member of many home and foreign scientific societies. Boston: Little, Brown & Company. 1900. Together with three volumes, one devoted to orthopædic surgery and medical papers; one to surgical anæsthesia, addresses, and other papers, and one containing: I. The Mechanism of Dislocations and Fracture of the Hip; and, II., Litholapaxy, or Rapid Lithotrity with Evacuation.

The first volume, which contains portraits of Dr. Bigelow, taken in 1841–1872, and an excellent likeness as a frontispiece from a photograph taken in 1888, is devoted to a reproduction of written monographs, addresses, and interviews, contributed by friends and admirers at the time of this distinguished surgeon's death. There is a vigorous biographical memoir by Prof. Oliver Wendell Holmes, and graphic sketches by Professor Fitz, Dr. Cabot, Mr. Lee; reminiscences by Drs. Derby, Beach, and other intimate friends and associates. The miscellaneous papers reproduced in the next volume relate mostly to surgery, and include the more important of Dr. Bigelow's contributions to medical journals, including the Boylston prize dissertation. The interesting and vastly important discovery of surgical anæsthesia, with which the subject of these me-

moirs was closely identified, is gone over here in chronological order by a reproduction of the publications and addresses of Dr. Bigelow bearing upon the questions involved. The first portion of the fourth volume is a reprint of a treatise on the "Mechanism of Dislocations and Fracture of the Hip," for a long time out of print. The second part includes published articles on rapid lithotrity, unmodified except by the author's own annotations. Taken together this set of works makes a fitting tribute to the memory of one who did so much to advance surgical science in various ways and to add to the lustre of American medicine.

Grundriss der orthopädischen Chirurgie für praktische Aerzte und Studierende. Von Dr. Max David, Berlin. Mit 129 Abbildungen. Berlin: S. Karger. 1900.

This is a condensed text-book on orthopædic surgery arranged so as to be especially useful for the student. The illustrations are suitable, though some of them are crude, and the text meets the requirements of the student class, to whom we can recommend the book.

The Year Book of the Nose, Throat, and Ear. Edited by G. P. Head and A. H. Andrews, Professors in the Post-Graduate Medical School of Chicago. Chicago Medical Book Company. 1900.

The scope of this new venture includes a statement of the essential points made in journal articles in the departments covered, which have appeared during the year. It is convenient for reference, and though not exhaustive may be improved in succeeding issues. The work is divided into chapters, and the articles taken at random are referred to the bibliographic list by number and date on which the article appeared. The field is fairly well covered, and the specialist in these branches will find something about most of the advances.

The Criminal: His Personnel and Environment; A Scientific Study. By August Drahms, Resident Chaplain State Prison, San Quentin Prison, California. With an introduction by Cesare Lombroso, Professor of Psychiatry, University of Torino, Italy. New York: The Macmillan Company. 1900.

We find here a result of several years' observation, from the near point of vision, by a practical worker among the class described. The personal and social aspects of the question are chiefly considered. The field is surely large, and no one can successfully maintain that it has been overworked. The present contribution to the moral, social, political, and economic aspects of the condition are of value as an aid in the solution of some of the important questions involved.

International Clinics: A Quarterly of Clinical Lectures and Especially Prepared Articles. Edited by Henry W. Cattell, A.M., M.D., with the collaboration of John Ashhurst, Jr., Charles H. Reed, and James T. Whittaker. With regular correspondents in Montreal, London, Paris, Leipsic, and Vienna. Vols. I. and II. Tenth series. Philadelphia: J. B. Lippincott & Co. 1900.

With the change in editorial management of this well-known quarterly there have come some modifications and alterations in the general construction, and a new staff of assistants has replaced the old. It does not always or of necessity follow that a change is for the best, or that because of a new editor the reader and subscriber are going to benefit. In the present instance, however, one must admit that the captain has taken the wheel as though he were quite familiar with the craft, the waters, and all the reefs and rocks, whether they are down on the chart or not. In selecting contributors for these two volumes the editor has been quite happy, and such names appear as Brieger, Dieulafoy, Flexner, Gautier, Lassar (who has an interesting illustrated lecture on lepra), T. G. Morton, Victor Vaughan, C. J. Aldrich, C. W. Allen, Ballantyne, Bishop, Katzenbach, R. T. Morris, J. B. Murphy, Senator, Skene, Souchon, G. L. Walton, J. C. Wilson, and others equally well known. The literary and scientific quality of the lectures and special articles is of a high order, and the illustrations are well made. The date upon the back has wisely been omitted, since it was more apt to confuse than otherwise. The new editor, who has himself contributed an interesting article to each of these issues, is to be congratulated upon the good impression which the initial volumes cannot fail to make.

The Law in its Relations to Physicians. By Arthur N. Taylor, LL.B., of the New York Bar. New York: D. Appleton & Company. 1900.

In the preface to this useful little handbook the author, implying that there are no similar treatises, says that the need of revealing to physicians their legal relations broke upon him when, casually looking over the pages of a current legal journal, his attention was caught by the case of a physician who had been cast in substantial damages for having violated well-established legal principles. Mr. Taylor, however, has had predecessors. Ordronaux's scholarly lectures on the jurisprudence of medicine, Glenn's excellent manual of the laws affecting medical men, McClellan's "Civil Malpractice," Rogers' book, "The Law and Medical Men," Field's "Medical Guide," are all small books covering more or less Mr. Taylor's limits. More recently Hamilton's "System of Legal Medicine" covers the same field in a special article, and the treatises of Becker and Witthaus and other writers on medical jurisprudence deal with the same topics; and foreign books in the field are not lacking. The lack of a table of cases, which is usually found in law books, renders it difficult to compare Mr. Taylor's work with that of his predecessors as a collection of authorities. Turning the pages we find the familiar cases cited in other books and some of later date. Probably the treatise is not intended to be an exhaustive collection of authorities, for under the important heading, "What Constitutes the Practice of Medicine?" we do not find Underwood *v.* Scott, Wood *v.* Kelly, Harding *v.* People, Alcott *v.* Barber, Musser's Executors *v.* Chase, and other cases cited in the brief for medical prosecutions issued by Treat two years ago; nor do we find State *v.* Paul, holding that one cannot practise under the guise of an assistant, a principle of importance especially under the dental law; for in this State many men have been convicted of practising dentistry unlawfully who have been defended upon the ground that they were assistants of licensed men. We do not find any discussion, by the way, of the very interesting question whether dentistry is or is not a specialty of medicine, although there are a number of reported cases upon that topic which one would expect to find cited under the definition of physician or dentist. Upon the important question whether a physician registered in one county may practise in another without registration, Martino *v.* Kirk is cited, without noting that its rule was based upon the law of 1880, which had been repealed before the case was decided. Wiel *v.* Cowles is cited to the effect that an unlicensed practitioner may be required to disclose confidential communications of a patient; but we do not find the recent holding of Mr. Justice McAdam (McGillicuddy *v.* F. L. & P. Co.) that a licensed physician not legally qualified to practise, because unregistered, may not be compelled to make such disclosure—the privilege being the patient's and not his. There seems to be no note of the many cases decided of late years under excise laws, especially in the West, South, and Southwest, whereby the ability of thirsty gentlemen to evade the law through a physician's prescription is harshly circumscribed. Thus it was held in North Carolina, when a dentist prescribed a pint of whiskey on Sunday for an aching tooth, that a dentist was not a doctor within the meaning of the law—a decision said to be necessary in view of the fact that every normal citizen of North Carolina has thirty-two teeth that might possibly ache at once. There seems to be no mention of the line of cases holding medical men or their patients liable for defamation in making disparaging remarks of one another; nor of the very important topic of medical societies, the obligation to join them, and the rights of members; nor yet of the right of colleges and hospitals to dismiss members of the staff (People *ex rel.* Kelsey *v.* N. Y. P. G. M. S. & H., 29 App. Div. 244). There is no discussion of expert testimony or even of that important question—as to which two rules obtain—whether a physician is bound to testify as an expert for an ordinary witness' fee. For taking a wrong position upon this point Dr. Dixon found himself in contempt of court (Dixon *v.* The People, 168 Illinois, 129). It may be that some of these topics have been touched upon so that one who reads from cover to cover might find them; but we have found no clew to them in the index or table of contents. This only means, however, that the book is not exhaustive and does not entirely supply the place of other treatises the existence of which it does not indicate. It may be, nevertheless, a useful little book for the practitioner, who will bear in mind that any book of the kind can only be for the physician what a "Household Doctor" or pamphlet on "First Aid to the Injured" would be in a lawyer's family. The subject was suggested some time ago by the Medical Record as one which might be profitably included in the curriculum of all medical colleges.

Sixth International Otological Congress, Held in London, August, 1899, under the Presidency of Professor Urban Pritchard. Transactions, edited by E. Cresswell Baber. London: The Southern Publishing Company. 1900.

This somewhat bulky volume of nearly five hundred pages contains the proceedings of the congress above named. It has the peculiarity of presenting the various contributions in the respective languages in which they were delivered; so we find pages in English, French, German and Italian. It is a most admirable example of the ideal volume of

scientific proceedings and of careful editing. The various papers and discussions have been abstracted in many current journals during the past year and call for no special mention here.

The Water Supply of the City of New York. August, 1900.

This large volume contains the result of an inquiry into the conditions relating to the water supply of this city, undertaken by the Merchants' Association of New York. The immediate occasion was the attempt to bind the city to the payment of an immense sum of money to the Ramapo Water Company for water which the city can obtain through its own efforts for a fraction of the amount. The report shows conclusively that there is no danger of a water famine, and that the city can always obtain all the water it needs without having resource to a private company.

Surgical Anatomy. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. Vol. II. Philadelphia: P. Blakiston's Son & Co. 1900.

The second volume of this really superb work is concerned with the anatomy of the neck, mouth, pharynx, nose, orbit, eyeball, organ of hearing, brain, male perineum, and female perineum. These parts are illustrated by one hundred and seventy large plates and described in three hundred and thirty-seven pages of text. An index of thirty pages makes all this material readily accessible to the inquirer. As an illustration of the thoroughness with which the author treats his subject, we may analyze the section dealing with the organ of hearing. Each division is taken up in turn and described in all its parts from the surface inward; the diseases affecting it, so far as they have any relation to the anatomy, are mentioned, and the anatomical bearings of operations in the neighborhood are touched upon. This fills nineteen pages of text. The plates in this section are twelve in number, as follows: Pinna, intrinsic muscles of pinna, external and middle ear, anterior vein of right tympanum, membrana tympani and its inclination, external view of membrana tympani of left ear, internal view of right tympanum, external view of bony labyrinth, or cochlea and semicircular canals, interior of osseous labyrinth of left internal ear, interior of osseous portion of cochlea, section of osseous portion of cochlea, and diagram of membranous labyrinth. The appearance of the third and concluding volume of Dr. Deaver's unequalled work will be eagerly looked for by those fortunate enough to possess the first two volumes.

A Text-Book of the Medical Treatment of Diseases and Symptoms. By Nestor Tirard, M.D. London, F.R.C.P., Professor of the Principles and Practice of Medicine, King's College, London; Physician to King's College Hospital; Examiner in Materia Medica to the Conjoint Board of England. Adapted to the United States Pharmacopœia by E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy, and Materia Medica, Jefferson Medical College, Philadelphia. Philadelphia and New York: Lea Brothers & Co. 1900.

It is a curious fact that most medical writers, whether of monographs or of general treatises, while acknowledging that the end of medicine is the prevention and cure of disease, usually devote but little space to therapeutics. It is this neglect of the most important branch of medicine that gives an excuse for works like the one before us. Dr. Tirard takes up the several affections of the circulatory, respiratory, digestive, and nervous systems in turn, and discusses both the general management of these diseases and the various measures adapted to the relief of the special symptoms as they arise. The work is probably not intended to be encyclopedic, yet we think the author has erred somewhat on the side of conservatism in refusing to discuss such methods as the use of carbolic acid in the treatment of tetanus or the serum treatment of pneumonia. Such important affections as epidemic cerebrospinal meningitis, multiple neuritis, beriberi, round ulcer of the duodenum, arteriosclerosis, and ozæna are ignored, or at least are not discoverable on careful perusal of the index and patient search through the body of the book. Certain of the author's recommendations are unsound; as, for example, when he advises, without any qualification whatever, a resort to quinine in the treatment of malarial hæmoglobinuria. Despite these imperfections and omissions, however, the book is one that can be safely recommended, for its blemishes are outweighed by its merits. The author has what medical teachers sometimes lack—common sense and practicality—and his discussion of such common but distressing complaints as dyspepsia and constipation is worthy of all commendation.

Society Reports.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, June 5, 1900.

The President, Frederick Peterson, M.D., in the Chair.

Exophthalmic Goitre Treated by Intestinal Antiseptics.—Dr. Mary Putnam Jacobi reported a case of this nature. B. D——, aged twenty-two years, was first seen February 8, 1899. She had been well until the age of twenty years, when she began to work in a shop for making infants' clothing. She worked from 8 A.M. until 5 P.M. on buttonholes and feather-stitching. She began to sufier much from constipation, relieved by frequent purgation with licorice powder. At the end of a year menstruation ceased, *i.e.*, in July, 1897. Six months later the eyeballs began to be prominent; at the same time there were flushings of heat all over the body, palpitations, headache, and weakness, tremor of the hands and feet, especially on rising in the morning, and frequent distress in the stomach. In the summer of 1898 constipation was replaced by chronic diarrhœa. In February of this year she had a severe attack of diphtheria, for the treatment of which she entered Mt. Sinai Hospital. On recovery from this the patient felt for a while much better. The thyroid gland was only moderately enlarged and appeared to be slightly larger in the morning, at the same time that the tremor and diarrhœa occurred. There was marked accentuation of both cardiac sounds over the tricuspid, but none at the mitral valve. No cardiac murmurs were audible, but there was a systolic murmur over the carotid artery. The pulse was 120; respiration 24. The sphygmogram was regular, rapid, with normal dicrotism. The patient complained of constant aching in the upper dorsal region between the shoulder blades, in the region of the columns of Clarke. An attempt at a complete milk diet rendered the patient very weak and miserable and increased the tachycardia to such a point that the pulse could not be counted. The urine was examined by Bouchard's method once in February and again in March. On the first occasion the toxic coefficient was 5.79; on the second, .712. The patient had been treated with various nerve and vascular tonics without material benefit, before she came under the speaker's care, so that line of medication was abandoned altogether and attention was directed to disinfection of the intestinal canal. Various disinfectants were used at different times; for a long period, bismuth, salicyl, and beta-naphthol were given, associated with a daily flushing of the colon with two quarts of water. Under this treatment, and especially the colon flushing, the diarrhœa was arrested and the patient grew steadily stronger, and the menstruation returned on April 15, 1899, after an amenorrhœa of twenty-two months. The week before this happened a third examination of the urine gave a urotoxic coefficient of 1.426, nearly double the toxicity found in March. On April 21st the patient was feeling very weak, with much headache and anorexia, and the urotoxic coefficient was .388, the only time at which it was subnormal or other than excessive. On March 27th, after an experiment with thymus gland, the coefficient was 1.662. Menstruation occurred three days later, but after this it was absent until January, 1900, when it returned and has recurred regularly ever since. The last urinary examination was made May 22, 1900, and the coefficient was then nearly normal, being .432. The pulse remained at 120 or over with

scarcely an exception for eleven months; then, on January 24th, it became 100 and did not change in spite of an attack of diarrhœa and insomnia. On the 7th of February, 1900, the medication was changed to salicylate of sodium, of which from gr. lx. to gr. lxxx. were given a day. After ten days the pulse was found at 93, ten days later at 92, on April 4th at 90; the day before the report was made it was 93.

Dr. E. D. Fisher said that the case showed a very vascular condition of the thyroid gland. He did not absolutely agree with Dr. Jacobi in the use of intestinal antiseptics. He had had success with the use of strophanthin for long periods. That treatment might be carried out in a case of this kind.

Dr. William H. Porter said that he had seen recently two cases of a similar nature treated by antisepsis of the alimentary canal, and this had given better results than have been obtained under other treatment for that class of cases.

Dr. William H. Caswell said that glycerophosphate of sodium, gr. xv. three times a day, had been given in a case of this kind, and the improvement had been very marked. The pulse had fallen from 130 or 140 to 84 or 88, and had remained so for the last two months. All constitutional symptoms were very much improved, although the exophthalmos had not disappeared, nor was there any decrease in the size of the thyroid. The patient was, however, better and was still doing well.

Dr. Jacobi replied that this question of the urotoxic coefficient interested her, although she had paid no systematic attention to it. She had noted that when the urotoxic coefficient was in excess of normal, the patient was better. Once it fell below normal and she was decidedly weaker with symptoms of more constitutional poisoning, this confirming the idea that poison circulating in the blood and excess of urine toxicity coexisted with the effort of the organism to throw it out. When the toxicity was high, the patient was better; when subnormal the patient was worse.

Congenital Hydrocephalus of Non-Inflammatory Type.—Dr. Joseph Fraenkel presented this case. He said he thought it worth while to bring the patient, as the case seemed unusual in its clinical pathology, and he was in doubt as to the correct diagnosis. The child was twenty-six months old; it was born at full term without difficulty. The father was thirty-six years old, the mother thirty; they were Russian Hebrews. Both were perfectly free from taint of chronic disease. They had three other living children, all perfectly well. One miscarriage occurred prior to birth of this child. Immediately after birth the child was noticed to be abnormal. It did not hold its head up and gave no evidences of mind or brain development. The symptoms had since become accentuated. At no time had it walked, talked, or shown any signs of mental vigor. Obstinate constipation had existed since birth. All examinations had given a negative result. There were no evidences on the skeleton pointing to rachitis. The upper and lower extremities were rigid and permanently contracted, but the contracture could be overcome, and the reflexes were present. There was no ankylosis, and the reflexes were not exaggerated as would be expected. The child vomited at times and had had three or four general convulsions. After the last one reported, the child lost its voice for three or four days. Sensation in so far as it could be determined was normal. The head was somewhat large, 46 anthropometers in circumference, though not so large as in hydrocephalic infants usually. The fontanelles were not closed. The child was put on iodide of potassium and iodide of iron, and was thought to have improved, but objective examination showed no improvement. The speaker could make no diagnosis except that of hydrocephalus, but the history of the case was not in keeping with the general experience of that disease.

Dr. Fisher agreed with Dr. Fraenkel's diagnosis of hydrocephalus, non-inflammatory type, congenital. One case which he had seen showed a congenital condition of interference with the circulation through the fontanelles.

Dr. Fraenkel said he had made the diagnosis of hydrocephalus with some hesitation, and he was dissatisfied with it. In other cases he had seen, he had not noticed this constant rigidity and throwing back of the head. Taking into consideration the severity of the symptoms, the head was comparatively small.

Dr. Jacobi asked whether there might not be a correlation between the small head and the severity of the symptoms. For some reason the head had not yielded, causing greater intercranial pressure than in ordinary cases in which the skull was large and necessarily the pressure was less.

Dr. Lewis A. Connor said this question of increased intercranial pressure could be determined by puncturing and the use of the manometer measuring resistance. A manometer might be readily improvised by means of a bent glass tube with a short horizontal arm and a long perpendicular one, attached by a piece of rubber tubing to the cranium.

Dr. Peterson said that it seemed to him the fact of the fontanelles being open would show that there was not unusually great pressure. The case did not look like one of congenital hydrocephalus. In that disease there should be an unusual growth of the head. He had seen this rigidity resulting from basilar hemorrhage occurring during the birth of the infant.

Dr. Fraenkel replied that in this case the labor was distinctly noted to have been normal.

Multiple Neuritis Following Pneumonia.—Dr. Lewis Connor presented a case of this kind. He said he wanted to show the patient, not because the condition was unusual, but because of its unusual association with another disease. The man, forty-one years of age, came to the Hudson Street Hospital on November 7th with a lobar pneumonia of five days' standing, typical in history and physical signs. The consolidation involved the left upper and lower lobes and the disease ran a normal course up to the point of defervescence. Instead of clearing up at the end of the seventh or ninth day, although temperature fell, the consolidation remained, the case presenting the ordinary picture of delayed resolution, lasting two weeks beyond the allotted time. During that time the patient gave no evidence of any other trouble. Just at the end of this period of consolidation, three weeks from the beginning of the attack of pneumonia, it was noticed that his legs were weak and that there was some discomfort in moving them, and the left arm extensors were also paretic. In the course of a week the following picture was developed: Extensive, almost complete paresis of the extensors of the leg, tibialis group, and peroneal muscles, and extensors of the left arm, and slight loss of power in the right arm; no anæsthesia; some numbness of the tips of the fingers and an area of hyperæsthesia over the crests of the ilia on both sides; almost no pain except girdle sensation; very slight tenderness over the calves of the legs and the arms. The diaphragm was not moving properly, and in about a week from the beginning of symptoms of paralysis there was complete loss of function of the diaphragm with either forced or natural respiration. It was a severe multiple neuritis which ran a course of five weeks before any improvement could be noticed. The patient could now walk about and had recovered very largely the use of his left hand. It was six weeks from the time of disap-

pearance of function in the diaphragm before the first contraction could be recognized. So severe a neuritis was very unusual in lobar pneumonia; it was recognized as a possible complication, but an unusual one, and in those cases in which the speaker had found it the neuritis had been local or else of a mild type. As to frequency of involvement of the diaphragm in these cases of functional neuritis, he had not seen anything in the literature of the subject, but his impression was that it was not common. He had neglected to say that the man's history was good so far as syphilis or tuberculosis went. He had been accustomed to drink three or four glasses of beer or ale in the course of the day, and two or three times a week a glass of whiskey. The picture was not that of alcoholic neuritis, nor were the sensory symptoms less marked than they usually were in these cases.

Dr. Cunningham asked what the state of the pulse was during this attack, and whether there was any involvement of the vagus.

Dr. Connor replied that the pulse remained normal. Only the pupils were involved.

Dr. Cunningham said that in alcoholic neuritis the vagus invariably was affected several days before the diaphragm was involved.

Dr. Jacobi asked whether it was thought that there was any infection by continuity of inflammation from the leg to the diaphragm, affecting the motility of the phrenic.

Dr. Connor said that his idea was that it was purely a matter of toxism; delayed resolution, long maintained condition of consolidation with continued growth of the specific bacterium. This was a cause of toxism sufficient to produce this result, taken in conjunction with the damaged condition of the nerves from the man's alcoholic habit.

Dr. Peterson said that a case such as the one just reported was quite unusual; it certainly was one of simple multiple neuritis following pneumonia. The moderate alcoholism might not have been sufficient to produce neuritis, but the added toxic condition of the blood caused by the pneumonia was sufficient to bring it about.

Progressive Muscular Atrophy.—Dr. Caswell reported a case of this nature. A young woman, twenty-one years of age, came to the Vanderbilt clinic seeking treatment for weakness in the hands. She was a maker of artificial flowers. Five or six months ago her hands began to fail, and she could not work so easily as before. The speaker found upon investigation that from the time she was a young girl she had had difficulty in closing her eyes, and she did not smile and use her lips and mouth as other children did. She was not conscious of this, and had complained only for the past few months that her hands failed at work. He examined her and found a case which in almost every particular conformed to the type of primary progressive dystrophy described by Landouzy-Dejerine, beginning in the face with no hypertrophy, the atrophy showing later in the upper extremities. The lower extremities were fairly well developed for a thin girl. The arms from the elbows to the fingers were not atrophied. From the elbows to the shoulders there was marked atrophy on both sides. The pectoral muscles about the triangles of the neck were decidedly wasted and fallen away. When the arms were turned backward the superior angles of the scapulæ went into the triangles of the neck on both sides; when the hands were put forward, the scapulæ were winged. This was due to the atrophy and weakness of the lower portions of the trapezius and deltoid. The face was myopathic. The onset of this disease, Dr. Caswell said, was very insidious. Until the patient noticed something which interfered with the daily employment or manual labor, she did not seek treatment.

Dr. Peterson said that he had considered the Landouzy-Dejerine type very rare up to two years ago, rarer than the Erb juvenile form, but within the past two years he had seen four cases with perfectly typical syndromes. The history was usually indefinite except as to the eyes. The patients never remembered being able to close the eyes. This would lead the speaker to suggest that some cases occasionally met, of bilateral lagophthalmos, might turn out to be this disease. Several years ago he thought this form a variation of the Erb juvenile type. Now he thought it a different syndrome with a different pathological basis.

Progressive Muscular Atrophy.—Dr. Leopold Stieglitz reported a case of a man, thirty-three years of age, born in Germany, who came to this country four years ago; his father died of heart disease, his mother was living. He had one brother and four sisters, and said none of them had a trouble similar to his. He could not state exactly when his present trouble began. He had noticed for some years weakness in the legs and inability to lift them properly from the ground; in consequence of this he had difficulty in walking and tired easily. This condition became steadily worse. The speaker saw the patient four years ago at Mt. Sinai Dispensary. Upon examination he found very profound atrophy, no disturbance of sense, and slight signs of reaction of degeneration. The case was entered as one of the peroneal type of progressive muscular atrophy. Last February the patient returned to the dispensary complaining of weakness in the arms. Upon examination it was found that, besides the condition in the legs, there was a very pronounced typical condition of progressive muscular atrophy of the body. The atrophy involved also the gastrocnemius muscles of the calf and to a certain extent the muscles of the thighs. On both sides there were atrophy of the pectoral, hypertrophy of the deltoids, wasting away of the upper arms, typical drop-foot, and atrophy of the lower extremities. The diagnosis was the peroneal and juvenile types of progressive muscular atrophy or dystrophy. The electrical reactions, however, did not correspond to those one would expect in a case of this kind. They were normal in the upper extremities and absent entirely in the lower. The patient had winged scapulæ, protruding abdomen, and kyphosis—all indicative of progressive muscular dystrophy.

Dr. Fisher said that there was a fine-drawn distinction between the juvenile and peroneal types. From the conjunction of the two in the same patient, it would seem that they might belong to the same family.

Dr. Fraenkel said the three types of dystrophy were shown in this patient. The remarkable feature was the absence of any heredity. This condition was unusual, he said, so late in life.

Dr. Peterson agreed with Dr. Stieglitz that it was the juvenile type. He thought there was a marked distinction between the juvenile and the Charcot-Marie-Tooth forms. The two syndromes were not alike. One peculiarity in Dr. Stieglitz's case was that the legs below the knees were affected. He could not see why, in the Erb-juvenile form, other muscles were not involved besides the shoulder girdle.

Dr. Stieglitz said that the unusual feature was the commencement of the disease in the lower extremities. He had looked into the literature of the subject and could find nothing that exactly corresponded with this case. The involvement of the lower legs was not so unusual, and in this case simply the muscles below the thigh sequence were involved. Atrophy of the muscles of the thigh was common in progressive muscular dystrophy. He thought a distinction should be made between the Charcot-Marie-Tooth and the Landouzy-Dejerine types on account of the difference in pathol-

ogy. The former was a disease of the cord; the Landouzy-Dejerine type was a pure myotrophia. On that account we should not try to connect the two syndromes. Unless the family history was carefully investigated we might be misled, for the disease might be hereditary without its being found out from the statements of the patient.

Hereditary Cerebellar Ataxia.—Dr. M. Mailhouse presented a case of this affection so-called. The patient, F. F——, was admitted to the New Haven Hospital January 13, 1900, with the following history: Age, thirty-two years; single; birthplace United States; occupation, postal clerk; the father and mother were living and well; he had five sisters living, all in good health. One sister died of pulmonary tuberculosis and another died in infancy of some cause not stated. The mother's mother also died of pulmonary tuberculosis. A sister of his mother was at present an inmate of the Connecticut Asylum for the Insane. Both mother and father have had muscular rheumatism. The patient had scarlet fever and diphtheria at fifteen years of age. When a boy he had rheumatism of mild degree. In 1887 he had a sunstroke which left him confined to his bed. He never had syphilis, alcoholism, or tuberculosis. According to the history taken on his admission to the hospital, the patient first noticed in 1887 a dragging of his toes on walking and that his shoes curled up, and were worn at the toes; he did not walk with a stamping gait and could direct his feet anywhere without trouble. The legs did not cross in walking. On closing his eyes while standing he was unable to keep his balance. He had no pain in the legs, but considerable backache. Then his hands began to tremble (1888), and his legs shook on walking. These symptoms increased and he had to use two canes in walking in 1888, in 1889 he used a crutch and one cane, and in 1890 two crutches. He had lost fifty-seven pounds in weight within the past ten years. He had headaches, off and on, not severe. He also stated that when twenty-one years of age he noticed an inability to run; he could walk, but when he ran his legs got mixed up as though they were playing cross-tag with one another. For the past four or five years erections had been incomplete, and at one time he had frequent urination. In his present state he appeared to be a man above medium height, of good frame but somewhat emaciated. A striking feature as he stood supported by his two crutches was the nodding tremor of his head; this was aggravated by walking. There was marked asymmetry of the head, a flattening of the occiput, and pronounced sloping of the forehead, with considerable flattening over the left parietal region. There was some facial asymmetry also, as was evidenced by a greater prominence of the right supraorbital arch than of the left. The nose was directed toward the right, and the left palpebral fissure was smaller than the right. His gait was markedly ataxic; he was able to get about fairly well on a level with the aid of crutches, but lost his balance readily on attempting to ascend steps. There was absolutely no muscular weakness in his legs. The knee jerks were present, but not exaggerated. There was no ankle clonus. The Romberg symptom was present, and the patient was supported with difficulty when he stood with closed eyes. There was no impairment of sensation of any one of the forms, from head to toe. His movements were quickly performed, jerky, as was observed when he attempted to touch the tip of his nose with the index finger, the eyes being closed. The ataxia of the upper extremities was much less evident than that in the legs. His speech was noticeably affected, but changed, being sometimes scanning or staccato and at other times characterized by indecision and unsteadiness in the muscles of vocal expression; it was decidedly an ataxic speech. The pupils reacted neither to light nor to accommodation. There was marked lateral nystagmus, and when the patient looked upward a rotatory nystagmus occurred; when the eyes were at rest there was no oscillation. There were no contractures and no scoliosis. The grasp of the hands was strong and the muscles of the arms showed no loss of power. The pectoral muscles were wasted, otherwise no atrophies were present. There were no optic atrophy and no limitation of the visual fields, but the man was myopic, requiring a lens of seven diopters. The superficial reflexes were present, the plantar being very active. The urine presented no abnormality. The handwriting was like that of a tabetic. A review of the symptoms, Dr. Mailhouse said, revealed the marked ataxia of the whole muscular sytsem without any paralytic phenomena. The case resembled one of Friedreich's ataxia in its mode of development and general appearance, but differed from the typical disease in its later onset, in the retained knee-jerks, in the late and mild affection of the arms, in the loss of the ocular reflexes, and in the absence of contractures or paralysis; the man had been afflicted twelve years and there was no paralysis or contracture present. The question might arise as to the disease being multiple sclerosis, but the speaker believed that this affection could be ruled out by the mode of onset, it being ataxic rather than paraplegic, by the normal reflexes and sensory phenomena, and by the absence of intention tremor. Furthermore the long duration of the illness without any paralysis, ocular or corporal, would militate against such a diagnosis. The case was presented not as an argument in favor of the type of hereditary cerebellar ataxia, but rather as a clinical example of ataxia presenting such a symptom complex.

Dr. Caswell said that in the form of ataxia described the fundus was generally affected; there was more or less neuritis and the knee jerks were increased, and in this way discrimination was made between cerebellar and ordinary ataxia.

Dr. Fisher thought the sunstroke might have been an etiological factor in this case. He said he remembered a case of sunstroke followed by symptoms of this type, resembling compound or multiple sclerosis, not conforming strictly to either. Taking that as an etiological factor, there were ordinarily some meningitis, some change affecting the cortex of the brain leading to the ataxic symptoms; accordingly ataxia was seen with inco-ordination of the muscles, a spastic condition—a degenerative condition secondary to some such lesion as that caused by the action of the sun.

Dr. Fraenkel said there was a great difference between cerebellar ataxia and ataxia produced by disease of any other parts of the co-ordinatory system.

Dr. Peterson said he had examined the man before the meeting and thought the diagnosis lay between multiple sclerosis and cerebellar ataxia. He was inclined to think Dr. Mailhouse was right in his diagnosis of cerebellar hereditary ataxia, on account of the pupillary condition—no reaction to light—and because the man had more of an ataxia than tremor of the ordinary multiple-sclerosis type.

Dr. William B. Pritchard asked whether there was anything of note in the subjective history of the case as regards vision, hearing, or persistence of vertigo or headaches, that added to the data.

Dr. Mailhouse said there were no subjective symptoms at all, except backache and difficulty of manipulating the legs. The man was strongly myopic, but there was no eye-strain.

Raynaud's Disease of a Gangrenous Type.—Dr. William H. Porter presented a case of this kind. The man came to this country some years ago; for a year or so he was a hod carrier, then went into an iron foundry, where he had worked since. He had a very

pronounced alcoholic habit, and used tobacco to a considerable extent. In the middle of April he noticed that the fingers of both hands were very white and icy cold. This lasted for two weeks and was followed by superficial gangrene, discoloration and blackness of the four fingers of both hands, a little discoloration of the left ear, and a spot on the opposite ear. This condition lasted for ten days before he came to the hospital. He suffered intolerable pain and got very little sleep. The urine showed slight traces of albumin, a decrease in urea, and a large amount of indican. The patient had a very high pulse and was given doses of nitroglycerin with strychnine and caffeine to improve the circulation. Lead and opium dressing was applied and gave relief.

Dr. Pritchard said that the patient had been under his care for three or four weeks. At that time the man had, in addition to the symptoms mentioned, extreme œdema of the hand, extending beyond the wrist. He had almost the national combination of colors—blue finger tips, red hand, white arm. He was not relieved by the lead and opium applications made in varying strength, and by other local means. He admitted a rather gross alcoholic history, and those who saw him at the time were of the opinion that that was an etiological factor of some importance, possibly intensified by the extremes of heat and cold to which he had been exposed. His sufferings were horrible. Opiates were given in moderate quantities, only to modify the extremity of pain

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 15, 1900:

	Cases.	Deaths.
Tuberculosis	223	128
Typhoid fever	116	28
Scarlet fever	45	3
Measles	26	5
Diphtheria	111	20
Laryngeal diphtheria (croup)	3	1
Cerebro-spinal meningitis	0	6

Bronchitis in Children.—Oppenheim says that in the treatment of bronchitis in children the parents must by all means free themselves from certain time-honored beliefs which should be called superstitions. Children suffering from this disease need not be swathed in blankets and pads until they resemble mummies; they need not be kept unwashed during the course of the sickness, and they will not be killed by a breath of fresh air. On the contrary, they should be kept comfortably warm but not hot; they may with advantage have a warm bath morning and night; and the sick-room should always be kept well ventilated. One should keep in mind that most of these cases are examples of germ infection, and that they require a vigorous excretion, a satisfactory stimulation, and a bland soothing of the cough and pain.

Hints to Contributors to the Medical Press.—Professor Virchow, the editor of the *Archiv für pathologische Anatomie*, has addressed some words of counsel to the contributors to that periodical and to medical authors generally, explaining several points which it is desirable that writers for the medical press should always keep in mind. It would be difficult to find a higher authority on this subject than Professor Virchow, the patriarch of the savants and editors of Germany. His remarks are not intended for authors of books, who are at liberty to write as they like; they have been published exclusively for the benefit of contributors to medical weekly, monthly, or quarterly journals. He says that it is one of the elementary principles of journalism that the successive numbers of a journal must be issued at a certain time and in a certain size. Contributors must therefore endeavor to write concisely, taking up as little space as possible and avoiding all superfluous matter. Descriptions of cases, experiments, and necropsies when sent to editors for publication are often so voluminous that it is impossible to use them without serious inconvenience. The publication of series of cases, etc., in the form of tables is a great annoyance for the editor, the printer, and the readers. Controversies as to priority are often offensive in style and lacking in the courtesy due to professional brethren. Finally, contributors ought to abandon the custom of quoting long passages from other authors with the object only of showing their knowledge of medical literature.—*The Lancet.*

The Earliest Signs of Tuberculosis.—Professor Bozzalo, of Turin, in a paper read at the recent International Congress on Tuberculosis at Naples, has conveniently summarized the following eleven important points which are of assistance in forming a diagnosis of pulmonary phthisis in its earliest stages. They are as follows: (1) Albuminuria alternating with phosphaturia; (2) a pseudo-chlorosis distinguishable from true chlorosis by the slighter degree of reduction of the hæmoglobin and by the less marked vascular and cardiac disturbances (palpitation, soft pulse, pulsating arteries, etc.); (3) the presence of gastric disturbances like gastralgia, anorexia, nausea, and vomiting; (4) tachycardia in the absence of fever; (5) diminution of blood-pressure; (6) a rise of temperature following bodily or mental exertion above the slight rise proper to health; in women a rise of from 0.3° to 0.4 C. is observable before the onset of each menstrual period; (7) an undue tendency to sweat after exertion, mental or bodily, also night sweats; (8) pain in the supra-orbital regions and in the neck; (9) a slight inequality of the pupils with a tendency to dilatation (mydriasis); (10) the occurrence of herpes zoster; (11) enlargement of the spleen. Of these the first seven symptoms are the most frequently met with and possess considerable diagnostic value.—*The Lancet.*

The Hospital Ship "Maine."—Following is an account of the work of the American hospital ship *Maine*, now in Chinese waters, written by Mrs. Kinnicutt, one of the hospital officials of the State of New York, and published in *The Tribune*:

"The American hospital ship *Maine* arrived in Chinese waters on Saturday, August 25th. So little is known in the United States of her mission, either present or past, that I ask leave to acquaint your readers with what she has accomplished and what she still aims to do for the relief of suffering humanity and for the credit of our country in distant parts of the world. The idea of a hospital ship originated with an American woman, the wife of an American long resident in South Africa. This ship, generously loaned by the Atlantic Transport Company, through its president, Bernard Baker, of Baltimore, equipped and maintained at the cost of Americans, and in charge of American doctors, started on an errand of mercy in December last for Cape Town, to give aid to the sick and wounded in the South African war. As a volunteer ship, supplementary to the government relief ships, she was fitted out with many comforts and luxuries such as cannot be demanded in times of stress from an overtaxed War Office. In the harbors of Cape Town and Durban the *Maine* received both the British and the Boer wounded, and returned in April to South-

ampton, Eng., with a full complement of invalided British soldiers. The number of patients received on board was three hundred and fifty-four, including those treated in port. Re-equipped and re-victualled in nine days, she sailed directly back to South Africa to bring home another shipload of disabled soldiers. On this her second return voyage, in July, I was one of those who sailed out from Southampton to welcome her. For me it was the first and nearest approach to the horrors of war, and I found them, even in this their second stage, sad and grim. As our boat approached the incoming *Maine*—this moving hospital, larger in its number of beds than most of the large hospitals of New York—we saw her sides and decks crowded with eager faces; men everywhere in invalid chairs, on stretchers and on crutches; with legs gone, arms gone, heads bandaged, and all in motley array. No gay trappings of dress parade, only here and there a cap, a Glengarry or a fatigue jacket, to indicate the soldier's uniform. We boarded the *Maine*, and during the two hours before we reached the dock at Southampton there was ample opportunity to examine her. Descending into the first ward—named after Mrs. Whitelaw Reid—we found a number of patients in the cots. It was unnecessary to ask the nature of their trouble, for the pale faces and emaciated bodies bore the unmistakable stamp of enteric fever—that deadliest of camp followers. The ward was bright and well ventilated, the bed-linen fresh and white, and everything scrupulously clean. Over each bed was suspended the name of its American donor—men and women with sympathies broad enough to stretch forth into the unknown for the unknown. The ward capacity of the *Maine* is two hundred and ten beds. The surgeons and physicians, all of them first-rank men from our best American hospitals; the nurses from the Mills Training-School, and the orderlies, were a strong, sturdy band, truly a staff upon which to lean. Despite the comparatively cramped quarters, modern scientific treatment had been carried out in the form of tub baths for the cases of enteric fever with gratifying results. By means of an admirable Roentgen-ray apparatus sent out from New York valuable assistance had been obtained in the treatment of gunshot injuries, and in a well-equipped laboratory diagnoses in doubtful cases had been made by bacteriological examinations. A strange and a happy fact to be recorded was that during the three weeks' voyage of this hospital ship not a single death had occurred. The patients below deck, as well as above, were in excellent spirits, despite their disabilities, and one and all seemed grateful for what they termed their good luck in having been consigned to the 'Yankee ship.' At Madeira a few newspapers had been obtained telling of the outbreak of trouble in China, and all were eager for the latest war news. 'Soon we'll be fighting together out there,' a bright-faced Irishman said to me, with evident impatience to be himself in the fray. When I expressed my preference for soldiers as guardians of peace rather than as forces for war, he looked quite disgusted, and said: 'But, ma'am, what would we be afther doin' without a bit of a stir-up oncet in a while?'—truly a characteristic race point of view of the interest and pleasures of life. As we approached Southampton the *Maine* received a hearty welcome from the American training-ship *Lancaster*, whose yards were manned with lusty lads. Across the end of the Southampton dock a large sign was stretched, 'Telegrams sent free,' and soon every soldier on deck was scribbling a home message. It had been the intention of the London executive committee of the *Maine*—all of whom are women of American birth, whose energy, efficiency, and devotion are deserving of home recognition—again to send her back to South Africa. But the crisis in China had become so acute, the provision for many sick and wounded of the allied forces so urgent, with no hospital ship as yet under way, that the committee decided that the need for their ship was now greater in the far East than in the far South. A proposal to this effect met with cordial approval at the British War Office, and on July 12th the *Maine* set sail for Chinese waters. She was reported on August 25th as having arrived at Hong Kong, on her way to her northern station to receive the wounded. Directly after the departure of the *Maine* the committee notified the United States government at Washington of her intended destination, and offered a welcome and all possible aid to our sick and wounded countrymen. The American ambassadors at the courts of the allied Powers were also informed of the departure of the *Maine* for China, and asked to notify the governments to which they were accredited that their wounded would receive a cordial welcome on the American ship. Prompt and appreciative acknowledgment has been received from Germany, Italy, Austria-Hungary, and the other powers. A check for £1,000—a most timely and welcome gift—was also received from Mrs. Corning Clark soon after the departure of the *Maine*. Mrs. Clark asked that the sum be used, if possible, to aid the men of the Ninth United States Infantry—the first American regiment to suffer in the field. J. P. Morgan & Co., No. 23 Wall Street, are the treasurers of the *Maine* fund in New York.

"This is the history, so far, of the American hospital ship *Maine*. If with this name is to be linked the word 'remember,' may it be, in the future, with this sister ship of mercy, whose activities and sympathies, true to her Red Cross flag, are world-wide and world-embracing."

The Plague Bacillus.—Dr. H. Noguchi has been conducting some experiments at Newchwang, China, with the plague bacillus, to determine its resistant power against cold in dry conditions and in frozen liquid media. His results, which are tabulated in the report of the United States Marine-Hospital service for July 13th, are as follows: "That the plague bacilli are not devitalized by the temperature of 24° C. below zero even after being submitted to this temperature for the space of three weeks. The peculiarity possessed by the plague bacillus is the limit of temperature for its multiplication, not like other pathogenic germs. It can grow uniformly, slowly but steadily, from 20° to 37° C. which is rarely observed in other bacteria. . . . The plague bacilli if laid near the freezing-point stop their growth and remain for a long time inert waiting for further chances of good hosts. . . . From the several reports published by the German plague commission to Bombay, I have learned that the pneumonic forms are comparatively few, while the official report of the sanitary board of Germany showed that the majority of cases in Odessa were of pneumonic form. Of course the nature of an epidemic is influenced by the climate and the resistance of the plague bacilli on one side, and it also depends greatly upon the customs of the nation. . . . In India, where the hot air and dry soil are very unfavorable to the floating bacteria to retain their lives even for a few minutes, the pneumonic forms are produced by the direct contagion with fingers, or pipes, etc., of the patient, or particles of sputum. . . . In contrast to India, Chinese houses are furnished with favorable conditions for the plague bacillus—bad ventilation, little direct sunlight, a heaping of human excrements, etc., especially the earthen floor must be regarded as a most dangerous source of infection. . . . Chinese people do not use spittoons in their rooms, and spit anywhere; indeed I have seen that the pneumonic patients were spitting their bloody sputum on the beds,

windows, walls, or floor at the agonal stages, and the relatives trampled the sputum into powder within a few minutes."

Demand for Antitoxin.—At the recent meeting of the British Royal Institution of Public Health at Aberdeen, Dr. Dean, who has charge of the farm where the antitoxin is manufactured for the Jenner Institute, referred to the seasonal fluctuation in the demand for antitoxin. He used the facts of his experience at the Jenner Institute to show that the supply of antitoxin varied according to the seasons much in the same way as the deaths from diphtheria. The curve shown on a chart was formed on the basis of the number of doses sent out each month of the year. This was correlated with the corresponding one of diphtheria deaths in the registrar-general's returns, and although they did not show an exact correspondence, the variation was sufficiently slight to justify the conclusion that the supply of antitoxin was a real indication of the seasonal variations in the prevalence of diphtheria. Taking the average of the last twenty years they were lowest in the month of May and highest in the month of November, while in precisely the same months the supply of antitoxin was highest and lowest respectively.

Mortality in War.—In the London *Times* of September 1st, an interesting comparison is drawn between the rates of mortality which prevailed among officers and men during the Franco-German war, and those incurred by the British army in South Africa. The mean strength of the British army, including all forces, may be taken to have been 5,266 officers and 188,000 non-commissioned officers and men. The deaths have been: officers killed or died of wounds 380, died of disease 160, total 540; non-commissioned officers and men killed or died of wounds 3,580, died of disease 5,980, total 9,560. The rates of mortality were as follows: of the officers 72.1 per 1,000 were killed or died of wounds, and 30.6 per 1,000 died from disease; total 102.7 per 1,000. Of the non-commissioned officers and men 19 per 1,000 perished in battle or died of wounds, and 31.8 per 1,000 died of disease; total 50.8 per 1,000. In the Franco-German war official figures show the fortunes of a mean strength of 25,960 officers and 862,800 men who took part in that campaign. Battle and wounds accounted for 1,650 officers and 26,627 men, while 144 officers and 10,942 men met their deaths from disease. The rates of mortality were: officers 65.5 per 1,000 killed or died of wounds; and 8.9 per 1,000 died from disease and other causes; total 74.4 per 1,000. Non-commissioned officers and men killed or died of wounds, 30.9 per 1,000, died from disease, etc., 14.2 per 1,000; total 45.1 per 1,000. As with British forces in South Africa we see a large discrepancy between the number of officers and of men killed in battle, but while in the Franco-German war an officer had a double chance of being killed as compared with his men, in South Africa the British officer had to face three and a half chances. As regards the men, the risks in the Franco-German war, as compared with those in the South African compaign, were 50 per cent. greater of being killed in battle, and less than half as great of dying of disease. When every allowance is made for the conditions under which the Franco-German war was carried on, the highly civilized and thickly populated country, and the ease with which medical comforts and assistance could be commanded, it is remarkable how low the death rate was from disease. In South Africa officers and men have died of disease at the rate of 31.7 per 1,000, while the rate for officers and men in the Franco-German war was only 12.5 per 1,000, that of officers alone being as low as 8.9 per 1,000. Indeed the Franco-German disease rate was some points less than the ordinary rate of 15 per 1,000, experienced by British troops on foreign service in time of peace.

German Military Expedition to China.—The care of the troops embarked for China has been an object of great solicitude to the military authorities, and all the officers have received a small pamphlet containing hygienic rules to be observed on board ship and in the far East. The pamphlet is written in a style intelligible to the ordinary reader, and the officers have been ordered to give their men instruction in the subjects dealt with in it. This is the more necessary as the China expedition is the first in which German troops have been engaged on a large scale out of Europe. The troops have been provided with different uniforms for the hot and cold seasons; the summer uniform consisting of khaki and a straw hat, the winter uniform of stout cloth and furs. With a view to prevent scurvy and similar disease great quantities of preserved vegetables and anti-scorbutics have been sent to China. Apparatus for the sterilization of drinking-water by boiling and by bromine, as suggested by Dr. Schumberg, has also been provided. Army medical officers specially trained in bacteriological work have been sent with the army, and it will be their duty not only to examine the food and the drinking-water, but also to investigate any conditions which might have a significance in connection with an outbreak of disease. The army medical corps is, of course, much more numerous than in a European war; army medical officers being sent for each 129 men. The special medical staff consists of a bearer company and of four field hospitals for 200 patients each. For the erection of stationary hospitals one hundred and twenty-seven tents and fifteen barracks have been sent with all the necessary staff and material. Two hospital ships have been chartered from the North German Lloyd for the conveyance of sick and wounded soldiers to Europe.—*The Lancet.*

Strong Solution of Tar in Eczema.—Jonathan Hutchinson's favorite prescription for almost all forms of eczema is a combination of liquor carbonis detergens and liquor plumbi subacetatis. A teaspoonful of each to a pint of warm water is a common prescription which should be used not only as a wash, but kept constantly applied on lint. But in some cases a more convenient method is to apply a very much stronger preparation for only a few minutes at a time. The undiluted liquor carbonis alone is often effectual for the relief of pruriginous affections. It stings at the moment of application, but it relieves the itching and does not cause smarting afterward. A surgeon for whom the writer prescribed found that equal parts of the liquor plumbi and liquor carbonis applied undiluted always killed eczematous patches. —*Archives of Surgery*, vol. xiv., p. 345.

Adulteration of Coffee and Tea on the European Continent.—James Du Bois says that, if all the substances that pass through a continental coffee-grinding machine during the year should be written in alphabetical order, A would begin the list with acorns, and W would end it with wormwood, sprouts of which are sometimes used to give the debased coffee a slight aromatic bitter taste. Adulteration occurs largely in the coffee that is sold in the ground form. Several coffee-berry factories have been discovered in Europe which are doing a large and profitable business by moulding an admixture of tan bark, stove rust, clay, sawdust, chicory, coffee sediment, and coffee meal into a neat berry by the aid of some agglutinant, and these

berries were so well made that the deception was not discovered for a long time. This production had a large sale among the lower classes of Russia and Poland, and mixed with the genuine coffee berry its sale was quite lively in other parts of Europe. Unroasted coffee berries are often made from oat and rye flour and corn meal. The natural aroma of these grains is destroyed by some process, and after the proper amount of coffee aroma is added the berries are formed and caused to maintain their shape by some adhesive substance. The test usually employed to discover this deception is to place the beans in a receptacle containing water; this will dissolve them in a few hours. The debasement of tea is a growing industry. Twenty-five years ago the tea-drinking habit was confined to Holland, Russia, and England, but the beverage is now popular in almost every continental country. This new condition increases the demand, and the adulterators thus have the opportunity to ply their nefarious trade with success. Take a handful of ordinary tea and place it in lukewarm water, and when the leaves are thoroughly saturated open and spread them out, and three chances in six you will find a quantity of strawberry, linden, sage, and other leaves in the collection. But should it be found that all of the leaves belong to the tea plant that will be no proof that adulteration has not taken place, for the clever Chinese have a trick of using the old leaves of brewed tea for the export trade, and some of the tea dealers of Europe have discovered the deception and are utilizing the trick by preparing these leaves themselves.—*The Sanitarian.*

Production of Ipecacuanha.—One of the most widely used of all vegetable drugs is the powerful emetic ipecacuanha, which is obtained from a Brazilian shrub. The French conseiller de commerce at Cuyaba, state of Matto Grosso, gives in a recent report an interesting account of this plant, which has in that state and the neighboring district its only habitat. The drug is obtained from plants which attain a height of from twelve to sixteen inches. The leaves are oval, dark green, and sharply ribbed, and the white flowers give place to an ovoid fruit containing black seeds. Besides the ipecacuanha cephœlis or the "white ipecacuanha," as it is generally known, there are several other varieties which are somewhat different, but all are used for the same purpose, and are distinguished as brown, black, and striated ipecacuanha. The drug is obtained from the root of the plant, where it occurs in quantities about the size of a quill between the layers. The state of Matto Grosso, which, as before observed, is the habitat of the plant, is one of the richest in Brazil, among its many natural products being gold and diamonds, rubber, sarsaparilla, jalap, jaborandi, and copaiba. Ipecacuanha is found in the north and northwest of the San Luiz de Caceres, formerly in the Villa Maria region, and its habitat covers an immense area between a network of rivers in Brazil, Bolivia, and Paraguay. The dense foliage of the forests of this region provides the dank and humid conditions which favor the growth of the shrub. The Brazilian product is known as Rio ipecacuanha, and the product procured from similar shrubs in other countries passes under the name of the port whence it is shipped. Attempts have been made to transplant the shrub and to cultivate it in British colonies in various parts of the world, but without success, and Brazil continues to be the only source of supply for the best grade.—*Scientific American Supplement.*

Yerba Maté Tea.—Some of the British consuls in South America, says the London *Times*, refer in their last reports to the virtues ascribed to the tea made from yerba maté, a herb which takes the place to some extent of tea and coffee, and which is derived from the leaves of the Ilex Paraguaensis, a tree of from twelve to twenty feet in height. The consul in Paraguay says this tea is consumed by a large proportion of the populations of Brazil, the Argentine, Uruguay, Chili, and Paraguay. The leaves are gathered every two or three years and dried over a slow fire; they are then pounded in mortars on the ground, and finally packed in fresh skins and dried in the sun. The tea is made by pouring boiling water on the leaves, which serve for several infusions. The taste is bitter but not unpleasant, and the effects are asserted to be invigorating. It is said that it would be valuable as a restorative to troops on the march, and the French government has ordered a shipment of maté for the colored troops. Some samples have also been sent to Germany for experimental purposes. An attempt is also being made to introduce it into the United States as a suitable beverage for the working classes. When analyzed the tea is shown to contain caffeine and caffeotanic acid in important proportions. The consul-general at Rio also refers to the subject as one of commercial interest. It is claimed on behalf of the tea that it possesses superior stomachic properties to tea and coffee, in that while it is refreshing and invigorating, and favorable alike to mental and physical exertion, it does not disturb the nervous system. But even Brazilians are not agreed as to its merits, some alleging that by its aid the most arduous work can be done, such as forced marches on short rations; others asserting that in war coffee has proved much more sustaining. However this may be, it is largely consumed in South American countries, where the price of low-grade China teas is too high to admit of their shipment to South America, and it is therefore possible that it has some good qualities to recommend it.—*Science.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 15, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Nome	August 18th	3	
Colorado, Jefferson Co.	August 28th to September 1st	11	
Las Animas Co.	August 28th to September 1st	1	
Kansas, Wichita	September 1st to 8th	1	
Louisiana, New Orleans	September 1st to 8th	2	
Minnesota, Minneapolis	September 1st to 8th	1	
Winona	August 28th to September 4th	3	
Ohio, Cleveland	September 1st to 8th	2	
Dayton	September 1st to 8th	1	
Texas, Eagle Pass (in Mexican portion of town)	September 7th	1	
Utah, Ogden	August 1st to 31st	2	
Salt Lake City	September 1st to 8th	1	
West Virginia, Wheeling	September 1st to 8th	1	
Smallpox—Foreign.			
Austria, Prague	August 18th to 25th	2	
Belgium, Antwerp	August 18th to 25th	1	
Brazil, Rio de Janeiro	July 13th to 30th	38	10
England, Liverpool	August 18th to 25th	6	
London	August 18th to 25th	1	
India, Bombay	August 1st to 14th	..	6
Calcutta	August 4th to 11th	..	7
Karachi	August 5th to 12th	1	1
Mexico, City of Mexico	August 26th to September 2d	4	5
Russia, Moscow	August 11th to 18th	6	
Odessa	August 18th to 25th	1	
St. Petersburg	August 11th to 25th	96	11
Warsaw	August 11th to 18th	..	10
Switzerland, Zurich	August 11th to 18th	.	1
Yellow Fever.			
Brazil, Rio de Janeiro	July 13th to 20th	..	10
Colombia, Barranquilla	August 19th to 26th	..	1
Panama	August 27th to September 1st	3	1
Cuba, Cienfuegos	September 8th	1	
Havana	August 2d to September 1st	215	57
Cholera.			
India, Bombay	August 1st to 14th	..	693
Calcutta	August 4th to 11th	..	35
Plague.			
India, Bombay	August 1st to 14th	..	105
Calcutta	August 4th to 11th	..	52
Philippines, Cebu	July 14th to 21st	1	
Manila	July 14th to 21st	4	
Turkey, Constantinople	August 27th	1*	

*On steamer *Niger* from coast of Asia Minor.

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Original Articles.

SOME PERSONAL OBSERVATIONS ON THE EFFECTS OF INTRAPLEURAL INJECTIONS OF NITROGEN GAS IN TUBERCULOSIS.[1]

BY HENRY P. LOOMIS, M.D.,
NEW YORK.

IN such a disease as tuberculosis we herald with avidity anything which seems to abate one jot of its virulence, or which seems to assist, in any way, the processes of nature toward restoration to health.

In looking back over professional work it is undoubtedly the experience of many that certain cases stand out in the memory with prominence and distinctness, especially those that have an unusual culmination. Such a case, occurring several years ago in my practice, made a deep impression upon me. It was that of a man with advanced tuberculosis of one lung, who, losing flesh rapidly, had apparently but a few months to live. The patient was confined to his room with all the constitutional symptoms of advanced tuberculosis. Suddenly the pleural cavity on the affected side became filled with serous effusion. I was surprised to notice at once a marked change in the patient's condition. All the constitutional symptoms improved and he began to gain in flesh, and at the end of two months was able to return and take charge of an active business. He remained apparently well, until, at the end of four months, as the fluid seemed so thoroughly to fill his pleural cavity, I decided to withdraw it. After tapping he became worse at once, and finally died. The inference is that, had I left the fluid alone, the man would have continued in his improved condition, and I have no doubt that many observers can recall cases in which ordinary apical tuberculosis suddenly starts to improve, and the patient, from being in a desperate condition, becomes comparatively well, this change following a filling of the chest cavity of the affected side with the effusion, the result of tuberculous pleurisy.

It has been estimated that three-fourths of the cases of primary pleurisy are tuberculous, these statistics being based upon the future histories of cases of pleurisy with effusion; and it has been found that months or years afterward pulmonary tuberculosis develops on the side where the pleurisy had been. May not the explanation at least of some of these pleurisies be that they have developed secondarily to a slight pulmonary lesion of the lung, which is quickly rendered quiescent and possibly cured by the pressure of the effusion, and later this pulmonary lesion lights up, not as secondary to the pleurisy but really as the primary condition preceding the effusion? Clinical experience has proved that the results upon pulmonary tuberculosis when empyema develops upon the affected side are much more favorable than when there is a serous effusion. In one hundred and sixty-four cases of empyema operated upon by Koenig, Cabot, and Runeberg, one hundred and forty-four resulted in recovery. This shows what a favorable termination empyema may have. Considering that it is proven to be secondary to tuberculosis in eighty-three per cent. of all cases, it certainly speaks favorably for its curative effect upon the lungs. The explanation of this fact is no doubt that in an empyema the compression of the lung is maintained for a much longer time and is even more or less permanent, on account of thickening and the adhesion which prevents the expansion of the lung. The curative effect upon tuberculosis by this compression impresses upon us the fact that tapping and drainage should be resorted to only after careful consideration, and only when special indications arise, for statistics collected by Czernicki and Boumber have proven conclusively that quiescent tuberculosis of a lung compressed by empyema may be aroused to activity by such expansion as follows every thoracotomy or aspiration.

Again, it is a well-known clinical fact that pneumothorax developing in the course of pulmonary tuberculosis produces salutary changes in the tuberculous process which not only arrest the course of the disease, but ameliorate the general symptoms and sometimes produce a cure. Osler and Pepper both call attention to this fact, and I think all of us have been surprised at times at the unexpected improvement in cases of phthisis following upon the development of a perforation and the filling of the pleural cavity with air. Dr. W. F. Hamilton, of Montreal, reports six cases of pneumothorax occurring during the course of pulmonary tuberculosis. All these patients were failing gradually before the perforation. After it occurred two died in a short time, one lived for seven months, and the other three recovered.

In those cases of pulmonary tuberculosis reported as ending in complete recovery, the perforation becomes healed and the effusion is absorbed as well as the contained air or gas, and the lung again performs its function, depending, however, somewhat upon the degree of infiltration of the tissues present. Whatever may be the explanation of the phenomenon, the clinical fact remains that compression of the lungs—as occurs in the three classes of cases which I have just mentioned—has a beneficial effect on pulmonary tuberculosis. As is well known, the most brilliant successes in the treatment of tuberculosis have been in the cure of tuberculosis of the joints. The treatment which gives this result is simply immobilization and the enforced physiological rest to the joint. May this not be the explanation of the fact that in those cases of pleurisy with effusion, empyema, or pyopneumothorax, the compression of the lung brings about a condition somewhat similar to that which is obtained by the surgical treatment of the joints?

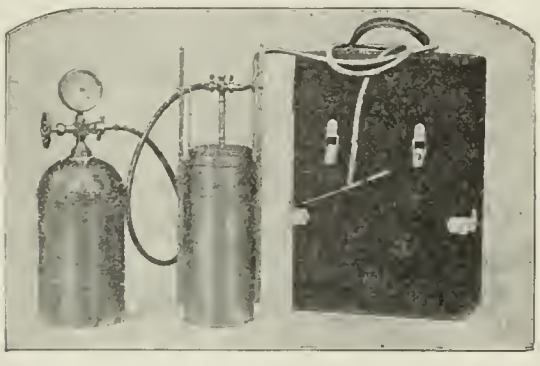
The enforced rest of the lung as a respiratory apparatus aids in the encapsulation and favors the cicatrization of the tuberculous foci. It does more: it enforces drainage of secondary deposits through the bronchi, aids the healing of cavities by approximation of their walls so that the condition is brought about which is sought for every day by the surgeon in the healing of abscesses—the emptying of the cavity and the drawing together of its walls. Possibly the most important element in favoring the elimination and

[1] Read before the American Climatological Association, Washington, D. C., May 2, 1900.

final cure of the tuberculous areas in those lungs rendered quiescent by compression is a gradually diminished lymphatic circulation. This lessens at once the danger of the most common complication of phthisis, namely, the dissemination of the tuberculous products along the lymphatic vessels.

The quiescent condition of the lungs also stops almost completely the transmission of infection into uninfected bronchi, and yet all the time the circulation is not interfered with to any extent, and fibrosis is favored—an ideal condition for the healing of pulmonary tissue, it seems to me. Dr. Lemke, of Chicago, cites an interesting case in this connection. It was a case of miliary tuberculosis involving the whole lung with the exception of one lobe, which escaped the infection entirely, and this lobe was compressed by a pleuritic inflammation.

Nature, when she heals tuberculosis by this principle of immobilization and enforced rest, as is seen in cases of empyema, causes a contraction of the chest wall in proportion to the amount of tissue involved. Moreover, successful operations for empyema are dependent on thorough resection of the ribs so as to favor complete collapse of the lung and obliteration of the empyemic cavities. Post-mortem examinations which have been made when the lung from any cause



has been compressed for a long time show that a certain degree of fibrosis has developed. Rokitansky has proven this by a number of pathological investigations.

If clinical experience proves, as it seems to me to do, that compression of the lung favors the healing of a tuberculous process, what means have we to bring about this artificially? It has been proposed to apply a plaster jacket to the whole of the affected side so as to obtain immobilization of the thorax. Migelion, in *La Médecine Moderne*, reports thirty cases of phthisis which he treated in this way. He states that the jacket was worn in all cases excepting two, without discomfort. He reports favorable results. Again, upon the same principle, others, such as Dr. Stewart Tiday and Dr. Dennison, recommend strapping the chest. It hardly seems to be probable that much compression can be brought about by this means. Others have proposed resecting a portion of bone over a cavity or extensive pulmonary lesion, and so causing a falling in of the chest at that point, producing a localized compression. Turban[1] reports the case of a young man twenty-one years of age with extensive involvement of the left lung, this being almost entirely destroyed. He did an extensive resection of the fourth, fifth, sixth, and seventh ribs without entering the pleural cavity. The chest contracted gradually. He did a second operation and removed more of the sixth and seventh ribs and also portions of the eighth and ninth ribs. The symptoms ameliorated and the patient recovered (?).

All these methods seem to me to be crude and ineffectual. After my experience with the case referred to at the beginning of this article, which showed such improvement on the development of pleurisy, I carried on a series of experiments for a number of months, endeavoring to fill the chest cavity with some fluid which would remain and cause collapse of the lungs. In experimentation on animals I was unable to find any liquid that was safe to use and which would remain for any length of time in the chest cavity without being absorbed or causing suppuration. I found that cacao butter was the most effective, as it would remain in the pleural cavity of a dog and cause compression, but I never felt warranted in injecting it into a patient. All other substances which I used were ineffectual.

In the spring of 1898 Dr. J. B Murphy, of Chicago, read a paper before the American Medical Association, in Denver, on "The Surgery of the Lungs," in which he reported a number of cases of phthisis which had shown marked improvement from injections of nitrogen gas into the pleural cavity. He found that the pleural cavity could be filled with nitrogen gas, and that this gas would remain for a number of weeks or months without being absorbed In cases of pneumothorax the composition of the air contained in the pleural cavity, as subjected to analysis by Dory, Bouveret, Le Conte, Ewald, and others, seems to differ little in composition from the outside atmosphere. If, however, the pneumothorax becomes closed, the oxygen steadily diminishes and finally disappears, the carbon dioxide decreases, and the last element to disappear is the nitrogen. This apparently proves theoretically the claim of Dr. Murphy. It has been said that Prof. Carlo Forlanini has used nitrogen-gas injections into the pleural cavity for pulmonary tuberculosis for the past ten years, but I am unable to ascertain that he more than suggested its use before the International Medical Congress in Rome, in 1894, and that he had no practical experience in its use.

After reading Dr. Murphy's article I decided to give this treatment a thorough test, and I have made these injections during the past two years in eighteen selected cases; and it is to the report of the results which I obtained and the uses and limitations of this method of treatment that I will ask your attention for a few moments more. I might say here that the longer I employed this method the more favorably I became impressed with its efficacy in certain cases. If one intends to use this treatment there are two things which it is advisable to do· First, to obtain the special apparatus as recommended by Dr. Murphy for injecting the gas (see cut); second, to see that the nitrogen gas used is pure. Most of the nitrogen gas on the market is nothing but compressed air

Operation.—The gas is best injected with the patient sitting in bed, although I have performed the injection with the patient sitting in a chair At the point where the needle is to be inserted the chest is sterilized by the ordinary method The point of the insertion of the needle varies somewhat in each individual. Personally I have obtained the best result by inserting the needle behind the posterior axillary line in about the eighth interspace, although Dr Murphy generally makes the insertion in the fifth interspace in the anterior axillary line. If it be a middle or lower lobed tuberculosis the injection should be made over the upper lobe, preferably in the third interspace just outside the mammary line. Chloride of ethyl may be used as a local anæsthetic. The trocar attached to the rubber tube connected with the gas retort is easily inserted. It gives hardly more pain than an ordinary hypodermic injection. The stylet in the trocar should be withdrawn when the rib is reached. The gas should now be turned on. The trocar should then be pushed in close to the margin of the rib.

[1] Berliner klinische Wochenschrift, May 22, 1899

[1] British Medical Journal, October 22, 1898

When the parietal pleura is punctured the trocar advances rapidly and the gas is seen to flow by the dropping of the upper portion of the gas retort, first slowly and then more rapidly. If the gas does not flow readily at first the trocar is moved back and forth, and on the least indication of the gas flowing the trocar should be held still. If adhesions are present the gas will not flow; the trocar should then be removed and inserted in the same manner in another place. When the gas is running freely into the pleural cavity it is found that from one to five cubic inches will pass in with each inspiration. The quantity of gas to be injected will vary considerably, and will range from fifty to two hundred cubic inches. The amount to be injected will vary with each case according to the dyspnœa, distress, irregularity of the heart, and displacement of the mediastinal contents. My experience has been that people vary a good deal in the way in which they take the injection. I have never seen any bad results whatever follow the injection. If the patient's discomfort should suddenly become very great, the current of gas can at once be reversed by raising the cylinder and withdrawing part or all of the gas from the chest. Having injected as much gas as possible, the trocar should be withdrawn and the puncture covered with cotton wet with collodion, and a firm compress placed over the puncture and a broad band of adhesive plaster over the compress.

If one hundred or more cubic inches of the gas have been injected, the respiratory sounds upon the injected side will be completely suppressed, the heart will be displaced, and if the injection is on the left side the apex will be carried as far as the median line. It is astonishing how few unpleasant effects follow these injections. I have injected a number of times two hundred cubic inches of nitrogen gas, completely compressing the lung and markedly displacing the heart, and had the patient in a few minutes put on his coat and walk about without any apparent discomfort. The respirations are always increased after the injections. The pulse rate is generally lowered, and the patients complain often of a "tightness" about the chest. One of the earlier cases I injected presented peculiar symptoms from the gas leaking through the trocar puncture and filling the subcutaneous tissue of the chest. This subcutaneous emphysema persisted for a number of days, and the patient showed constitutional effects of the gas by an excited and talkative condition which lasted for about twelve hours after the injection. That the gas fills the chest cavity can be proven not only from a physical examination of the lungs, but also by the placing of the heart, and, as I have done a number of times, by examining the patient with the *x*-ray after the injection. The radiograph shows conclusively the lung compressed, the diaphragm immovable, and the heart displaced. My experience leads me to believe that, to obtain any marked and permanently beneficial results, the lungs should be kept quiescent for from three to six months or even longer. The more gas injected the longer it will remain and the less frequent need be the injection. I have seen the gas in a number of cases remain three or four months without any apparent diminution. In other cases the gas will have to be injected at the end of from four to six weeks. Physical examination can easily decide when a second injection is necessary.

One of the most constant effects noted after injections is that there will be a marked increase in the expectoration during the first twenty-four hours, sometimes an increase of tenfold over the ordinary amount expectorated per day. After the first few days expectoration diminishes rapidly. The gain in weight of the patients is so constant and often so excessive after the injections that one is astonished and almost at a loss sufficiently to account for it. I have not noticed any sudden fall of temperature following the injections as reported by Dr. Lemke and Dr. Murphy, of Chicago. In many cases the temperature gradually declines, but it did not seem to be due to the effect of the injection. Upon the temperature the injections seemed to have less effect than upon any of the other constitutional symptoms. In one case the patient was suddenly seized with a severe stitch-like pain on the affected side, which as suddenly disappeared; this was probably due to tearing of adhesions by the gas. Night sweats were unaffected except in so far as they gradually disappeared as the patient's general condition improved. In looking over the carefully kept record of my cases I am impressed with this thing, viz., the marked improvement in the subjective symptoms following the injections, such as diminution in the cough and expectoration, rapid gain in weight and strength, stoppage of hemorrhages and night sweats, and improved appetite.

It does not seem to me, however, that the physical changes noted in the lungs show such an improvement as the subjective symptoms would suggest. When the gas is absorbed and the lung can once more be examined, in the majority of cases no greatly marked improvement of the lesion can be noted. I am convinced that if permanent results are to be expected the chest cavity must be kept filled with gas for six months at least. The two cases that gave me the most satisfactory results were watched carefully for four months, and the compression was kept up by repeated injections.

Dr. Murphy, in his original article, makes no mention of the effects of these injections upon pulmonary hemorrhages. I was first tempted to use the injections in these cases on theoretical grounds. The results astonished me. Hemorrhages of all varieties, from the daily spitting of blood-streaked sputum to profuse hæmoptyses, were at once controlled, and in almost all the cases there was no return of the bleeding. These results were especially astonishing in one or two cases of persistent bleeding in which it was impossible to control this by any of the usual means such as absolute quiet and rest with hypodermics of morphine every four hours. The hemorrhages stopped at once after the injections. It is difficult to explain why these injections should have such a pronounced effect on pulmonary hemorrhages, but that they do I am thoroughly convinced.

Kind of Cases Benefited.—Theoretically, cases of apical unilobar tuberculosis in the early stages with lungs free from adhesions would be the ones in which we should expect the best results from this treatment. These are the cases in which the most compression is possible. The localized cavity at the apex is another class of cases which presents favorable conditions for treatment. One of the most remarkable results which I obtained was in Case III., in which a slight pulmonary lesion of the apex was complicated by a general tuberculous pleurisy. The separation of the two pleural surfaces at once cured the pleurisy and relieved marked constitutional symptoms.

The more I have used the gas the more I have been tempted to use the injections in advanced and apparently hopeless cases. I find that it relieves the patient and stops many of the distressing symptoms. The only objection to its use that practical experience has taught me is that these injections cannot be made in many cases on account of the inability to force the nitrogen gas into the pleural cavity on account of the adhesions. My experience has been somewhat different from Dr. Murphy's in this respect. He has been able to inject into the pleural cavity of almost all of his patients. In a number of cases apparently favor-

able for treatment I have had to abandon the method on account of adhesions. In no way except by practical test can we discover whether there are enough adhesions to make the method of treatment impracticable.

Analysis of Cases Injected.—

1. Total number of cases. Eighteen.
2. For pulmonary hemorrhages. Eight cases.
3. For effect on lungs. Ten cases.
4. Effects on hemorrhage. Stopped at once.
5. Effect on lung condition. In the majority of cases the physical signs remained the same except that râles diminished or disappeared. Only one case showed a marked improvement. Pleurisy was controlled at once.
6. Number of cases gained in weight. Sixteen.
7. Number of cases lost in weight. None.
8. Average gain in weight per patient. Seven and one-half pounds.
9. Number of injections given. Twenty-nine.
10. Average amount of gas injected. 107½ c.c.
11. Number of cases in which improvement was noted. In:
    (1) Cough, thirteen cases; three slightly and temporarily.
    (2) Expectoration, eleven cases.
    (3) Fever, four cases.
12. Number of cases during the past year in which the injections were tried and failed owing to the inability to introduce the gas (adhesions, etc.), eight.

Remarks on Treatment.—I am convinced that intrapleural injections of nitrogen gas will have a dermanent place in the treatment of pulmonary tuberculosis.

1. It is a treatment that has a future; I would advise its more extended use; only in this way can we ascertain the kinds of cases to which it is best applied.
2. I have never seen any bad results or even unpleasant effects following the injections.
3. I have seen no cases result in absolute cure of the disease.
4. I have certainly seen the apparent arrest of the disease in two cases, and the disappearance of such constitutional symptoms as expectoration, fever, and cough in a number more. Sufficient time has not yet elapsed to say whether in even the most favorable cases the activity of the disease may not return.
5. The local improvement is not so apparent as the constitutional.
6. A marked gain in weight is found in every case injected. This is so universal as to be astonishing, especially as the cases have had no other treatment and many of them have been in hospital wards and under anti-hygienic surroundings; yet the gain in weight has followed almost immediately after injections, and when a patient had been losing weight before the injections he suddenly began to gain. It is very difficult to explain this effect, except by the marked effect upon the pulmonary lesion.
7. That this method of treatment will stop pulmonary hemorrhages I am thoroughly convinced. I have never seen it fail even in one of the most desperate cases upon which it was tried. If these nitrogen-gas injections have no other place in the treatment of pulmonary tuberculosis, it seems to me that their ability to arrest pulmonary hemorrhage gives them a place which no other method we have at the present time can occupy.

Synopsis of Cases Injected with Nitrogen Gas for Pulmonary Hemorrhage.—

Case I.—John N——, aged thirty-eight years. Duration of disease, three years. Pulmonary condition, consolidation with fibroid changes at both apices—moderate at left, and involving entire upper lobe on right side. Number of hemorrhages before injection, continuous for eight days. Extent of hemorrhage, very severe. Number of hemorrhages after injection, none. Number of injections, one. Amount of gas injected, 193 c.c. Weight before injection, one hundred and four pounds. Weight after injection, one hundred and eighteen pounds (end of four months). Effect of injections on (1) cough, diminished; (2) expectoration, decreased; (3) fever, temperature normal after three weeks.

Remarks: In 1898 the patient was injected for his general condition once. The improvement in weight, etc., followed this injection. In 1899 the injection was given to stop the most profuse hemorrhages I have ever seen.

Case II.—John F——, aged thirty-four years. Duration of disease, five months. Pulmonary condition, consolidation involving the upper portion of the left lung with large and small râles. Number of hemorrhages before injection, many. Extent of hemorrhage, slight; sputum streaked with blood for a number of months. Number of hemorrhages after injection, none. Number of injections, two. Amount of gas injected (approximate), 114 c.c. and 80 c.c. Weight before injection, one hundred and forty-seven pounds. Weight after injection, one hundred and fifty-seven pounds (two months after). Effect of injections on (1) cough, diminished; (2) expectoration, none; (3) fever, none.

Remarks: This case shows the favorable effects of the injections on continuous bleedings, also at the same time on the pulmonary condition and the patient's general health.

Case III.—William H——, aged twenty-four years. Duration of disease, five months. Pulmonary condition, very slight consolidation localized at the right apex. Number of hemorrhages before injection, two severe; constant spitting of blood-streaked sputum. Extent of hemorrhage, severe. Number of hemorrhages after injection, none; blood-stained sputum stopped within six hours. Number of injections, one. Amount of gas injected (approximate), 120 c.c. Weight before injection, one hundred and fifty-four pounds. Weight after injection, same (only seen two weeks). Effect of injections on (1) cough, decreased; (2) expectoration, decreased; (3) fever, had none.

Remarks: Stopped at once moderate bleeding that had lasted for eight days and had resisted ordinary treatment.

Case IV.—Adam S——, aged thirty-four years. Duration of disease, two years ten months. Pulmonary condition, incipient involvement of right apex and left upper lobe. Number of hemorrhages before injection, repeated hæmoptyses. Extent of hemorrhage, slight but continuous. Number of hemorrhages after injection, none. Number of injections, three. Amount of gas injected (approximate), 80 c.c. (average). Weight before injection, one hundred and fifty-four pounds. Weight after injection, one hundred and fifty-eight and one-half pounds. Effect of injections on (1) cough, decreased; (2) expectoration, decreased; (3) fever, had none.

Remarks: A number of small injections were necessary to control the bleedings completely; when stopped they remained so. The patient had had slight but continuous bleedings for a number of months.

Case V.—John L——, aged forty-three years. Pulmonary condition, consolidation and softening at upper portion of left lung; beginning changes at right apex. Number of hemorrhages before injection, numerous. Extent of hemorrhage, slight. Number of hemorrhages after injection, none. Number of injections, one. Amount of gas injected (approximate), 110 c.c. Weight before injection, one hundred and

sixty-two pounds. Weight after injection, one hundred and seventy-three pounds. Effect of injections on (1) cough, none; (2) expectoration, none; (3) fever, none.

Remarks: The patient's general condition is improved but not his pulmonary. He had laryngeal tuberculosis, which was unaffected.

Case VI.—Harry A——, aged twenty years. Duration of disease, more than a year. Pulmonary condition, consolidation at right apex; left upper and middle lobe also affected. Number of hemorrhages before injection, numerous. Extent of hemorrhage, severe. Number of hemorrhages after injection, none. Number of injections, one. Amount of gas injected, 135 c.c. Weight before injection, one hundred and thirty-eight pounds. Weight after injection, one hundred and thirty-six pounds. Effect of injections on (1) cough, none; (2) expectoration, none; (3) fever, none.

Remarks: The injections had no effect on the progress of the disease, but stopped at once the hemorrhages.

Case VII.—Mrs. C. A——, aged thirty-eight years, Duration of disease, about sixteen months. Pulmonary condition, consolidation and small cavity at left apex; slight changes at right apex. Number of hemorrhages before injection, six. Extent of hemorrhage, two severe. Number of hemorrhages after injection, none. Number of injections, one. Amount of gas injected (approximate), 60 c.c. Weight before injection, one hundred and eighteen pounds. Weight after injection, one hundred and eighteen pounds. Effect of injections on (1) cough, none; (2) expectoration, none; (3) fever, had none.

Remarks: Owing to adhesions only a small quantity of gas could be injected. The gas remained in the pleural cavity only seven days.

Case VIII.—Adeline C——, aged twenty years. Duration of disease, six years intermittently. Pulmonary condition, infiltration of right upper lobe and left apex. Number of hemorrhages before injection, numerous. Extent of hemorrhage, severe. Number of hemorrhages after injection, one after first injection. Number of injections, two. Amount of gas injected (approximate), 120 c.c., 110 c.c. Weight before injection, one hundred and thirty-seven pounds. Weight after injection, one hundred and fifty-one pounds. Effect of injections on (1) cough, greatly decreased; (2) expectoration, greatly decreased; (3) fever, normal temperature after a time.

Remarks: Although the injections were given for the hemorrhages, there was a marked improvement in the patient's general and pulmonary condition.

Synopsis of Cases Injected with Nitrogen Gas for Effect on the Lungs.—

Case I.—Stella W——, aged nineteen years. Duration of disease, four weeks. Pulmonary condition, slight consolidation at left apex; fine crepitations all over left chest. Number of injections, one. Amount of gas injected, 160 c.c. Weight before injection, one hundred and three pounds. Weight after injection, one hundred and fourteen pounds (end of eight weeks). Effect of injections on (1) cough, marked diminution; (2) expectoration, decreased; (3) fever, dropped from 105° to 101° in the first twenty-four hours; (4) general condition, greatly improved. Effects of injections on pulmonary condition: Fine crepitations (pleuritic) at once disappeared; in eight weeks the patient was under observation consolidation remained the same.

Remarks: This case was at first supposed to be one of acute pulmonary tuberculosis, but the results show that the pulmonary changes were only in the pleura.

Case II.—Mary B——, aged thirty-three years. Duration of the disease, nine months. Pulmonary condition, consolidation of left lung, with râles, from apex to middle of scapula. Number of injections, two. Amount of gas injected, 58 c.c. and 70 c.c. Length of time gas remained in chest, two months and over. Weight before injections, one hundred and twenty-eight pounds. Weight after injections, one hundred and forty-one pounds (end of two months). Effect of injections on (1) cough, none; (2) expectoration, none; (3) fever, after ten days reached normal. Effects of injections on pulmonary condition: consolidation not affected; râles disappeared.

Remarks: There was a marked gain in weight.

Case III.—Owen L——, aged thirty-four years. Duration of disease, not known. Pulmonary condition, evidences of consolidation over middle of left lung, with crepitations and râles below. Number of injections, one. Amount of gas injected, 87 c.c. Length of time gas remained in chest, while under observation. Weight before injections, one hundred and forty-six pounds. Weight after injections, one hundred and forty-three pounds. Effect of injections on (1) cough, slight improvement; (2) expectoration, none; (3) fever, marked diminution; (4) general condition, improved. Effects of injections on pulmonary conditions, none.

Remarks: This case was supposed at first to be lobar pneumonia; later it was diagnosed as localized tuberculosis with accompanying tuberculous pleurisy.

Case IV.—Joseph F——, aged thirty-four years, Duration of disease, twenty months. Pulmonary condition, chronic tuberculous changes at both apices, left extensively involved; no softening. Number of injections, two. Amount of gas injected, 130 c.c. and 130 c.c. Length of time gas remained in chest, two months. Weight before injections, one hundred and fifty-seven pounds. Weight after injections, one hundred and sixty-five pounds. Effect of injections on (1) cough, greatly improved; (2) expectoration, first increased, then diminished; (3) fever, none; (4) general condition, unchanged. Effects of injections on pulmonary condition, none.

Remarks: Ten days after first injection the patient's weight increased eight pounds and remained the same eight months afterward.

Case V.—Christian M——, aged forty-three years. Duration of disease, one year. Pulmonary condition, consolidation of upper lobe of right lung with infiltration and some softening. Number of injections, one. Amount of gas injected, 150 c.c. Length of time gas remained in chest, six weeks. Weight before injection, one hundred and twenty-nine pounds. Weight after injection, one hundred and thirty-five pounds. Effect of injections on (1) cough, marked diminution; (2) expectoration, disappeared; (3) fever, none; (4) general condition, improved. Effects of injections on pulmonary condition, none.

Remarks: The patient attended to his work with the gas in the pleural cavity.

Case VI.—Eugene P——, aged twenty-six years. Duration of disease, one year. Pulmonary condition, very slight involvement of right upper lobe; pleuritic thickening in lower lobe of left lung. Number of injections, two. Amount of gas injected, not noted. Length of time gas remained in chest, about six days each injection. Weight after injections, gained one and one-half pounds. Effect of injections on (1) cough, slight improvement; (2) expectoration, slight improvement; (3) fever, had none. Effects of injections on pulmonary condition, none.

Remarks: After the first injection most of the gas escaped into the cellular tissue, causing intoxication. After the second injection the gas had to be withdrawn owing to continued dyspnœa.

Case VII.—Bertha W——, aged nineteen years. Duration of disease, five months. Pulmonary condi-

tion, advanced involvement of upper portion of right lung; cavity. Number of injections, three. Amount of gas injected, each time about 60 c.c. Length of time gas remained in chest, one month. Weight before injections, ninety-nine pounds. Weight after injections, one hundred and five pounds. Effect of injections on (1) cough, none; (2) expectoration, none; (3) fever, none; (4) general condition, none. Effects of injections on pulmonary condition, improved while gas remained in chest.

Remarks: Injections given to close up cavity were successful while the gas remained, but the gas appeared to be quickly absorbed.

Case VIII.—Mrs. C. Z——, aged thirty-eight years. Duration of disease, fourteen months. Pulmonary condition, cavity at left apex, surrounded by fibrous tissue with adhesions. Number of injections, two. Amount of gas injected, not noted. Length of time gas remained in chest, six weeks. Weight before injection, one hundred and fifteen pounds. Weight after injections, one hundred and eighteen pounds. Effect of injections on (1) cough, lessened for a time only; (2) expectoration, lessened for a time only, (3) fever, diminished temporarily; (4) general condition, slightly improved. Effects of injections on pulmonary condition, unable to close cavity on account of adhesions.

Remarks: Injection was made under *x*-ray, results were unsatisfactory.

Case IX. — Leonard C——, aged forty years. Duration of disease, about two years. Pulmonary condition, cavity with softening at upper portion of left lung; slight infiltration at right apex. Number of injections, two. Amount of gas injected, 100 c.c. and 110 c.c. Weight before injections, one hundred and thirty-eight pounds. Weight after injections, one hundred and forty-four pounds. Effect of injections on (1) cough, lessened at first, then increased; (2) expectoration, lessened at first; (3) fever, none; (4) general condition, improved. Effects of injections on pulmonary condition, unable to close cavity on account of dense adhesions.

Remarks: During first injection, some adhesions were torn as evinced by sudden sharp pain in the side.

Case X.—Miss H——, aged twenty-two years. Duration of disease, two months. Pulmonary condition, slight consolidation at right apex. Number of injections, one. Amount of gas injected, 171 c.c. Length of time gas remained in chest, one month. Weight before injections, one hundred and twenty-two pounds. Weight after injections, one hundred and thirty-one pounds. Effect of injections on (1) cough, decreased; (2) expectoration, decreased; (3) fever, had none; (4) general condition, improved. Effects of injections on pulmonary condition, none.

The Vitality of Certain Pathogenic Micro-organisms in the Juices of the Organs of Healthy Animals. — Andrea Ciaccio from experimentation concludes: (1) that in the extracts of organs kept at a temperature of 37° C. (98.6° F.) micro-organisms were able to develop; (2) that the juices of the brain, liver, heart, spleen, lungs, and muscles of guinea-pigs and sheep possess antibacterial properties, quite independently of temperature; (3) muscular tissue in especial possesses bactericidal properties. The value of the administration of raw meat in certain affections is well known, as, for instance, in tuberculosis, (4) the addition of certain other substances to the extracted juices appears to influence their properties; for instance, dog's serum and sodium chloride increase their bactericidal powers. — *Rassegna Internazionale della Medicina Moderna*, August 15, 1900.

ELECTRICITY IN GYNÆCOLOGY AND THE PRESENT RELUCTANCE OF GYNÆCOLOGISTS TO USE ELECTRICITY.[1]

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In looking over the bibliography of the subject an abundant evidence of the successful therapeutic use of electricity in almost every disease peculiar to woman is found in text-books, addresses, and papers by the best-known gynæcologists. The list includes particularly:

Uterus—Abrasion of the os uteri, stenosis of the os and uterine canal, endometritis, cervical catarrh, amenorrhœa, dysmenorrhœa, menorrhagia, metrorrhagia, flexions, subinvolution, hyperplasia, fibroid neoplasm, prolapsus, procidentia, polypi, and carcinoma. Tumors—Fibroid, ovarian. Appendages—oöphoritis, cysts, salpingitis, pyosalpinx, and hæmatosalpinx. Pelvis—adhesions, cellulitis, pelvic hæmatoma, hæmatocele. Urethra — stricture. Bladder—neuroses, papilloma, benign and malignant tumors. Rectum—stricture. Vulva — growth, cysts. Extra-uterine pregnancy, etc.

The successful treatment by gynæcologists must be a fact, if they tell it themselves and have it recorded in the literature on the subject. Naturally the question arises, why the same gentlemen in a body by a vote denounce electro-therapeutics as a failure. An investigation for facts and truth may not be pleasant, and it is not my desire to elicit unpleasantness hence let us cover with professional love all differences. Only one inquiry of the writer may be noted here, which gives one of the many reasons. One of the staff of a special hospital was asked why his colleagues had denounced the use of electricity in gynæcology, while there were recorded so many successes. He answered: "We have an excellent electro-therapeutist on the hospital staff, and cases which were referred to him he often did not cure. On the contrary, we often found adhesions when laparatomy was performed after an electrical treatment."

The electro-therapeutist in question then was interviewed and said: "There is some truth in the former statement. I have cured cases and have had success with electro-therapeutics, but some cases are either tedious or incurable. Next I had no choice in the selection of the patients suitable for a successful treatment. Some patients not wanted by the operating staff nor by myself were referred to me, and nolens volens I had to treat them, even though I knew they were not suitable for a successful treatment by electricity."

The very same thing happens to other electro-therapeutists on the staff of other hospitals. They have to treat unsuitable cases against their wishes, and no protest changes the matter, but even then often they succeed. Concerning adhesions, our ex-president, Dr. Lapthorn Smith, remarked once in a discussion: "I think it is unjust and unfair for my friend Dr. Joseph Price and others to lay all the blame of adhesions on electricity, when they know as well as I do that these complications are met with in cases which have never been touched with electricity, while, on the contrary, they know that cases which have been treated for a year with electricity were found at the operation to be absolutely free from adhesion."

Injudicious treatment and particularly too strong a current may cause adhesions, but the therapeutic agent

[1] Read at the meeting of the American Electro-Therapeutic Association, September 26, 1900, held at the Academy of Medicine, New York.

cannot be held responsible for the mistakes of the operator. Mistakes of doctors and druggists may have killed people, but it never has been known that opium or any other drug had been condemned on that account.

The writer has treated successfully with electricity most of the diseases above enumerated. There was a series of cases of prolapsus uteri, in some of which the uterus was outside and entirely irreducible. The high-tension current cured in every case, and it could be seen how the electricity caused contraction and diminished the size of the organ, so that it was reduced and pulled back to its normal place without the use even of the hand, and solely by the action of the electric current. But let us adhere entirely to our text, the use of the continuous current.

In many cases electrolysis has been used, which means that the galvanic current is applied in such a manner that by chemical decomposition compound bodies or salts are reduced to their component parts. Thereby the current reabsorbs pathological formations not alone polar but interpolar, and the fact explains also how we cause the reabsorption of fibroids.

Fibroid tumors of the uterus may be peritoneal, interstitial, or submucous. Nobody would advocate the use of electricity in peritoneal fibroids, and it seems that many operations for them are unnecessary, as we often find on autopsies large peritoneal fibroids, which in life never had troubled the bearer. With the other two varieties the writer has had invariable successes.

Formerly needles were used, partly as galvano-puncture under strong currents. Dr. J. N. Freeman, of Brooklyn, read a paper on January 20, 1885, before the Medical Society of Kings County, in which he reported three successful cases of fibroid tumors treated by galvano-puncture. Freeman operated, with the patient under an anæsthetic, with needles and with strong currents. Freeman's memory as a pioneer in this line should go down to posterity. During his life the Brooklyn profession could not comprehend his arduous work and success. Almost at the same time our lamented honorary member, G. Apostoli, in establishing his method of treatment by electricity, labored assiduously in Europe and America, was successful, and made many friends, but also met bitter opposition and was more abused than appreciated.

Menière in Paris with six cases, and J. T. Everett, Clyde, Pa.,[1] with seventeen cases, came next, and were followed by Franklin Martin,[2] W. E. Stevenson,[3] E. Cutter,[4] Semeleder,[5] A. H. Buckmaster, W. F. Hutchinson, A. Lapthorn Smith,[6] J. H. Kellogg,[7] Massey, Schavoir, and many others too numerous to mention. During a discussion on "Fibroids," at the last meeting of the British Medical Association, our honorary fellow, Dr. Skene Keith, said he believed in and practised Apostoli's method.[8]

The art in applying electrolysis successfully in gynæcology consists in: (1) using the correct strength of the galvanic current; (2) applying the poles at the right place; (3) selecting the size and material of the electrodes; (4) timing the duration and intervals of the séances.

Electrolysis applied with a mild current will cause absorption only, while a strong current will burn, cauterize, and even destroy tissues. Therefore the operator must know what effect he wishes to produce, and then graduate the strength of the current accordingly. Very strong currents have been used, but the writer has always advocated weak currents, and has been successful in his cases. This is a practical point in the argument, but his theoretical reasons are that strong currents may cause serious inflammations and destruction of healthy tissues while the current traverses living tissues in all directions, interpolar, but mostly polar. It has been shown in a series of experiments that currents of great electro-motive force became uncontrollable when traversing animal tissues. The writer has always succeeded better with mild currents, and prefers to use the mild currents a longer time if necessary. By mild currents is understood a strength which can be tolerated by the patient without being painful. A fixed amount of amperage cannot be stated. Applying the correct pole in the right place means particularly using the positive pole for stopping hemorrhages, while the negative pole will absorb the fibroid tissues.

In selecting the material and size of electrode the writer does not use needles, but generally makes his way into the uterus with a blunt platinum sound, and always pushes this by degrees into the tumor, sometimes to the depth of eight and ten inches. For the abdominal electrode nothing suits better than pottery clay, which, however, must be kept warm, smooth, and moist; its size should be about twelve by twenty inches.

The duration and intervals of the séances must be regulated according to indications. The time for a cure of a fibroid tumor cannot be exactly stated, but depends on the nature and size of the tumor, the complications, and the constitution and pluck of the patient.

Interstitial tumors may be either diffused in the uterus, or circumscribed in one locality. If the latter, which is usually the case, the electric current is directed toward the tumor. These tumors are more or less adherent to the wall of the uterus, and often they are encapsulated. The treatment by electrolysis consists in possible absorption of the tumor, or at least in making it smaller, cutting off its nutrition, and leaving it small in a dormant state, when it will do no harm. Sometimes it may do good to rupture the capsule. Then one of two things may happen. The tumor may slough off, which takes some time, and then the electric current may do harm, and great care should be taken to prevent sepsis, and to keep up the vitality of the patient. In one case, in which the tumor was very large and of eleven years' standing, the writer operated in the way just described during more than three months, using the blunt platinum electrode. The patient was very weak and often in collapse, but finally made a good recovery. The diagnosis was first made by Dr. E. M. Moore, of Rochester. Another patient was brought to the writer's office, who had lost so much blood by active hemorrhage that her life was in danger. Therefore she had to remain at his house, as she could not be moved, and be treated for the hemorrhage, as she was almost bloodless. She made a good recovery. She was heard from twelve years afterward, when she was alive and well.

Sometimes after the capsule has been ruptured the tumor may be pulled out of the uterus, somewhat like enucleation, and if the adhesion is small and pedunculated the tumor may be removed in its entirety at the pedicle with the galvano-cautery platinum wire, or with an écraseur.

Submucous tumors are almost always hanging by a pedicle in the uterine cavity and cause the most trouble by hemorrhage. The best treatment is the removal of the tumor by galvano-cautery under antiseptic precautions.

The writer has always treated his cases of fibroid tumor successfully by electricity, and never has lost a case. Sometimes the tumor has not entirely disappeared, but was small and lay dormant, without causing any trouble or inconvenience.

[1] New York Medical Journal, April 18, 1885.
[2] Journal of the American Medical Association, April 23, 1887.
[3] British Medical Journal, October 1, 1887.
[4] Transactions of the Ninth International Medical Congress.
[5] Wien. klin. Wochenschrift, October, 1888.
[6] Journal of Electro-Therapeutics, January, 1890.
[7] Times and Register, February 7, 1891.
[8] Medical Record, August 25, 1900.

Now a few words as to the diagnosis of these cases, which has been always verified by good authorities, or made before the patient came under treatment. In some cases I have selected a good surgeon of unquestionable standing, who was believed to be prejudiced against electricity, to examine the patient, confirm the diagnosis, and locate the fibroid tumor. The same surgeon was again invited to examine the same patient after the electric treatment, and was then obliged to acknowledge that the tumor could no longer be found, and that therefore the electrolysis must have caused its absorption.

Some may ask, why these cases have not been published before. My answer is that I have had my share of abuse for praising electrolysis, and therefore would leave some criticism for others; besides, I did not wish to encroach so far on the work and glory of the gynæcologists. Other diseases of the uterus have been treated with various results. Is there a man who can assert that he has cured all cases of uterine catarrh by any routine? Ovarian tumors cannot be expected to yield under any electric treatment, because they are mostly multilocular cysts, and the piercing of the tumor by a needle may cause peritonitis and adhesions.

Pelvic cellulitis may be cured by electrolysis judiciously and carefully applied. The writer has had among other cases a very bad one, with adhesions which held the uterus retroflexed and adherent in the peritoneal cavity. A consulting gynæcologist confirmed the diagnosis and considered the adhesions permanent. The writer treated the case by persistent electrolysis, using the negative pole in Douglas' culde-sac, pushing the instrument backward and upward. The adhesions were thereby removed and the patient was cured. This was eighteen years ago, and the patient was seen only recently and was found to have remained well since that time. Several other similar cases are in the writer's notes, but none with such bad prognosis.

Peritonitis has been cured by Dr. W. E. Ford, of Utica.[1]

In peri-uterine hæmatocele Apostoli[2] has had excellent results by means of negative galvanic puncture. He says that it is applicable alike to hæmatocele, abscess, fibromata, interstitial myomata, and extra-uterine cysts.

Strictures of the female urethra are rare, but they occur occasionally and are readily cured by electrolysis. The writer has reported some of his cases.[3]

Oöphoritis and salpingitis are intimately connected, say our modern authors. Cases appear in different stages; some are very difficult to manage and no treatment will positively cure. I have had some cures by electrolysis, having notes of cases treated from 1872 to 1887. One acute case was treated successfully in five séances. I have generally used the negative metal electrode in the vagina, and a positive pad on the abdomen over the ovary.

In one case in private practice the patient, who was very poor, had been treated medically, the case being regarded almost hopeless. Friends applied for her admission to hospital, and in every institution the surgeon in charge insisted on laparotomy and removal of the uterus and appendages. The writer objected to such harsh measures, and after quieting the patient with morphine took her to a hospital out of town to which he is attached as consulting surgeon. There the patient was curetted, drainage was established, and she made a good recovery. I have seen her only very recently. No electricity was used.

In bladder neuroses, papilloma, and other tumors, electrolysis, after the diagnosis has been made by the cystoscope, is certainly indicated. The writer has removed papillomata with the galvano-cautery, and tumors by means of electrolysis with needles. A paper in which cases of this kind were reported was read before this association in Chicago in 1893.[1]

Strictures of the rectum are more successfully treated by electrolysis than by any other method. The writer has had considerable experience with cases of stricture of the rectum, and read a paper on this subject before the American Medical Association at Newport in 1889.[2] Most of the cases were successfully treated; in some recovery could not be expected. One woman, who subsequently underwent a surgical operation in a hospital, died soon afterward.

The vulva has sometimes growths or cysts which can be removed either by surgical operation or by electrolysis.

In extra-uterine pregnancy the profession is divided as to the best treatment, and some surgeons prefer laparotomy. However, we have reports of successful treatment by electricity by eminent men, of whom the following may be mentioned: Drs. A. D. Rockwell,[3] E. G. Landes,[4] Nathan Bozeman,[5] H. J. Garrigues,[6] W. Goodell,[7] Eli Van de Warker,[8] Reeve, T. Lusk,[9] A. H. Buckmaster,[10] Matthews Duncan,[11] Percy Boulton,[12] and W. E. Stephenson.[13] The *modus operandi* differs, but it seems electrolysis is mostly used. One method is to have one pole in the vagina or rectum, the other pole on the abdomen.

Basing my conclusion on my own experience and on reports contained in the literature on the subject, I may say that we obtain better results from treatment by electricity than by other means, and the reluctance of gynæcologists to apply electricity, or at least to recommend it, has not been explained.

We need a means for a better education of the medical men in electro-therapeutics, and should strive to see the establishment in New York of a school, laboratory, hospital, and clinic in electro-therapeutics.

148 West Seventy-third Street.

[1] The Medical Press of Western New York, April, 1888.
[2] American Journal of Obstetrics, April, 1886
[3] American Journal of the Medical Sciences, October, 1875.

A CURE OF A CASE OF HYPERTROPHIC ALCOHOLIC CIRRHOSIS OF THE LIVER, WITH REMARKS.*

By M LUZZATTO, M.D.,
NEW YORK.

G. A——, aged fifty-five years, a carpenter by occupation. Family history good; his parents both died of old age. Past history: Twenty-six years ago, while residing in a malarial district, he developed intermittent fever, from which he suffered at times for a period of ten months. Eight years later he had another attack of malaria, lasting for about one month. With these exceptions he has always felt well, although since boyhood he has been subject to attacks of nosebleed, which were finally controlled by venesection practised every four months. The patient's habits, however, have not been good, as since the age of sev-

[1] Times and Register, Philadelphia, November 11, 1893
[2] Journal of the American Medical Association, May 17, 1890.
[3] Medical Record, February 17, 1883.
[4] Medical News, April 8, 1882.
[5] Transactions of the New York State Medical Association, 1884.
[6] Gynæcological Transactions, vol. vii., 1883
[7] Union Medical Magazine, Philadelphia, December, 1888.
[8] Gynæcological Transactions, vol. xii., p 296.
[9] American Journal of Obstetrics, xiv. 329, 1881
[10] Medical News, July 21, 1888.
[11] St. Bartholomew's Hospital Reports, vol. xix.
[12] British Medical Journal, April 30, 1888.
[13] British Medical Association, 1886

* Read before the Italian Medical Society of New York, June 27, 1900.

enteen years he has been constantly increasing his amount of stimulants. When a boy of seventeen he drank two, three, or four glasses of wine a day, but when over twenty he increased this amount, and on Sunday was in the habit of taking two quarts of wine; when thirty-two he was taking twelve drinks of whiskey and three or four pints of beer every day. At the age of fifty years, after eighteen years of hard drinking, during which time he ate very little and worked very hard, he was obliged to give up drinking spirits, as it seemed to produce attacks of dyspnœa and vomiting.

About September 15, 1894, he began to feel bad, and two months later (November 9, 1894) he consulted me about his condition. He then complained of difficulty in breathing, sticking pains in the right side of the chest low down, and a tenderness over the right side of the abdomen. On examination I found that he had a temperature of 100° F., a pulse of 80, hydrothorax on both sides, and a beginning pulmonary œdema. He also had ascites and a reducible hernia on both sides, which could in no way be retained within the abdominal cavity, even with the truss. His abdomen measured thirteen inches from the ensiform cartilage to the pubis; thirty-five and one-half inches in circumference at the level of the umbilicus, and thirty-seven and one-half inches at the point of its maximum, which was about two inches above the umbilicus. The abdominal veins (subcutaneous collateral circle) were very much enlarged. A diagnosis of alcoholic hypertrophic cirrhosis of the liver was made.

Treatment: The patient was put on a milk diet of four and one-half pints a day. His condition, however, grew rapidly worse, and the ascites increased. A consultation with Dr. A. Loomis was accordingly held, and the diagnosis was confirmed. After the consultation it was decided to put the patient on the following powders: Calomel, gr. i.; pulv. digitalis, gr. i., pulv. squill, gr. iii.; to be taken four times a day. In addition to which a teaspoonful of Epsom salts was given every morning, and a milk diet was instituted. The condition of the patient at the beginning of the treatment was as follows:

November 26, 1894: Milk taken daily, 2,250 c.c.; urine passed, 500 c.c. Abdominal measurements: vertical 13 inches; circumferences—umbilical, 35½ inches; at its maximum, 37½ inches. Pulse, 80; temperature, morning 100°, evening 101° F.

After three days of this treatment the patient could no longer endure a milk diet, so he was allowed solid food. His condition then was as follows:

November 29th: Urine passed, 300 c.c.; abdominal measurement—vertical, 14 inches; circumferences, 38½ and 37½ inches. Pulse, 83; temperature, morning 100.5°, evening 102.5° F.

At the end of twelve days (December 10th) his temperature had dropped to normal; urine was 750 c.c. a day; and his abdominal measurements were 13½ inches vertically and 37¾ and 36¾ inches circumferentially.

December 10th: As there were some signs of stomatitis present the powders were discontinued and the patient was put on nitrate of potassium, ʒ i. a day, and iodide of potassium, gr. xv. twice daily in a liquid potion. After eleven days of this treatment without improvement it was noticed that the lower lobe of the left lung was consolidated. Accordingly all medicines were cut off and he was put on a milk diet again with somatose, ʒ iii. a day.

Beginning December 20th with 500 c.c. of milk a day, in two weeks (January 5, 1895) he had run the amount up to 3,000 c.c., and at the same time it was noticed that the amount of urine passed had also increased from 500 to 3,000 c.c. a day; his abdominal measurements were: vertical, 12½ inches; the circumferences, 38 and 37 inches. Accordingly the following mixture was ordered:

℞ Powd. digitalis.. ..... gr. viij.
Make hot infusion ..... ad ℥ iij.
Potassium acetate ..... ʒ ij
Syr. of squill..... ʒ i.
S. Tablespoonful every two hours.

January 23d (seventeen days later) he was taking 2,000 c.c. of milk; urine passed, 1,700 c.c., abdominal measurements still less, viz., vertical, 12 inches. circumferences, 36¾ and 36⅛ inches. As he complained of a little stomach trouble, the milk was now cut down, and beef-tea added to the diet. His other medicines were also stopped except Epsom salts, which was given every morning in ʒ i. dose for a few days, after which the diuretic was again administered.

From January 24th to February 11th the milk was continued in the quantity of 1,500 c.c. a day, the urine passed was 1,500 c.c. (normal), the abdominal measurements went down to 10½ inches (vertical) and 34 inches both circumferences. In view of the fair condition of the patient the milk was left off altogether; but after three days without milk it was found that the amount of urine had decreased, and that the abdominal measurements were increasing It was therefore thought expedient on February 14th to put the patient back on 2,000 c.c. of milk a day, when the urine again increased in amount. The fluid in the chest was now completely absorbed, so that friction sounds and vocal fremitus could be obtained over both lungs. A blister was applied for the sticking pain in the side, and the diuretic mixture discontinued for a few days, but again given when the amount of urine was seen to be decreasing.

Two weeks later (February 28th) the amount of urine was still normal (1,500 c.c. a day). The abdomen was regular in shape, tympanitic, with no sign of fluctuation, and measured vertically 10½ inches and circumferentially 33¾ and 32¾ inches. The subcutaneous abdominal veins could no longer be noticed, and the pain in the chest was gone, although a few friction sounds and râles were evident on auscultation.

The liver could now be mapped out, and it was found that its absolute dulness was limited along the mammary line, above, by the fourth intercostal space; below, by the costal arch. At the parasternal line it reached 2 cm. below the arch. Its limits posteriorly were normal. The spleen was moderately increased in size. One week later (March 6th) pleurisy reappeared on the left side posteriorly, together with slight fever. Salicylate of sodium, gr. xxx. a day, was ordered, diuretics were discontinued.

March 9th: Pleurisy improved, no fever

March 20th: Friction sounds still persisted. Salicylate of sodium was continued. Diuretic potion was again administered, with gr. viii of iodide of potassium, besides ʒ ss. of cod-liver oil with ♏ viiss. of syrupus ferri iodidi twice a day.

From March 1st to March 6th he took 1,000 c.c. of milk a day. Urine passed, 1,000 c.c. Measurements of the abdomen, 10½ inches vertically, 33 and 32½ inches circumferentially.

From March 6th to March 31st 1,000 c.c. of milk a day. Urine passed, 1,250 c.c. Measurements, vertical 10½ inches, both circumferences 32 inches.

March 31st: Weight, one hundred and thirty-eight pounds (his normal weight when in health). There was no fluid in the pleural cavity, friction sounds could be noted all over the left and posterior parts of the chest. Respiratory murmur normal except at the lowest part of the right chest, where it is replaced by fine crepitant râles. The patient has a good appeitte and eats macaroni, meat, eggs, and vegetables in addition to his 1,000 c.c. of milk a day.

April 7th: Tincture of iodine was painted over the chest, where the friction sounds were present.

April 15th: Milk reduced to 500 c.c. a day; urine passed, still 2,000 c.c. a day. Abdominal measurements, 10½ and 32 inches. Friction sounds on left side were less marked. Weight, one hundred and thirty-nine pounds. The daily amount of diuretic mixture was reduced to ℥i.

April 27th: Friction sounds less; ordered iron and arsenic.

May 3d: Friction sounds disappearing. Patient is allowed to go out. A liberal diet was given besides 500 c.c. of milk a day. Diuretic was stopped. Urine, still 1,500 c.c. Abdominal measurements, 10½ and 32 inches.

May 24th: No more friction sounds; few râles on right side of chest low down; weight, one hundred and forty pounds. The patient feels well and strong, and is able to work. I forbade him to work again inside of two years, but he did not heed my advice, and went back to his trade. After working for a number of weeks, he noticed that his hernia, which he could not keep up with a truss, seemed to be growing larger. Examination showed a hydrocele from which about eight ounces of straw-colored fluid was obtained by puncture. This I continued tapping at intervals, thinking that it might gradually disappear. The fluid, however, instead of diminishing in quantity, increased and finally became bloody, until at the end of August about a gallon of bloody fluid was withdrawn from the right side. It was noticed also that the abdominal measurements were increasing. On examining the patient when lying down it was found that the fluid had disappeared from the scrotum. It was thus evident that the fluid in the tunica vaginalis came from the abdominal cavity. This condition had not been noticed during his first sickness, as he was first seen in bed, and was never allowed out of bed until he was well and the ascites had disappeared. In view of the fact that the fluid in the scrotal sac thus pointed to a return of his ascites, puncture of the scrotum was discontinued, and the patient again put upon milk diet (September 21st).

September 21st: Milk, 2,000 c.c.; urine, 2,000 c.c.; abdominal measurements, 34 inches.

October 12th: Milk, 1,500 c.c.; urine, 2,000 c.c.; abdominal measurements, 32⅞ inches.

November 4th: Milk, 1,000 c.c.; urine, 2,000 c.c.; abdominal measurements, 33⅛ inches.

The treatment was then discontinued.

December 27th: Abdominal measurements, 33 inches; weight of body, 137 pounds.

January 12, 1896: Abdominal measurements, 31⅜ inches; weight of body, 135 pounds.

April 27th: Abdominal measurements, 31 inches; weight of body, 137 pounds.

At this time the patient was well and attending to his business. His diet was general, and he drank a little wine with his meals, but no spirits.

The liver was mapped, and its limits of absolute dulness were: In the mammary line—above, at the inferior border of the sixth rib; below, two inches above border of ribs. In the parasternal line—above, at the superior border of the fifth rib; below, one inch below costal arch.

June 30th: Abdominal measurements, 31 inches. The limit of absolute liver dulness was, in the mammary line—above, superior border of the fifth rib; below, one inch above the border of ribs; in the parasternal line—above, at the superior border of the fifth rib; below, one inch below border of ribs. The abdominal veins were normal.

July 18th: The abdominal measurement was 31½ inches.

Remarks on Cirrhosis of the Liver.—Etiology: The cirrhosis, originally described at length by Laennec, and named by him "gin-drinker's liver," by no means depends alone for its causation upon over-indulgence in alcohol. In fact, many other etiological factors have been noted by writers since his time, viz., syphilis,[1] tuberculosis,[2] malignant growth[3] of the organ, malaria,[4] traumatism,[5] diabetes,[6] ptomain poisoning,[7] obstructive valvular diseases of the heart,[8] other cardiac conditions,[9] fright,[10] chronic lead poisoning,[11] and chronic poisoning from sulphuric ether,[12] both experimentally produced, alcohol and malaria together[13] (our case), and possibly a specific, but as yet imperfectly understood infectious disease,[14] as well as an inherited tendency or special dyscrasia,[15] chronic peritonitis,[16] and obstruction of biliary ducts.[17]

Nevertheless, there can be no doubt that alcoholic excess is the most common cause of cirrhosis of the liver,[18] and this is due, it appears to me, not to any special selective action of alcohol upon the liver, but because alcohol is the most common toxic agent to which human beings expose themselves, and because, furthermore, the liver is the first important organ to receive and filter all toxins absorbed from the gastro-intestinal tract.

In the case herewith presented two etiological elements were present: a malaria from which the patient had suffered at one time for ten months, and alcoholism of eighteen years' standing. Only two similar cases in the literature of the past six years has been presented, by Mirinescu (*loc. cit.*) and A. Cardarelli (*loc. cit.*).

Diagnosis.—The large size of the abdomen, the absence of lancinating pains of the peritoneum, the fact that the urine was free from albumin and casts; the presence of the fever only for a few days in the beginning of the disease; the non-existence of organic disease of the heart or œdemas, taken in conjunction with the well-marked abdominal venous circle (caput medusæ), were sufficient to point to an hepatic rather than to a renal, cardiac, peritonitic, or hydræmic origin of the ascites, without excluding a secondary element in the malarial enlargement of the spleen. The relatively large size of the liver before treatment and its marked reduction thereafter tend to confirm the diagnosis of alcoholic hypertrophic cirrhosis of the liver.

Course of the Disease as Influenced by the Treatment.—A careful study of the above-described course of the disease will show the influence exerted by the milk diet upon the flow of urine. Before the steady ingestion of milk the patient was passing a relatively small amount of urine. This amount gradually increased as time went on, till he was excreting by way of the kidney an even larger amount of fluid than he was taking in. During the period throughout which treatment was suspended (May 4th to September 21st), the amount of urine gradually fell, coming up again with the renewed application of the milk diet and remaining permanently high in spite of the lowering of the quantity of milk ingested. This would seem to indicate two things: (1) that the treatment was in the first instance suspended too soon; (2) that the milk diet was the true factor in the cure.

The abdominal measurements are seen to drop proportionately to the rise in the amount of urine. The body weight drops with the rise of the urine curve; this indicates that the loss of weight in this period of time is due to the disappearance of the ascitic fluid. The highest point of it corresponds with the premature suspension of the milk diet (May 24th) and is permanently kept to the average weight of the patient when in health after the final suspension of the treatment. To-day, about five years since the treatment was stopped, the patient is perfectly well, having a good appetite, digesting the strongest kind of food, and attending to the heaviest labor of his trade. He has,

however, entirely abandoned the use of whiskey, and is abstemious in regard to other alcoholic drinks.

Curability of Cirrhosis of the Liver.—Quite a number of cases resulting in cure have been recorded in the literature. Fritz[19] reports an apparently hopeless case quickly cured by daily doses of strychnine, 1 cgm., together with 4 gm. of potassium iodide, and though he does not pretend to explain the reason for the cure, he says that physicians should never give up hope in the treatment of cirrhosis.

Rendue[20] reports cure in a case after fourteen paracenteses, during which two hundred and eighty pints of fluid were withdrawn.

A. L. Romain,[21] a case of cure by milk diet and iodide of potassium.

Croisier,[22] five cases cured by repeated paracenteses.

Soucerotte[23] reports a cure after four months' treatment and quotes cures at the hands of others (Féreol, Descurt et Vulpian, and Richard) as the result of treatment ranging in length from two months to two years. He cites a patient of his father who lived thirty years after being cured.

Senator,[24] a case of cure in four months.

Wirsing,[25] besides reporting a case of his own, collects many others from the literature.

D. De Buch et L. De Moor,[26] Beerens,[27] B. C. Sen[28] et H. Delagenière,[29] among the more recent authors, report cases of cirrhosis of the liver resulting in cure.

Budd,[30] Cornil,[31] Rendue,[32] Frerichs,[33] Cirelli,[34] and others of the older writers had no faith in the curability of cirrhosis of the liver, believing that, when ascites has once developed, nothing can be done beyond amelioration of the symptoms.

As will appear from the dates in the bibliography, it is the more recent writers who have advanced a more hopeful view and have brought forward cases to support it. It not infrequently happens that experience and theory fail to harmonize; and in view of the clinical facts and of the newer cytology we must conclude that the reasoning of the older writers was based upon an imperfect conception of the effect of toxins. In fact, the very existence of such products was hardly suspected.

In the present case, after about five years during which treatment was stopped, the patient displays no evidence of his former trouble. An enlargement of the spleen existed, but that was undoubtedly of malarial origin, since only the atrophic form of cirrhosis can produce splenic hypertrophy.

A most interesting fact, and one which should have considerable value as showing the changes in volume that the liver may undergo during the course of a cirrhosis, will appear upon examining the measurements taken at different times during the course of the disease.

The vertical diameter reached its maximum on February 28, 1895, its minimum on April 27, 1896, and with a marked improvement of the symptoms, on June 30, 1896, had returned to a point between these two extremes.

Wide variations in the size of the liver during the course of a cirrhosis have been noted by Duncan,[35] Senator,[36] H. W. Webber,[37] Debove,[38] A. A. Eshner,[39] and a unique case was reported by Markvall,[40] in which the autopsy showed in some points of the liver atrophic tissue, in other points of the same hypertrophic tissue in the form of round masses of newly built hepatic parenchyma, as was proved by the microscopical examination. Hanot and Gilbert[41] also report a case of atrophic cirrhosis of the liver in which, at the autopsy, besides an atrophic lesion a process of regeneration of hepatic tissue was found. Remarks on this process of regeneration were also in the last decade published by D. Nasse,[42] J. B. Gibbon,[43] V. Hanot.[44]

It is not surprising, therefore, that a case which ended in recovery should present the changes in size that were noted. The final increase in volume parallel with the improvement of the symptoms would seem to point to a regenerative process in the organ, and we may even assume that this regeneration was the *sine qua non* of recovery. Nor have we any reason to believe that such a process is confined to the liver, but rather that this same regeneration of damaged cells takes place during recovery of any organ from disease.

The Infectious Nature of Cirrhosis.—The following facts tend to show that certain forms of cirrhosis of the liver may be due to a special infection:

1. Cirrhosis is not peculiar to the liver, but can affect any organ.

2. Many cases have followed a very rapid course.[45]

3. In many cases the state of the blood is much depraved, as evidenced by hemorrhage[46] (which was present also in this case in form of bloody ascitic serum), although said hemorrhage can be produced even by varicose veins[47] complicating a dyscrasic condition of the blood.

4. Certain known infectious diseases[48] cause cirrhosis.

5. Microparasites have been found in cirrhotic livers.[49]

6. Coma[50] and delirium[51] have been noticed during the course of certain forms of cirrhosis.

The subject is too extensive to be more than touched upon in this place, but possesses rich material for discussion.

Treatment.—As to the treatment of this case, the therapy consisted of milk, iodide of potassium, and diuretics. The milk was administered from start to finish; the iodide of potassium and the diuretics, though not used till late, seemed to contribute in considerable degree to the cure. The milk sustained the patient without throwing work upon the liver as would have been the case if the patient had been allowed fatty or starchy food, while at the same time its diuretic properties were of exceeding benefit.

The iodide of potassium probably acted as a solvent upon the hypertrophic connective tissue, and probably as an antiseptic, while the diuretics were selected from those that would not only assist in eliminating the waste from the body, but so strengthen the heart and blood-vessels as to restore the hydraulic equilibrium.

General Remarks on Other Treatment.—Very many therapeutic measures have been adopted in the treatment of alcoholic cirrhosis of the liver: Copaiba either alone[52] or with milk and iodide of potassium[53] with good results; calomel gr. iii. daily with mouth wash of chlorate of potash;[54] milk, Vichy water, potassium iodide, and nux vomica,[55] without result. Paracentesis, when repeated often enough, sometimes completely relieves the ascites.[56] Lecanu performed it upon a single patient eight hundred and eighty-six times during fifteen years.

Milk, diuretics, and potassium iodide,[57] with resulting cure. Milk and puncture,[58] case resulting in cure. Milk and potassium iodide with resulting cure by Lancereaux[59] and by Semmola,[60] who says that milk, if used long enough in large doses, will cure cirrhosis. Milk and calomel,[61] with result in death due to an infectious condition of the blood.

Strychnine and potassium iodide,[62] 1 cgm. of the first and 1 gm. of the second daily, caused rapid recovery through diuresis after Vichy water, potassium iodide, nux vomica, and puncture had been employed without result.

Laparotomy[63] in a cirrhotic for diagnostic purpose resulted in cure.

Drainage,[64] invariably resulting in death sooner or later.

Packing of the abdominal cavity,[65] constantly resulting in death.

Milk and gin,[66] death following.

Calomel and puncture,[67] with no good result.

More recent authors (Villemin and Chresteu de Monpellier, quoted by Dujardin-Beaumetz, Ferreira, De Renzi, and Semmola) registered cases of patients cured of cirrhosis of the liver, having used diuretics, drastics, iodine preparations, and above all milk.

Bearens (*loc. cit.*) reports a case of a cure with repeated paracenteses and application of a caustic (Vienna paste) in the hepatic region. Klemperer (*loc. cit.*) cured a patient with milk and urea as diuretic. Verstraeten (*loc. cit.*) cured one with Vienna paste and eleven paracenteses, by which he drew 9½ litres of fluid. Of these various remedies the greatest number of favorable results seems to have been obtained by the plentiful use of milk combined with potassium iodide or rarely with tapping, this last part of the treatment being purely symptomatic, and though useful at times, extremely dangerous if often repeated. For, besides the danger of ill effect from traumatism of the peritoneum and of possible infection, an amount of albumin is drawn off which takes a long time for the blood to recover, and which a patient in a low state can ill afford to lose. Milk therefore should be our mainstay in the treatment of this disease, and though it takes a long time for it to perfect a cure, in a disease of such importance we can afford to make haste slowly.

Summary.—1. This was a true case of hypertrophic cirrhosis of the liver due to alcoholism.

2. The patient was entirely cured with milk, potassium iodide, and diuretics.

3. The cure probably depended upon a regeneration of the damaged cells of the organ.

4. For the complication that arose, *i.e.*, sero-fibrinous double pleurisy with partial consolidation of the left lobe, only local treatment was used in addition to the regular treatment for cirrhosis, and yet these conditions were entirely cured.

A study of this case, together with the cases reported in the bibliography below, will give prominence to three facts:

1. Alcoholism is by no means the only cause of cirrhosis of the liver.

2. Alcoholic cirrhosis of the liver is curable; the hypertrophic form more often, but the atrophic form also.

3. Cirrhosis very often shows symptoms characteristic of an infectious disease.

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THE CO-OPERATION OF THE MEDICAL PROFESSION OF THE UNITED STATES WITH THE NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS, IN ESTABLISHING INTERSTATE RECIPROCITY FOR THE LICENSE TO PRACTISE MEDICINE.[1]

By EMIL AMBERG, M.D.,

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It was with a feeling of embarrassment that I accepted the kind invitation to read a paper before this confederation. There certainly cannot be anything new that I may be able to present; however, since the committee of the Wayne County Medical Society, of Detroit, has become a kind of a centre for the exchange of opinions along the line of interstate reciprocity for the license to practise medicine, it may be of interest to hear some of the ideas which were furnished to this committee and stimulated the movement.

Before entering into the subject proper, I take great pleasure in expressing my thanks—and I am sure our committee and our society are in accord with me—to all the medical boards and medical State officials in the United States. In fact, the movement is partly based on the willingness of these authorities and on the interest they take in the matter. The question might be raised why the whole movement might not better be left to the National Confederation instead of enlisting the whole medical profession in the same. We can answer that the aim of the National Confederation of State Medical Examining and Licensing Boards, their efforts and their works are, no doubt, highly appreciated by the medical profession. Two points, however, make it desirable that the whole medical profession stand shoulder to shoulder with the boards: First, the feeling of equal citizenship, and, second, the fact that the changes toward an improvement have to go through the legislative bodies.

Concerning the first point, we must consider the peculiarity of our country and our form of government. As to the second point we know that the laws necessary for our purpose must be enacted voluntarily. If it can be expected from every citizen that he understands why he expresses his will on the proper occasion, it must with right be taken for granted that the learned members of the medical profession know why they will depart from the old rules and why they will assist the members of the various boards in their efforts toward an improvement.

There exists no doubt that the advancement of medical science in any country demands a progress in medical education, and, if it were only for this reason, a standstill cannot be tolerated. But let us consider whether we must not improve, if it were only for the purpose of reaching that point which would place the medical profession in the United States on an equal footing with those in the most advanced countries. Physicians are the products of the medical schools; therefore we may speak at the same time of the medical schools. Permit me to quote from quite a number of authors, because I think in repeating their remarks we will have a good idea of the opinion of the medical profession on the subject.

Mr. James Russell Parsons, Jr., in his monograph on education in the United States, gives the number of medical colleges in the year 1899 as one hundred and fifty-six, excluding post-graduate schools, with twenty-four thousand one hundred and nineteen students. The Medical Record (March 17, 1900), quoting Mr. Parsons, says: "A foreigner, reading this statement, and unacquainted with the facts of the case, would come to the conclusion that the medical education in this country was in a particularly healthy condition. If, however, he were of a curious disposition and would dive more deeply into the matter, his opinion would assuredly undergo a radical change."

It is evident that the standards of one hundred and fifty-six medical schools vary a good deal. Their sufficiency at present must be tested by the boards. The *Philadelphia Medical Journal* says well (in the issue of April 14, 1900): "Medical examining boards have a distinct power and well-defined duties in regard to these matters; they can refuse to recognize the diplomas of colleges that give insufficient instruction. Every examining board should have an 'inspection that inspects' every school whose diplomas they agree to recognize."

I, for my part, go even further; I do not believe in private medical schools at all. It is the duty of the State to provide for the education of physicians through first-class medical institutions. The State can do this through boards which are independent of party politics. Parsons, in speaking of the meagre endowment of medical schools corresponding to those made to other educational institutions, says: "Fortunately, the closing year of this century seems to indicate a change in the attitude of philanthropists toward medical schools." In my mind there ought not to be any necessity for the medical schools, institutions of vital importance for the people, to be dependent upon alms. Dr. Roosa, president of the New York Post-Graduate School, is reported to have said: "I hold that the State ought to furnish sufficient funds for the adequate and thorough instruction of all the

[1] Read before the National Confederation of State Medical Examining and Licensing Boards, June 4, 1900, at Atlantic City, N. J.

pupils in every medical institution already legally organized, and for such others as the increase of population may cause to be established under the regulation of the State." Contrary to Dr. Roosa, I hold that the State has not the right to support private corporations at the expense of all citizens. If the different political divisions would take charge of the medical schools there would be a decrease in the number and an improvement in the quality. I naturally admit that we have some good private medical schools; this, however, does not change the aspect and does not excuse a system which has detrimental effects upon the medical profession and upon the public. Conditions at present equal a hazard game. It is not necessary for me to indulge at length on this subject before this body. I may be permitted to quote only the remarks made by the *Boston Medical and Surgical Journal* (October 12, 1899), which, in speaking of "uniformity requirements," says: "We need, first, to reform our medical education, and, when that is satisfactorily done, uniformity of standard will be attained without recourse to legislation. We are, therefore, strongly of the opinion that the real question at issue is to regulate the character and attainments of the men who are about to study medicine, rather than to attempt to legislate into positions of respect men who, from the beginning, were unfitted for the duties and responsibilities of their profession."

In establishing reciprocity, the question of preliminary and medical education is of paramount importance, and there cannot be an independent member of the medical profession who would not admit that uniform training is the foundation of uniform rights in all States and Territories. We fully agree with Dr. William Warren Potter when he says under the heading, "Equality of Standards a Basis for Reciprocity":[1] "The only equitable basis upon which reciprocity can be established, that appears both feasible and practicable, is that of equality of standards for admission to the study and practice of medicine. This implies an equalization of the preliminary requirements of medical students and a uniformity of applying the tests, a uniform period of collegiate training, including uniformity of methods of teaching, and, finally an absolute similarity in the method of conducting State examinations and granting licenses." Dr. Potter's ideas are known to you, no doubt. I wish they were known to the whole medical profession in the United States.

I might mention here, that it is distinctly understood by all parties that it is not expected that any board lowers the standard of requirements. Also some other points should be considered. I may be permitted to quote part of a letter which I received from the Maryland State Board. It reads: "The board is not, at present, disposed to enter into reciprocal relations with other States without receiving some power by exercise of which an undesirable physician could be kept out of Maryland; a man might be all right when he received your license, and subsequently become very bad." This letter I regard as very important. The board acknowledges the necessity of exercising some kind of a control of the moral character of a physician, if I understand the letter right. There does not exist any doubt that such a control is very desirable, even necessary. In this respect the answer is very suggestive to all boards and legislators. On the other hand, I cannot understand that this question touches directly upon the interstate reciprocity agreement. If a man is undesirable in one State he certainly is undesirable in all States—not less so in his own State. We have here to deal with two questions which are practically independent one of another, and the disapproval of existing conditions concerning one point does not excuse the refusal to co-operate in another.

There is also a letter from another board in my hand, the contents of which will be of great interest. It reads, in part: "We, as a board, have made it a rule to issue no license to practitioners, except in compliance with the requirements of our own laws. Owing to the fact that some States which have good medical laws seem to have boards that are very lax in enforcing their requirements, we have deemed this course not only advisable but absolutely necessary in regulating this matter in our own State. So long as the authority for authorizing a license is invested in the members of the board to the degree that it is in many of the States, we do not feel that we can consistently enter into any interstate reciprocity, even if we had the legal power to do so. This board has just received a personal recommendation from the president of the —— State board of medical examiners, in behalf of a man whose sole claim for recognition was a diploma issued by one of the most disreputable "mills" in the country. As long as State boards are so entirely indifferent in performing their duties as the one above mentioned (the applicant is a registered practitioner in ——), we are distinctly opposed to reciprocity with such people. It is needless to say that the applicant was refused a certificate."

My remarks made before apply also to this letter. Nobody expects that any board recognize diplomas of diploma mills. The boards can agree upon a few colleges the diplomas of which they will recognize, without including the others. It should not be difficult to select some medical schools which require a high preliminary education and which guarantee a thorough medical training.

Although we recognize the commendable work done by the Association of the American Medical Colleges, the boards, in my mind, cannot recognize all the colleges of the same. The association may be a very necessary institution, but as far as the profession in general is concerned, and also the public and the boards which form the connective link between the public and the profession, there does not exist a close connection between them.

As I expressed it on another occasion, in establishing interstate reciprocity the process of evolution has to be followed, in order to have a sound development. There is no doubt in my mind that by steady work and perseverance the desired results will be attained in the course of time. The question, however, arises, whether anything can be done immediately toward the end in view. It appears to me that we may answer this question in the affirmative. In a communication to the *Medical Examiner*, of New York, I took occasion to state my view concerning the temporary division of States into six groups, taking as a basis the preliminary education, the medical education proper, and the final State examination. This view was commented upon by the *New York Medical Journal* of January 20, 1900. Parsons, in his work,[1] says: "The present needless multiplication of standards, however, is most unfortunate. Instead of a separate standard for each political division, two, or at most three, standards should answer for all."

It assuredly would be preferable to have two or three groups instead of six, but I doubt whether such an advanced step can be taken at present. I admit that six groups are a little numerous, but six are preferable to fifty-one or more groups. There is no doubt that the formation of groups would not only benefit a great part of the medical profession immediately, but also would help toward the final aim. No better proof

[1] "Reciprocity in Medical Licensure; a Plea for Interstate Indorsement." The Bulletin of the American Academy of Medicine, vol. iii., No. 1.

[1] *Loc. cit.*, p. 45.

can be brought forward in favor of this view than the welcome and timely action of the boards of the New England States. There was a meeting held at the State House at Boston, on February 1, 1900, which, in my mind, is of fundamental importance in the history of medicine in the United States. Not too much praise can be given to the originator of the meeting and to those who participated in the same. We read in the report that "the object of the meeting was presented by the president, who stated that it was generally conceded that reciprocity would be desirable, and suggested the need of discovering the best means of guiding the legislation in order to unify the laws governing medical practice in the different States. Efforts should be made to secure like standards, uniform severity of examinations and markings, like duration of examinations, like subjects, the same fees, the same rules as to conditions, etc., and the same frequency of meetings in the various States."[1] The medical profession, I think, is expecting to see other groups formed. I know that the great majority of the boards have not the right to enter reciprocity until the laws of the respective States and Territories have been changed.

Experience teaches us that it requires great efforts on the part of the medical profession to educate the law-makers and the public, in order to convince them of the usefulness and necessity of changes. Unfortunately, it seems that, for some reason or other, the law-makers are sometimes more influenced by the adversaries of the general good than by the friends of the same. We fully agree with Dr. William W. Potter when he bitterly complains of this fact.

Also another step forward can be made without much delay and trouble. The secretary of the American Academy of Medicine, Dr. McIntire, offers the following commendable suggestion in the Bulletin of the American Academy of Medicine (December, 1899): "To hasten the desired result it would be well if the various licensing bodies would take cognizance of the fact that the legal minimum requirements are more severe in some States than in others, even though the board may, at its own volition, keep the standard higher than the minimum requirements specified by law, and where any State has minimum requirements less exacting than those of another State, if it would accept the licenses from another State having the higher legal requirements without reciprocity it would work no harm to its own physicians and, at the same time, show a good will that could not but help, in the course of time, to aid in the general exchange of licenses." I fully agree with the doctor, and I think it is an injustice to make reciprocity dependent upon the condition that the certificates of the weaker States are accepted by the stronger States. It seems to me that the boards should not place a tariff on knowledge and skill. If the weaker divisions are unable to furnish a sufficiently good education, the boards should welcome the licentiates from the stronger divisions. This will work as a stimulus to the weaker divisions, and is justifiable from a moral and humane point of view.

Concerning the relation of the medical profession in general to the National Confederation, in the efforts toward interstate reciprocity, we readily see that their work is interwoven. I may be permitted to call attention to some other points in connection herewith. We know that it is the aim and the object of the National Confederation of the State Medical Examining and Licensing Boards to establish the standard of medical education in all its details. We know also of the good work the Confederation is doing, and are already convinced that its efforts, in general, are in the right direction. Therefore, it appears to me that the medical profession can heartily indorse the work of the Confederation and pledge their support in pursuing the same.

The co-operation of the medical profession at large is shown, and can still more be shown, in the following ways which are familiar to you. In the first place, it is advisable that the medical profession constantly keep in touch with the work and with the intentions of the Confederation. In this way the profession will be aware of the progress of the work. I may suggest, in this place, that a journal, perhaps a bi monthly journal, be edited by the Confederation in co-operation with the profession at large. It might treat all subjects in connection with interstate reciprocity and higher medical education The profession could thus become more thoroughly acquainted with all the details of the question.

Furthermore, the medical profession can materially assist the boards in helping to establish and to change the laws in the different political divisions This, I think, can be regarded as the most important assistance on the part of the profession It appears to me that in this time of unsettled affairs a public spirited citizen, even if he be a physician, has the duty to do all in his power to instruct and to educate the public concerning these subjects Can we expect otherwise to accomplish anything, and who else could do this work if the medical profession will not do it? I cannot believe that law-makers have not the intention to work for the good of the people If they sometimes are more inclined to follow the advice of the enemies of the welfare of the community, this fact certainly can be explained, in most cases if not in all, by the lack of understanding I think that the medical profession itself is to blame for this to a great extent. The medical profession should furnish to the law makers the necessary knowledge We have a powerful profession in the United States, and if all members, or the great majority of the same, would be a little more aware of their duties as citizens and use their influence, uniting their efforts toward an improvement, there would be a speedy change. It has recently been seen in Michigan what the medical profession can do. There is no doubt that the physicians under proper guidance, have a great influence upon public opinion, and nothing, it seems to me, has greater weight upon the law-makers than the latter. Individually and collectively the medical profession should stand by the Confederation in this respect.

The *Journal of the American Medical Association* (May 12, 1900), speaking of the Ohio medical law, says (on page 1205): "The passage of this amended law is full of fruition of the dreams of many years of the leading Ohio members of the profession, and it required the most assiduous and most self sacrificing labor on the part of the legislative committee of the State Medical Society, assisted by committees of the local societies. The result, however, clearly demonstrates that when the medical profession shows itself to be determined in its requests to the politicians it can overcome all opposition."

Also another important factor should be considered. We know that the public opinion is largely influenced by the daily press. I think it is commendable to interest the daily press and to furnish the individual editors with material. They will draw the proper conclusions themselves. It affords me great satisfaction to state that the people of Michigan are greatly indebted to the daily press in our State for their new law. I am especially familiar with the assistance of the press in Detroit. With great interest the press watched the work of the better part of the profession. After becoming convinced of the necessity of changes, it worked for them with unceasing efforts, and could see its work crowned with success. Independent of

[1] Rhode Island Monthly Bulletin, February, 1900, p. 45.

one another in their ways, combined, however, by the general principles of humanity, the press and the profession in Michigan have worked together for the benefit of all, and I sincerely hope that both will continue to do so in the future. The greater part of the work is still before us (I may mention that at that time there did not exist a State board in Michigan; it has been created since then by united efforts). Should the lay press in all sections of the United States follow the example set by the papers in Detroit, conditions all over the country would improve more quickly.

The co-operation of the medical profession with the boards, to their mutual benefit, can also be shown in a way which suggests itself to me through a communication by Dr. John S. Lewis, president of the Dubuque Medical Society. Dr. Lewis says, partly quoting from another source:

"State boards, from the manner of their appointments, are transient not only as to their constitution but as to their character. They are often creatures of a political system, with which barter and sale, and compromises, and pledges have had to do, and they owe debts; the result is that some of them will be efficient and some will not and that the element of stability in their judgments will be lacking. State pride of a very poor quality will influence a certain order of minds to favor the product of their own State institutions, and it is not inconceivable that even worse motives may actuate them. Besides this, who is going to judge of the standing of the various State boards and assign them to their proper places in the six classes you propose?"

I may answer that we should consider that we are obliged to start the work with our present material. The State boards will improve, no doubt, in the same degree as the profession in general. Both will co-operate with each other for their mutual improvement. Concerning the six groups and the assigning of the various boards to their places I should like to say that the formation of groups should not be based on the quality of the boards so much as on the sufficiency of the laws. There exists little doubt in my mind that the members of the various groups will exercise a sharp control among themselves.

There is still another way in which the individual physician can help to purify the medical profession and at the same time help the cause under consideration; I am thinking of the duty of a physician to withdraw his support from advertising medical journals. It has been said we have two hundred and fifty medical journals in the United States. A great many of these journals are certainly not only superfluous but they are absolutely detrimental to a higher medical education and to the profession. Furthermore, the medical profession can work in the behalf of interstate reciprocity and higher medical education by constantly keeping in mind that medical schools, with greater benefit to all, should be public institutions, as I mentioned before. In connection herewith permit me to add part of an editorial of the *Philadelphia Medical Journal* of May 5, 1900, which comments upon the ideas of Dr. Bowditch, of Boston, expressed in his paper, "The Medical School of the Future." The *Journal* says, among other things:

"These suggestions are of the greatest importance for the future of American medicine; the introduction of the university idea, the laboratory method of instruction, the practical examination to test the student's real fitness for practice, and even the Harvard arrangement of courses in due sequence, are all, apparently, past the experimental stage. Every member of the profession should use his influence to support such schools as are working for these ideals, and the entire profession, through its societies, should organize to support such schools and to use the profession's best influence to crush the inefficient diploma mills which exist in such numbers in almost all parts of our country. Aside from the more ideal motive of striving for that which is best in medical progress, there is the very practical motive which must appeal to every practitioner, that the profession is daily becoming more and more crowded with inefficient men. According to the *Bulletin on Professional Education*, of the University of New York, there is already one doctor to about six hundred inhabitants in most sections of the country, and if this increase continues an honorable living in the medical profession will be almost impossible."

In following out this principle the co-operation of the medical profession with the Confederation will not only serve the purpose mentioned, but will also more or less improve the conditions of which we constantly read, viz., the overcrowding of the medical profession, unethical advertising, the catering to ignorant and incompetent pretenders, the question of the different pathies, the leaning toward Christian scientists and toward patent medicines, the question of specialism, the position of medical experts, the dark sides of medical journalism which I mentioned before, of lodge practice, the abuse of free dispensaries on the part of the profession and the public, the social standing of the medical profession in general, etc. At present we are moving in a "circulus vitiosus." United efforts of the Confederation and of the medical profession should create, instead of it, a "circulus nobilis."

That a greater part of the medical profession all over the United States understands its position is clearly shown by the great interest which the medical press, medical societies, and individual physicians take in the work aiming at interstate reciprocity. Also the laity is beginning to take interest in the question. In order to further the movement I venture to suggest that an interstate reciprocity committee be appointed by the National Confederation of State Medical Examining and Licensing Boards, which may keep in touch with all other interstate reciprocity committees which may be appointed by other bodies, and also that this or a separate committee may be authorized to publish an *Interstate Reciprocity Journal* perhaps in connection with the medical profession at large—if it sees fit to do so.

In conclusion, permit me to say that the movement is important also for another reason. It seems to me that the next century will witness the greatest progress in the history of mankind in regard to hygienic measures. It, perhaps, will be called the "hygienic century." A hundred years hence the then living generation will be entitled to name it so, if only the facts discovered in this century will have more generally been used for the advancement and happiness of the human race. We have reason to believe that this will be done. With unusual activity all civilized nations are taking part in the fight against the ravages of diseases, *e.g.*, tuberculosis. It is the duty of the National Confederation of State Medical Examining and Licensing Boards to provide for a well-prepared medical profession which will be leading in the march of progress, and it is the desire of the medical profession of to-day to do all in their power to help the Confederation to this end. May every single member of the profession contribute his share.

Even a superficial study of the question will convince every citizen of the United States, be he a physician or not, that the establishment of interstate reciprocity for the license to practise medicine is in the interest of all.

Woman's Medical Rights in Austria.—Women are now empowered to practise medicine and pharmacy in Austria on the same conditions as men.

TREATMENT OF FRACTURED PATELLÆ.

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Realizing fully that this subject has been very widely discussed and is somewhat time-worn, it is my desire to give a short résumé of the different ideas of treatment in cases of fractured patellæ, and to speak briefly in advocacy of the wire-suture method, reporting three cases operated on by me in this manner.

The causes of fractured patellæ, like those of fractures elsewhere, are direct violence and muscular action. Direct violence usually produces comminuted fracture, and past writings upon this subject show quite conclusively that bony union in this variety of cases is a frequent result; one accountable reason for this is that the comminution and multiplicity of fragments produce a larger extent of raw surface; hence more callus is formed. However, we must guard against ankylosis, which is often a serious source of trouble in these cases. All fractures of the patellæ from muscular action are transverse, and as this variety is the one most frequently encountered by the surgeon, this article is confined more or less to a consideration of cases of simple transverse fracture of the patellæ.

To get bony union is the aim of all our efforts, and to do this the fragments are to be brought together and held (with the accent on the held) in direct apposition. Surgeons of the present day do not expect union from non-operative treatment, and, although it may happen in rare instances, it is a surgical curiosity.

From a palliative standpoint, numerous splints and appliances have been devised; all of which have the same end in view, viz., direct apposition, bony union, etc.

A few of the best of these methods will here be enumerated. A time-honored, popular, and excellent method is that with adhesive or rubber plaster strips. A posterior wooden splint, padded, should be applied, extending from the middle of the thigh to the tendo Achillis; a compress is placed just above the upper fragment; and over this, in an oblique direction, should be placed a strip of adhesive plaster about one or one and a half inches wide, which is carried downward encircling the leg and splint below the lower fragment; the lower fragment should be treated in the same manner, and the strip of plaster carried upward and attached to the splint and thigh above the upper fragment; a roller bandage, carried from the instep to the middle of the thigh, completes the dressing.[1]

Agnew's splint may also be employed; it consists of a posterior wooden splint with pegs, to which the ends of the rubber plaster are fastened. It is a modification of the foregoing, and the end in view is identical. Other splints, such as Manning's, Thomas', etc., have been put forward by their originators, and have their followers, but time and space prevent a full description of them; however, as said before, they like the others have the same objective point.

All splints should be worn from six to eight weeks, during which time the foot is kept elevated to relax the quadriceps as much as possible; after this, a plaster-of-Paris dressing, split down the centre to facilitate removal and passive motion, is worn, the length of time being left to the attending surgeon in each individual case.

We now come to what may be called the semi-operative treatment, and under this head will be placed Malgaigne's hooks, the long steel pins of Mayo Robson, and the circumpatellar subcutaneous suture of Mr. Barker.

Malgaigne's hooks have been justly called instruments of torture, owing to the severe pain and excessive irritability that they produce, and oftentimes the complaints of the patient will be so forcible that it will be found inexpedient to use them; however, it must be said in their favor that they come nearer to accomplishing the purpose sought than most appliances. In treating a fractured knee-cap by this method, thorough antisepsis should be resorted to, and the punctures, four in number, are first made down to the bone with a tenotome; the hooks are then inserted, first in the lower and then in the upper fragment, and the parts are brought together by turning the approximating screw.

The treatment by long steel pins is usually credited to Mayo Robson, of England; they have been used to some extent and have undoubtedly some favorable results. The writer first saw this method demonstrated by Dr. James E. Kelly, of this city. It consists in passing two steel pins each about six inches long close to the fragments, one through the tendon of the quadriceps and the other through the ligamentum patellæ; the ends are then wrapped in a figure-8 manner with heavy silk or silver wire to draw the fragments together. An addition to the technique of the above plan was to take the third pin, plunge it in one side of the joint, between the fragments, but not allowing it to emerge through the skin of the opposite side, and an upward and backward sawing motion was gone through with, as the pin was withdrawn; it was suggested in the hope that any interposed tissue might be lifted from between the pieces. The idea is somewhat far-fetched and not practical.

The best of the semi-operative procedures to be discussed here is the circumpatellar subcutaneous suture of Mr. Barker; the technique is somewhat similar to the subcutaneous operation for varicocele, viz., the long curved needle is passed through the ligamentum patellæ, close to the lower border of the lower fragment, under the patellæ, and brought out through the tendon of the quadriceps and skin, and then threaded with heavy silk or silver wire and withdrawn; the needle is again inserted through the original puncture, this time going over the broken bone, and threaded with the other end of the suture; the ends are then tied tightly into several knots. The originator lays claim to many good results, and the method is steadily growing in favor in England.

Very recently, that is, within the past year, several cases of fractured patellæ treated by the so-called massage treatment were presented at the Academy of Medicine; it developed during the discussion that the treatment consisted in putting up the injury with the posterior splint and adhesive plaster strips, it being daily taken down, and, while the surgeon strongly held the fragments, a masseur manipulated the injured limb, beginning at the hip and working down to the knee.

The writer does not wish to criticise massage adversely in any way, as it undoubtedly has its advantages, viz., relieving pain, increasing the circulation, removing exudate, and acting as a form of passive motion, etc.; but we are forced to agree with one of the gentlemen in the discussion, that the term "massage treatment" is somewhat of a misnomer, as the cases referred to had been previously treated by the surgical appliances used by most medical men.

Numerous ideas and plans of treatment arise from time to time, and efforts sometimes crowned with some success have been made to supply the profession with a contrivance which, while keeping up the proper amount of extension, would not confine the patient to bed. A most unique device of this kind was suggested

[1] The case of Harriet C—— was treated by the author in this manner. She was seen almost immediately after injury, and as the quadriceps had not contracted there was practically no separation of the fragments. A beautiful result was obtained.

by Dr. Joseph D. Bryant; its description being a little too long to incorporate in this article, the reader is referred to the MEDICAL RECORD of April 4, 1896. As said above, various kinds of treatment occasionally present themselves, and although some are unique in design, possessing perhaps some new advantage, the main objectionable features still exist.

We come now to the operation proper. Our text-books tell us that, although this operation seems to be a brilliant mode of treatment, it is sometimes associated with loss of limb, and has been known in some instances to endanger life; therefore they have drawn the conclusion that the nature of the lesion does not warrant such heroic measures. This opinion was maintained by some of our older writers, and is still held by a number of the surgeons of the present day, consequently the operation has been slightly overshadowed, though it has by no means fallen into disrepute. In the last few years, this method has been strongly urged by Dr. Charles Phelps of this city, in whose practice I have had occasion to see many happy results. All forms of treatment admit of cavilling and argument, but after a careful review of the whole subject both practically and theoretically, the radical operation seems to have the fewest objections. They are the same as those against operation on any part of the human body, viz., fear of shock, anæsthesia, and suppuration. The physical shock accompanying this procedure is no greater and no more to be feared than in operations on other parts of the body, and the only danger to life and limb appears to lie in the fact that suppuration may take place, pyæmia result, etc. Happily the cases resulting in this manner are very rare, and strict adherence to the rules of aseptic and antiseptic surgery will prevent any such unfortunate occurrence.

Objections to the non-operative plan are exceedingly numerous, some of which cannot be remedied unless the treatment be changed and finally result in operation.

When the patella is broken by muscular action, which is usually the case, its aponeurotic covering and synovial membrane are in the great majority of cases torn below the level of the line of fracture; hence we have folds of ligamentous and aponeurotic tissue interposed between the fragments, which will in all cases prevent osseous union.

In order to control the quadriceps extensor muscle, great pressure must necessarily be made over the upper fragment; this pressure often threatens to stop the circulation, which is a serious obstacle to a good result, and in one instance, which comes to the author's mind at this time, the tissue over the whole front aspect of the patella sloughed away. Again, cases have come under the writer's observation, in which the pain, œdema, irritation producing traumatic dermatitis, and other disagreeable symptoms caused by mechanical contrivances were so unbearable that they would not be tolerated by the patient. The above statements are corroborated by Manning, of London, who has found, after numerous dissections of the arteries which supply the patella, that the arch by which the upper fragment is supplied is situated in the exact place where the greatest amount of pressure is applied, and in a great majority of cases the superior and inferior articular arteries arise from a common trunk, thereby cutting off the blood supply from both fragments, he has also found that in a limb injected after being "put up" for this fracture, all the arteries are filled except those supplying the patella.

The fibrous or ligamentous union gained by the various non-operative measures is claimed by some to be equally as good to restore function in the injured joint as bony union, and although it is very firm and close in some cases, it will invariably stretch to some degree, and not a few cases have been known to allow of separation to the amount of two or three inches; this will undoubtedly weaken the joint and not infrequently deprive the patient of all power of extension in the limb, and leave him a cripple for life. Stimson has justly said "that the test is found in time and use," and it is quite common to see a gap, which is very slight at the time treatment ends, increase to the width of half an inch or more in the course of a few months. Ankylosis is one most formidable enemy in treating these cases, and although it sometimes occurs, especially following the refracture, if the limb be watched and carefully attended, viz., lateral motion and flexion begun very early, such a condition of affairs will be averted, and we can in most cases give a favorable prognosis.

The time of operation seems also to be a question of dispute, and it has been stated by several surgeons that the time proper is within twenty-four hours after the accident. This is good advice to follow, provided all the acute inflammatory symptoms have subsided: if not, it certainly seems to be better surgery to wait until they have, as experience very forcibly teaches that cutting into œdematous and contused tissue frequently causes sloughing, a condition which we most assuredly wish to avert.

A good course to pursue is to treat the case palliatively by pressure bandages and cold applications, until all swelling and inflammatory signs have ceased.

The operation undertaken by the writer in the cases reported is as follows:

The knee is put in a soap poultice twenty-four hours prior to operation; on the morning of operation, it is thoroughly scrubbed with water and tr. viridi saponis, then washed with solution of bichloride of mercury 1:2,000, this is followed successively by turpentine, alcohol, ether, and lastly bichloride again The incision is made transversely between the fragments, opening the joint; all blood clot is washed away by continuous irrigation (bichloride of mercury 1:2,000), and the ragged aponeurotic fringe is lifted from between the broken pieces. Each fragment in turn is drilled, beginning one-eighth to one-fourth inch behind its fractured edge, going directly through. Silver wire is used, about the size or possibly a little larger than the lead in an ordinary lead-pencil; it is filed sharp on each end to facilitate insertion. The pieces are drawn together by main force, and the wire is twisted tightly, holding them in apposition; the ends are then cut and the wire is hammered down flat on the bone. The subcutaneous tissues are then sewed down over the bone with heavy catgut; a drainage tube is inserted in the wound, coming out of the most dependent part of the outside of the joint, a small incision having been made on the end of a Tait's forceps pushed down through the original wound, a small bunch of horse-hair drains is then laid across the patella in the same line as the original incision, each end protruding about one inch, the skin is then stitched with silk. The wound is dressed on the third day, and the horse-hair drain removed and possibly the drainage tube; however, the tube may be left in until the second dressing if desirable. After ten days the wound should be entirely healed, and at the end of the second week passive motion should be begun, the patella being daily pushed from side to side, each day more forcibly than the preceding. At the end of the third week flexion should be started and continued daily by the surgeon, until six weeks have elapsed since the time of operation; the patient then should be allowed to use his limb, keeping up the active motion, but carefully, until ten weeks have elapsed since time of operation.

CASE I.—March 2d. William R——, longshoreman, aged forty-three years, single. While working

on one of the city piers, the patient slipped and fell, sustaining a violent jerk to the right knee. Examination showed fracture of the right patella in transverse diameter, attributed to muscular action. Considerable œdema surrounded the joint. The case was treated for five days with the ordinary posterior splint and ice bag. The patient positively refused operation of any kind. Adhesive plaster strips and traction were tried, but the patient would not tolerate it. Plaster-of-Paris dressing could not be endured, and finally treatment was continued with the posterior splint alone. After six weeks absolutely no union had occurred, and the patient still refusing operation was dismissed on account of obstinacy. The patient returned on April 29th and wished to be operated upon. Examination showed the knee in good condition so far as swelling, etc., was concerned, but no union. The patella was wired on May 5th. The patient was addicted slightly to alcohol and the anæsthetic was poorly taken; post-operative temperature rose to 101° F. in twenty-four hours, but soon fell to normal and good general condition ensued; primary union obtained. The wound was dressed and drainage removed on May 9th. Dating from the time of operation, passive motion was begun, from side to side, on the patella at the end of the second week; at the end of the third week, flexion was begun and kept up daily; at the end of the sixth week, the patient was allowed to use his leg alone; after two months had elapsed, he was dismissed with one-half flexion, and afterward regained full use of his limb.

Case II.—June 10th. Michael H——, aged twenty-one years, single, laborer. The patient, a healthy and muscular man, slipped from the edge of the sidewalk into the gutter, and in trying to "catch himself" bent his knee strongly, and the patella parted from muscular action. Examination showed a fracture of the patella with considerable swelling and pain; the fragments could be nearly apposed. Quite a period of time elapsed before the tissues around the joint were thought to be in good enough condition to be operated upon. The operation of wiring was done on June 26th. The anæsthetic was well borne; no elevated temperature followed. Primary union took place; passive motion and flexion were done as in previous case. At the end of the fourth week the patient had but slight flexion, but it gradually increased from day to day until one-fourth flexion was produced, when the patient disappeared.

Case III.—May 24th. George S——, aged twenty-six years, laborer. The patient, an active, healthy man, broke the left patella five years previous to date. It was treated with splints and plaster. He walked in seven weeks. Only ligamentous union occurred; the fragments were four inches apart on account of stretching; there was fairly good motion. The present injury took place from muscular action; he stumbled while going down-stairs. The knee was flexed strongly and the right patella parted. Examination showed considerable effusion in and around the joint, and all the signs of fracture. Ice bags and posterior splint were used until May 29th, when an open operation and wiring were done. Primary union took place; there was no elevated temperature. Passive motion was done, the same as in previous cases. The patient was dismissed on July 15th in good condition, and with one-fourth flexion, which latter was increasing daily.

This last patient sustained a refracture of the patella on August 17th, about one month after being dismissed. He was carefully instructed not to use his limb, and, contrary to all advice, he decided, at a picnic, to outdo all competitors in a flat-foot jumping match. The patella was wired again and his recovery was uneventful. However, the result was not a very good one, he having, when last seen, considerable ankylosis; his obstinacy in disobeying directions was the chief cause of his joint stiffness.

In summing up, it will be seen that the aponeurotic fringe can be removed only by operation; and should such good fortune befall that nothing is interposed at the time of injury, the pressure exerted to control the contraction of the quadriceps seriously interferes with the circulation and causes such intense distress that it is unendurable. We are forced also to see that fibrous or ligamentous union is the best result we can expect from the non-operative means of treatment, and, as said before, this will in time stretch to such a degree that a condition of stumbling is produced, thereby frequently resulting in accident and fracture of the opposite patella.

The operation should not be attempted after the fiftieth year; other contraindications are diabetes and albuminuria. Syphilis, gout, alcoholism, and tuberculosis also call for serious deliberation. However, taking everything into consideration, the writer believes that in most cases, when rigid asepsis can be observed, the wire-suture method is decidedly the best form of treatment.

56 East Twenty-fifth Street.

Some Points in the Examination and Diagnosis of Traumatic Nerve Affections. — D. S. Fairchild says the remote effects of injuries grow in complexity. A factor of very great influence is that of the mind. Psychic complications of railway accidents can scarcely be estimated. Medical men find it more difficult to agree in a case of neurosis than in most other affections. Rules of conduct to be followed by the road's examiner and by the physician in attendance or expert are presented. The successful simulation of organic nerve disease is considered practically impossible. The groups of symptoms presented by traumatic neurasthenia are very complex. Traumatic hysteria is closely allied, and hysterical symptoms at times suggest degenerative changes in brain cells. Hysterical paralysis must be differentiated from that of organic disease. In the former there will be no trophic changes in the muscles and no impairment in the electrical reactions, the patellar tendon reflexes are probably increased, and the ankle clonus is absent. —*The Railway Surgeon*, September 4, 1900.

The Modern Treatment of Fractures and Bone Lesions.—Donald Maclean calls attention to certain considerations which have tended to modify some of the classical canons affecting the treatment of fractures. Repair of bone is analogous to the primeval function of fœtal development. The process of repair is one of growth. He suggests the term "guiding" or "moulding" the products of repair to replace that of "setting the fracture." There is only a limited field of usefulness for the plaster cast in surgery. All methods of permanent retentive appliance are objectionable. Owing to asepsis compound fractures are to-day so little dreaded that the surgeon may even convert a simple into a compound wound for purposes of diagnosis or treatment, and with the hope of better results than under older methods. Subcutanous surgery has become greatly constricted. The *x*-ray makes it now possible to proceed with unfaltering faith in many obscure conditions, especially in fractures near the articulations, and particularly in Colles' fracture. Once reduced, only the simplest retentive measures are required. The severe injury upon surrounding structures is the important element. The only rational treatment for sprains, contusions, etc., is not immobilization, but movement. What is true of Colles' fracture is also true of fractures in general.—*The Clinical Review*, September, 1900.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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RATIONAL THERAPEUTICS.

DURING the recent International Medical Congress one of the many speakers who treated the themes in hand referred to the wonderful progress which medicine and surgery had made in recent years along the lines of the prevention and cure of disease. What asepsis had done for surgery, bacteriology had accomplished for medicine. In continuing, however, the orator deplored the lag in general therapeutics which seemingly made the many increased means of diagnosis unavailable by the uncertainty of the action of the new remedies now in vogue. But, after all, when we stare the latter fact in the face, is not the condition what may be expected with our increased knowledge of the limitation of many of the commoner diseases and the impossibility of aborting them on the basis of some of the newer theories of treatment?

Pathology has certainly done much for us in teaching the impracticability of many of the cure-alls that are so frequently and earnestly advocated by optimistic enthusiasts. If we are less hopeful of the enactment of miracles we are certainly the better practitioners in the long run. With an increased knowledge of the laws which govern morbific processes we are becoming less liable to go to extremes in expecting the impossible to happen. Pneumonia, rheumatism, typhoid fever, scarlatina, rubeola, and pertussis run their regular course in spite of our wishes and efforts to the contrary. The incurable diseases still hold their own, and the degenerative conditions which follow their due course still mock our futile endeavors to alter nature's laws.

In the contemplation of this state of affairs, while there is reason for some discouragement, there is certainly a healthful and conservative reaction manifested in our increased dependence upon the now well-recognized curative powers of nature and a becoming recognition of the vital resistance of the individual. In other words, rational therapeutics by stern common-sense methods are replacing senseless polypharmacy. Meddlesome interference is being replaced by the furtherance of nature's effort to throw off the disease. We thus mitigate effects rather than attempt to control causative influences. The cold bathing in typhoid may save the tissue waste resulting from high temperature, but does not abort the fever. The same may be said of pleuro-pneumonia. The curve on the chart is a mere incident in the pathology of that disease as indicating the degree and gravity of the danger. The attempt to cure the malady by antipyretics is like tying down the safety-valve to control the steam pressure. In other self-limited diseases the same principle is involved. We are learning better how to appreciate the significance of the indications of nature in a reasonably helpful way rather than endeavoring to divert or alter them by senseless, forcible, and radical methods.

The longer one is in practice the clearer he understands that meddlesome interference is bad. The old practitioner who said when he came to his wits' ends that he studied the needs of his patient was wise in his day and generation. If his patient was hungry he fed him; if thirsty he gave him drink; if sleepy, even at odd times, he allowed his own theories to rest, while he gave the sufferer an opportunity to do likewise. In these ways he followed nature, and her indications were always in the right direction. If the medicine did not act according to his theory he was wise enough to change his methods; in this way he wisely concluded that the theory did not fit the fact.

The real progress in therapeutics has been made precisely in this direction, and accumulated experience is always on the side of common sense and unbiassed judgment in the interpretation of grand principles. The remedies are mere accessories that aid nature's efforts. It is always a good plan when on a dark road to drive with a slack line and give the horse his head. The theory generally engenders over-confidence in the driver and jerks the animal at the wrong place. We are certainly learning this much on the use of vaunted specifics, that those which promise everything accomplish nothing. Shot-gun prescriptions never show good marksmanship. The trouble has been heretofore to discover which of the particular lot hit the bull's-eye. No single remedy of itself can possibly do everything. The controlling conditions are the complex and oft-times antagonistic receptivities of the patient himself. We note this in the various health cures so plentiful through Europe. The waters get the credit when regular living and proper feeding really deserve it. It is nature speaking through all our so-called infallible remedies. When they can travel together we are always safe on the darkest roads. It is in this direction we seem to be drifting. We may be prescribing fewer remedies, but we are learning to use them to better advantage. We are reconciling the absurdities of hobbyism and ultra-reasoning to the common-sense level of natural laws and more rational methods. The mark is plain enough—the real question of success depends on the greater accuracy of aim.

TO REGULATE THE OSTEOPATH.

WE need not be close observers to know that the eternal charlatan, at present calling himself osteopath, is with us in increasing numbers. A walk through the streets in certain of our good localities will convince any one of the fact, for this particular brand of pre-

tenders, like others of the most ambitious kinds, is not given to hiding his light. Occasionally the signs in the windows will have after the name the letters M.D., indicating that the inmate either has or claims a medical degree. We do not wish to believe, however, that any graduate of a reputable medical school has allowed himself to assist in the exploitation of such an outrageous fad as that which hides behind the word osteopathy, but prefer to think that the assumption of the letters indicating the possession of the degree is merely a part of the game. It is not easy to understand the apparent apathy of the medical profession in this matter, but we are sure that the majority are, individually at least, convinced that it is important. The various county medical societies ought to take up the subject, and try to get an authoritative decision from court or legislature, after proper presentation of the case, as to what an osteopath is and what constitutes practising medicine. The cardinal point, in our opinion, as we have previously pointed out (MEDICAL RECORD, February 10, 1900), depends upon whether one who professes belief in any system, no matter how weird, shall be allowed to decide for himself whether he is to be considered as practising medicine in the eyes of the law or not, with his amenability to law inversely proportional to the inherent absurdity of his professed belief. If such a person is a physician according to strict definition, it is certainly clear enough to convince any one that he should be subjected to exactly the same regulations and requirements as are enforced in the case of graduates of schools legally qualified to confer the medical degree. If he is not a physician in the meaning of the law, he has emphatically no right to examine the sick and injured, to make a diagnosis, to suggest and carry out a course of treatment, and to receive remuneration for his work.

The few decisions before the courts, in this State at least, in which cases of this sort have been considered, do not cover this point, but seem simply to have decided that so-called osteopathy is a form of massage, and that to practise it is not to practise medicine. Such decisions could have been given only after improper and imperfect presentation of the facts to the court. Osteopathy may be, and no doubt is, a form of massage; but if it were proved before the proper tribunal that osteopathy is also the name given to what is claimed to be a system by which many diverse pathological conditions can be diagnosticated, treated, and cured, we fail to understand how the decision that to practise osteopathy is not to practise medicine would hold, or could indeed ever have been given. If it is true that according to law it is only necessary for an individual to call himself an osteopath in order to escape entirely the regulations governing medical practice, then there is a serious defect in the law, and a grave injustice is inflicted upon the graduates of medical schools who are compelled to pass State examinations before they can do what the osteopath does by putting a sign in a window.

It is astonishing to know that the osteopaths are starting "schools" in various parts of the country with the avowed intention of sending forth graduates to practise upon the sick, but that, according to court decisions, in this State at least, they are not going to practise medicine. No effort should be spared to get the various State legislatures to bring the products of these osteopathic schools down to the same level of restriction which is required of the mere graduate of a licensed medical school, so that the former can no longer soar unfettered in the lucrative realms of a specially pernicious form of quackery. We want at present nothing but a provision that the so-called osteopath shall pass the regular State examination in everything but materia medica and therapeutics before he is started on his still-hunt for victims. We do not care what his ideas on materia medica and therapeutics are, not because we do not know that they are absurd and nonsensical, but because we recognize the fact that restriction by law on such subjects is neither desirable nor possible. No legislative committee with any sense of fairness could deny the justice of what we suggest, and we hope to see an attempt in this State to have the matter regulated.

What the public thinks of the osteopath is shown by the prosperity of some specimens, but the public rarely knows what is best for it, and its opinion upon technical subjects is worse than valueless. On some subjects public opinion may be very important, but upon a question like this it is blind, unreasoning, and often dangerous, and needs the guidance of the expert mind to keep it from serious pitfalls. We may be sure that as soon as examining-boards are in a position to ask embryonic osteopaths questions on anatomy, physiology, pathology, and obstetrics, there will be fewer of them where they are dangerous. We do not, as we have said already, want any legislation that seems to involve persecution, but we do want the same treatment for all who wish to have the legal right to direct and supervise the care of the sick, and we will trust to time to eliminate delusions and frauds as they arise. *Fiat justitia, ruat osteopathia.*

ANTI-TYPHOID AND ANTI-CHOLERA INOCULATIONS IN INDIA.

IN support of this method of preventing these diseases, the claim is made by its adherents that the results of inoculation in India have been eminently satisfactory, so much so, indeed, as to lead to the hope that at length a means of successfully fighting two of the most deadly maladies known to man has been discovered. In the MEDICAL RECORD of August 11th it was pointed out that the statistics with regard to the value of the use of anti-typhoid serum, both in India and South Africa, were not sufficiently convincing to confirm such roseate views. This expression of opinion receives further substantiation from the perusal of a parliamentary paper containing a correspondence relating to preventive inoculation against cholera and typhoid in India and published in the *London News*. The correspondence on the anti-cholera inoculation consists of extracts from the sanitary commissioner's reports for 1896, 1897, and 1898. In the 1896 report tables are given which show a greater incidence of attack and death rate among persons under observation who have

been inoculated than among persons who have not been subjected to the treatment; but at the same time the commissioner remarks that its further test is necessary. In 1897, however, the results from inoculation are decidedly discouraging, and the commissioner appears more than ever averse to delivering any definite statement on the matter. He says: "It does not seem that anything can be proved regarding the protective effect of the proceeding." The 1898 report is the most inconclusive of the three, containing but the following few lines relating to the subject: "Anti-cholera inoculations were continued at the coolie depot at Puralia in Bengal, but it is not possible to say how far the inoculation was protective, as there are no complete statistics. If any conclusion is permissible from such figures as are available, it is decidedly in favor of the operation."

So far as inoculation against typhoid is concerned, the experiments in India would seem to have been conducted in a somewhat slipshod fashion, as the viceroy and council reported last year that they regretted their inability to furnish the actual numbers of the inoculated together with the results, as no official records were kept, but that over two thousand men had been inoculated and that in no case had any bad or unfavorable symptoms followed the operation. Further, only a very few of those inoculated contracted typhoid fever subsequently, and with the exception of one case the disease was of a mild character, while in two of the cases the disease was in the stage of incubation when the operation was performed. The commander-in-chief in India said that "it had been conclusively proved to the satisfaction of those who were best competent to judge of the matter, that anti-typhoid inoculation when properly carried out achieved an immunity equal to or greater than that which accrues to a person who undergoes and recovers from an attack of that disease."

From the foregoing reports it will be gathered that in India at least neither anti-cholera nor anti-typhoid inoculation has been attended with a marked degree of success. Statistics from South Africa at the end of the campaign should tend to settle the question as to the efficacy of anti-typhoid serum.

News of the Week.

Medical Society of the State of Pennsylvania.—The fiftieth annual meeting of the Medical Society of the State of Pennsylvania was held at Wilkesbarre on September 18th, 19th, and 20th. After the society had been called to order by the president, Dr. George W. Guthrie, prayer was offered by Rev. E. C. Mogg, D.D. Addresses of welcome were delivered by Hon. F. M. Nicholls, mayor of Wilkesbarre, and by Dr. H. M. Neale, of Upper Lehigh, president of the Luzerne County Medical Society. The address in medicine, by Dr. Thomas Turnbull, Jr., of Allegheny, was read by Dr. Adolph Koenig. Dr. Charles Rea read a paper on "The Diagnosis and Treatment of the Early Stage of Pulmonary Tuberculosis"; Dr. W. H. Hartzell, of Allentown, one entitled "Old-Time Treatment and Result of Typhoid Fever"; Dr. T. D. Davis, of Pittsburg, one entitled "Lecturing not Teaching"; Dr. J. C. Bateson, of Scranton, one on "The Human Temperaments and their Application in Medicine"; Dr. J. Emmet O'Brien, of Scranton, one entitled "Analogies between Nervous and Electric Mechanisms"; Dr. Edwin Rosenthal, of Philadelphia, one on "The Treatment of Pneumonia with Antipneumonic Serum"; Dr. Thomas C. Ely, of Philadelphia, one entitled "A Case of Meningitis Complicating Pneumonia"; Dr. Judson Daland, of Philadelphia, one on "Raynaud's Disease"; Dr. J. Montgomery Baer, of Philadelphia, one on "The Diagnosis of Ectopic Pregnancy." On the second day Dr. Walter Lathrop, of Hazleton, delivered the address in surgery. Dr. Charles H. Miner, of Wilkesbarre, read a paper on "The Etiology of Typhoid Fever"; Dr. H. A. Hare, of Philadelphia, a paper on "The Complications and Sequelæ of Typhoid Fever," and Dr. Alfred Stengel one on "The Treatment of Typhoid Fever." Dr. William H. Dudley, of Easton, read a paper entitled "The Question of the Enforcement of the Medical Laws of the State of Pennsylvania." Dr. T. M. T. McKennan, of Pittsburg, read a report of some medico-legal cases. Dr. Thomas J. Mays, of Philadelphia, presented a communication entitled "Four Phthisical Remedies which Have Proved Most Valuable in My Experience." At the afternoon session Dr. Mordecai Price, of Philadelphia, read a paper entitled "Appendicitis and its Treatment." Dr. Charles P. Noble, of Philadelphia, gave the address in obstetrics. Dr. Gwillym G. Davis read a paper on "Applied Anatomy; its Value and Place in the Medical Curriculum"; Dr. O. C. Gaub, of Pittsburg, one on "The Surgery of the Gall Bladder," and Dr. Evan O'Neill Kane, of Kane, described a removable buried suture for abdominal incisions. Dr. F. P. Ball, of Lock Haven, presented a communication on "Tuberculosis of the Bladder." Dr. J. C. Dunn read a communication entitled "Silver Nitrate in Dermatology." Dr. L. J. Hammond, of Philadelphia, read a paper on "Primary Tuberculous Adenitis — its Surgical Treatment"; Dr. W. M. Beach, of Pittsburg, one on "Constipation or Obstipation and its Practical Treatment"; Dr. Charles L. Leonard one on "Surgical Diagnosis by the Roentgen Method," and Dr. A. A. Eshner, of Philadelphia, a paper entitled "Paralysis Agitans Without Tremor." The following officers were elected for the ensuing year: *President*, Dr. Thomas D. Davis, of Pittsburg; *First Vice-President*, Dr. W. B. Ulrich, of Chester; *Second Vice-President*, Dr. L. H. Taylor, of Wilkesbarre; *Third Vice-President*, Dr. A. A. Eshner, of Philadelphia; *Fourth Vice-President*, Dr. M. L. Herr, of Lancaster; *Secretary*, Dr. C. L. Stevens, of Athens; *Assistant Secretary*, Dr. W. L. Pyle, of Philadelphia; *Treasurer*, Dr. G. B. Dunmire, of Philadelphia; *Chairman of the Committee of Arrangements*, Dr. John H. Musser, of Philadelphia. The next meeting will be held at Philadelphia, beginning the third Tuesday in September, 1901. The proceedings of the third day included the following papers: Ad-

dress in hygiene, by Dr. Joseph T. Rothrock, of West Chester; "Recent Advances in the Bacterial Purification of Sewage," by Dr. D. H. Bergey, of Philadelphia; "The Rôle of Insects in the Transmission of Disease," by Dr. Emma O. Cleaver, of Reading; "Humanology, or Higher Physiology," by Dr. E. N. Ritter, of Williamsport; "Sanitary Milk for Children," by Dr. B. H. Detwiler, of Williamsport; "The Use and Abuse of the Forceps," by Dr. W. Knowles Evans, of Chester; "A Further Report on the Cataphoric Treatment of Cancer," by Dr. G. Betton Massey, of Philadelphia; "The Present Status of Ovarian Organo-Therapy," by Dr. Wilmer Krusen, of Philadelphia; "Nausea and Vomiting of Pregnancy," by Dr. John M. Batten, of Downington; "Paroxysmal Delirium — a Short Study in Auto-intoxication," by Dr. W. C. Hollopeter, of Philadelphia; "Nephritis as a Complication in Gynæcological Disease," by Dr. George Erety Shoemaker, of Philadelphia; "Myocarditis," by Dr. John H. Musser, of Philadelphia; "Report of Two Cases of Ovarian Hydrocele," by Dr. Reed Burns, of Scranton; "Do We Resort too Frequently to Surgical Operations?" by Dr. Richard H. Gibbons, of Scranton. Address in ophthalmology, by Dr. Charles McIntire, of Easton; "The Electro-Magnet in Eye Surgery, with Demonstrations; and Report of a Number of Cases," by Dr. Edward B. Heckel, of Pittsburg; "A Plea for the Earlier Recognition of Squint in Children by the Family Physician, and the Earlier Application of the Methods of Treatment," by Dr. C. A. Veasey, of Philadelphia; "The Relation of the Oculist and Optician to the Profession and the Public," by Dr. P. J. Kress, of Allentown; "Surgical Intervention in Purulent Discharge of the Ear," by Dr. Joseph E. Willetts, of Pittsburg; "The Climatology of Neurasthenia," by Dr. F. Savary Pearce, of Philadelphia; "Traumatic Hysteria, with a Report of Cases," by Dr. Edward E. Mayer, of Pittsburg; "The Simplest and Best Method of Removing the Third Tonsil or Post-Nasal Adenoids," by Dr. Louis J. Lautenbach, of Philadelphia; "Living Animal Organisms in the Ear," by Dr. Francis R. Packard, of Philadelphia; "The Passing of the Galvano-Cautery," by Dr. Charles P. Grayson, of Philadelphia; "Leukæmia and Pseudo-Leukæmia, with Presentation of Patients," by Dr. Charles H. Miner, of Wilkesbarre; "The Operative Treatment of Ugly Ears," by Dr. John B. Roberts, of Philadelphia; "Typhoid; its Etiology, Course, Treatment and Pathology; Concisely Considered," by Dr. James Fulton, of New London; "The Treatment of Œsophageal Stricture, with Particular Reference to the König Method," by Dr. Charles H. Frazier, of Philadelphia; "What I Have Learned from a Personal Experience of Thirty-two Bottini's Operations in the Radical Treatment of Hypertrophy of the Prostate Gland," by Dr. Orville Horwitz, of Philadelphia.

Suicides in the French Army.—A despatch to the New York *Times* states that suicides are becoming of shocking frequency in the French army, and it is no secret that it is the result of the insupportable treatment which the soldiers are subjected to and the general brutalizing condition of life which they are compelled during three years to lead. Three suicides having occurred in one week in a single regiment, the colonel has issued an order of the day declaring that suicides will henceforth be treated as deserters, and that no military honors will be rendered them at their funeral. No man, it concludes, who is a real patriot will commit suicide; but nothing is said concerning the non-commissioned officers whose brutal treatment has caused these suicides.

Pathological Society of Philadelphia.—At a stated meeting held on September 13th, Dr. J. Dutton Steele exhibited a specimen of hour-glass stomach and sections of endothelium of the lung and retroperitoneal glands. Nominations for officers for the ensuing year were made.

The Congress of Scandinavian Ophthalmologists, which has been organized on the model of the Ophthalmological Congress annually held at Heidelberg, recently held its first meeting at Stockholm. The meetings are to be held every two years; the next will be held in Copenhagen in 1902.

The Medical Association of Hawaii.—At the last annual meeting of this association the following officers were elected: *President*, Dr. W. E. Taylor; *Vice-President*, Dr. H. E. Sloggett; *Secretary and Treasurer*, Dr. G. A. Hodgins. The executive committee consists of the officers and Drs. R. P. Myers and C. B. Cooper.

Instruction in Tropical Diseases, stimulated by the good work of the two British schools and under the growing conviction that the world's work in the twentieth century is to be the enlightenment and elevation of uncivilized man, is becoming general in all the countries of Europe. In the University of Bordeaux M. Le Dantec, who has for several years lectured privately on that subject, has just been appointed to give a course of instruction on tropical diseases. In Holland the teaching of tropical medicine has recently been inaugurated by Dr. J. H. Kohlbrugge, Privat-docent in the University of Utrecht.

Inebriety among Women.—At the recent annual convention of the Connecticut Catholic Total Abstinence Union, the president stated in his address that while habitual intemperance among men was decreasing, alcoholism among women was becoming more common. This statement receives startling confirmation as regards England by the fact revealed by a parliamentary report on the working of the Inebriates Act, under which magistrates are able to commit habitual drunkards to reformatories, that of ninety-two such commitments ninety were of women. Of six inebriate reformatory institutions existing in Great Britain, no less than five are for women.

A New Diet Sect.—The daily papers report the establishment in Chicago of a new association of oddities who believe that eating raw food is the secret of longevity, perfect health, superior mental vigor, amiability of disposition, and economical living. They contend that the cooking of food is in opposition to nature's laws, and that it is only a fad which

originated somewhere in the early ages of man, and that since then humanity, mentally, morally, and physically, has been steadily on the decline. All the adherents to the new belief have discarded from their tables every edible that has felt the influence of fire. They say fire destroys all that is life-giving and healthful in food. Their diet list includes such toothsome dainties as dried beef, raw carrots and raw oats, wheat, and rice flour.

Fire at Roosevelt Hospital.—An explosion of benzin used by painters in a brick building adjoining Roosevelt Hospital caused a small fire there last week. The building was used as the stable and morgue. The fire caused little damage.

A Kentucky Feud.—There is trouble over the proposed celebration of the semi-centennial of the Kentucky School of Medicine in the present year, a former member of the faculty asserting that the college is not fifty years old, and also that it is not the lineal descendant of and legitimate successor to the medical department of Transylvania University.

Physicians Sued.—A suit for $10,000 damages has been brought against two physicians in New Brunswick, N. J., by a man who claims that he was wrongly incarcerated in an insane asylum on a certificate signed by them. He was released in three days, and asserts that his seizure and detention were the result of a conspiracy to which the accused physicians were party.

The American Association of Obstetricians and Gynæcologists.—At the annual meeting of this society, held last week in Louisville, the following officers were elected: *President*, Dr. W. E. B. Davis, of Birmingham, Ala.; *Vice-Presidents*, Dr. Edwin Walker, of Evansville, Ind., and Dr. A. Goldspohn, of Chicago; *Secretary*, Dr. William A. Potter, of Buffalo, N. Y.; *Treasurer*, Dr. Xavier O. Werder, of Pittsburg, Pa. Cleveland, O., was selected as the place of the next annual meeting.

The Pan-American Medical Congress.—Dr. Tomás V. Coronado, secretary, announces that the third Pan-American Medical Congress will be held in Havana, Cuba, on Wednesday, Thursday, Friday, and Saturday, December 26, 27, 28, and 29, 1900. The official languages of the congress will be French, Spanish, Portuguese, and English, though naturally the greater number of the papers and addresses will be in Spanish. Several of the steamship lines running to Havana announce a rate of one fare for the round trip, and the Southern Passenger Association has established a rate of one fare plus $2 to Havana and return.

A Hospital Interne Suspended.—The commissioner of charities has suspended one of the internes of the Metropolitan Hospital on Blackwell's Island for thirty days on the charge of negligence. A consumptive had been turned out of the hospital in a dying condition, on the statement of the physician that he was not a proper subject for hospital treatment. The superintendent accepted the physician's report and discharged the patient. In his order suspending the physician the commissioner also reprimanded the acting superintendent, who, he said, either did not know what a hospital was for, or had a distorted idea of the purpose for which the tax-payers support the Department of Charities. Under no circumstances, the commissioner said, was there any excuse for turning any one away as this dying patient had been. Henceforth, he ordered, the physician in charge shall personally examine every patient and see for himself if his condition is such as to warrant discharge.

Drowned in Two Inches of Water.—An epileptic in Jersey City was seized with a convulsion and fell face downward in a puddle of water only two inches deep, and when found was dead from suffocation.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 22, 1900. September 14th.—Surgeon C. T. Hibbett detached from the Cavite naval station and ordered to the *Newark;* Surgeon O. D. Norton detached from duty with the marine regiment in China and ordered to the *Monadnock;* Assistant Surgeon F. L. Benton detached from the naval hospital, Cavite, P. I., and ordered to the *Brooklyn.* September 18th.—Medical Director J. A. Hawke detached from the New York navy yard October 1st, and ordered to duty at the naval hospital, Mare Island, Cal.; Medical Inspector G. P. Bradley detached from the naval hospital, Mare Island, Cal., on reporting of relief, and ordered home and to wait orders. September 21st.—(Orders issued by commander-in-chief of Asiatic station.) Passed Assistant Surgeon G. D. Costigan detached from the *Newark* and ordered to the *Yorktown;* Assistant Surgeon E. Davis detached from the *Yorktown* and ordered to the Cavite naval station.

The Coal Companies' Doctors.—One of the grievances of the striking miners in the anthracite regions is that they have to pay for the services of a "company doctor" whether they like him or not. Concerning this a correspondent of the *Commercial Advertiser* writes that "the 'company doctor' is in many sections of the Pennsylvania coal regions a worthy and serviceable man who stands well with the miners. In other sections, however, he is a detested bugaboo, whom the miners have to pay for, but seldom see. Sometimes the miners are required to pay a certain amount each month for 'general sanitary supervision.' Such payments they resent bitterly, for few of them comprehend the meaning of the service charged for. In most mining settlements, however, the doctor makes his own charges for personal service, and in such cases he would be regarded as a very acceptable man in the community if the mine owners did not compel the miners to pay him. A coal miner is very much like the average citizen in his sentiments toward a doctor's bill." This grievance, however, like the companion one of the "company store," is a purely local one, and very few of the large mining companies maintain either the one or the other system.

Obituary.

LEWIS ALBERT SAYRE, M.D., LL.D.,

NEW YORK.

Dr. Sayre died at his home in this city on September 21st, at the age of eighty years. He had been in failing health for some time, but suffered no pain and retained his faculties to the last. He was born in Battle Hill, now Madison, N. J., on February 29, 1820, and the infrequency of his birthdays was an unfailing source of witticisms by himself and his friends; he always said that he hoped to live to see his twentieth birthday which would not be until 1904. His father was a well-to-do farmer of Morris County, N. J., and his grandfather was a quartermaster in the revolutionary army. During Lafayette's visit to this country in 1825, little Sayre was chosen on one occasion to recite some verses of welcome before the distinguished visitor. His early education was received in a local school and at Wantage Seminary in Deckertown, N. J., and his collegiate course was passed at Transylvania University in Lexington, Ky. In opposition to the wishes of his uncle with whom he lived at Lexington, who wanted him to study for the ministry, he came to New York and entered the College of Physicians and Surgeons, from which he was graduated in 1842. For ten years following his graduation he was prosector of anatomy at the college under Dr. Willard Parker. He was appointed surgeon to Bellevue Hospital in 1853, and to the Charity Hospital on Blackwell's Island in 1859, and had remained since 1873 a consulting surgeon to both these institutions, as well as to St. Elizabeth's Hospital and the Home for Incurables.

He was one of the founders of the Bellevue Hospital Medical College in 1861, and was a member of its first faculty as professor of orthopedic surgery, fractures, and luxations. He continued to fill this chair, later designated as that of orthopedic surgery, until 1898, when the college was united with the New York University. He then became emeritus professor of orthopedic surgery in the consolidated institution. He was also one of the founders of the New York Academy of Medicine, the New York Pathological Society, and the American Medical Association. He was elected vice-president of the latter in 1866, and became its president in 1880.

In 1860 Dr. Sayre was appointed "resident physician," or health officer, of New York, and accomplished much in the way of the sanitary betterment of a city which sadly needed it at that time. He held the office continuously during the terms of three succeeding mayors, and his annual reports pointed out a series of possible reforms that are still being acted upon. They included the first suggestions of several sanitary measures which are now regarded as matters of course, and others the necessity of which is not yet fully appreciated. These reports dealt with smallpox, sewerage, lighting and ventilation of tenements, and the possibility of preventing the incursion of cholera by quarantine regulations, which was an original idea with him, and one whose truth has been abundantly proved. He also served as surgeon in the militia from 1844 to 1866.

But the fame acquired by Dr. Sayre as a sanitarian was outshone by his brilliant reputation as a bold and original surgeon. He was the first American to perform successfully an exsection of the hip for morbus coxarius, his first operation having been in 1854. During the medical congress in Philadelphia in 1876 he demonstrated the operation before a number of visiting surgeons, one of whom, Lister, said that the privilege of witnessing that operation was in itself a sufficient reward for the fatigues of the voyage across the Atlantic. Dr. Sayre had, four years previously, visited Europe and lectured on the treatment of hip-joint and spinal disease before a number of medical societies. In 1877 he again went to England as a delegate for the American Medical Association to the meeting of the British Medical Association in Manchester, and demonstrated there and elsewhere in Great Britain the use of suspension and the application of the plaster jacket in the treatment of Pott's disease of the spine. His contributions to medical literature were many, and as a lecturer he was renowned. In recognition of his many and great contributions to surgery, especially orthopedic surgery, Dr. Sayre was made an honorary member of the British Medical Association, the Medico-Chirurgical Society of Edinburgh, the Surgical Society of St. Petersburg, and the Medical Society of Norway. Charles IV. of Sweden also decorated him with knighthood of the Order of Wasa for his attendance on a member of the royal family.

Of three sons, all graduates in medicine, Dr. Reginald H. Sayre, of this city, is the sole survivor.

Dr. Sayre was a typical American in every sense. Ingenious, original, and resourceful, he was ever ready to do and dare in any surgical emergency. Few in his time commanded wider and more extensive appreciation of his work, and no American surgeon enjoyed a better reputation than did he whose name and fame belonged to the entire civilized world of progressive science.

At a special meeting of the executive committee of the New York County Medical Association, held September 24, 1900, the following resolutions were unanimously adopted:

Whereas, It is our sad duty to announce the death on September 21, 1900, of our late associate, Dr. Lewis Albert Sayre, one of the founders of the American Medical Association, and its president in 1880; therefore be it

Resolved, That we place on record our high appreciation of the valuable services which he has rendered to medicine and surgery during his long and useful life;

Resolved, That his daring originality, his freedom from surgical traditions, along with his unflagging enthusiasm and interest in everything pertaining to his beloved profession, constituted him a teacher of rare excellence, whose pupils will cherish his memory long after the voice of their preceptor is hushed;

Resolved, That we extend, in the name of the members of the New York County Medical Association, our heartfelt sympathy to the afflicted relatives, and direct that a copy of these resolutions be sent to the family and to the medical journals.

Obituary Notes.—Dr. James Hart Curry died on September 24th at his home in Shrub Oak, N. Y. He was born in this city in 1827, but had lived at Shrub Oak nearly all his life. He studied at Peekskill Military Academy, and was graduated from the Yale Medical School in 1852. He was the oldest member of the Westchester County Medical Society, and had held every office in that society. He was a member of the State Medical Society, and the Yale Medical Alumni Association, of which he was the third president. He served as surgeon of the Eighteenth Regiment, New York volunteers, in the civil war, and later was surgeon of the Fifth Division, N. G. S. N. Y., on the staff of the late Gen. James W. Husted.

Dr. Richard H. White, of this city, died on September 22d in Sullivan County, where he had gone for his health, pulmonary tuberculosis being the cause of his death. He was a native of Canada, and was a

graduate in arts of the University of Toronto and in medicine of Trinity Medical College in 1891. In his practice he had devoted himself chiefly to pulmonary diseases.

Dr. William H. Munn, of this city, died on September 24th of congestion of the brain. He was fifty-one years of age, and was a graduate of the University Medical School in New York in the class of 1868.

Dr. Preston B. Scott died at his home in Louisville, Ky., on September 24th, aged sixty-eight years. Dr. Scott was a graduate in medicine of the University of Louisville in the class of 1858, and served as surgeon in the Confederate army during the civil war. He was a member of the American Medical Association and of the Kentucky State Medical Society, and at the time of his death was president of the Association of Surgeons of the Confederate Army and Navy, having been elected to that office at the third annual meeting of that society, held in Louisville early in the summer.

Dr. Henry L. Smyser, the oldest physician of York, Pa., died in that city on September 16th, at the age of seventy-five years. He was graduated from the University of Pennsylvania in 1847, but in 1849, seized with the gold fever, he went to California, returning in the course of two years. In 1856 he became attached to the Russian army as surgeon-major, and served through the Crimean War. On returning to the United States he enlisted in the Union army and served throughout the War of the Rebellion as contract surgeon at York barracks.

Dr. James Willoughby Phillips, superintendent of Burn Brae Sanitarium at Clifton Heights, Pa., died September 19th, at the age of fifty-three years. He was a graduate of the University of Toronto and a fellow of the Royal College of Surgeons.

Progress of Medical Science.

New York Medical Journal, September 22, 1900.

The Treatment of Chronic Cystitis in the Female by Curettement of the Bladder and Instillations of Corrosive Sublimate.—C. G. Cumston does not consider it necessary or possible to curette the entire surface of the vesical mucosa through the urethra, as the lesions show a marked preference for only the trigonum, around the mouths of the ureters, neck of the bladder, and posterior urethra. In a general way we may commence in the adult with a solution of 1:4,000 and in the child 1:5,000. Two to four cubic centimetres make a sufficient quantity with from ten to fifteen drops in the neck of the bladder and posterior urethra. He describes the special instruments which he prefers and the progressive steps of the operation. His conclusions are as follows: (1) Sublimate instillations will often produce a very great improvement in the distressing symptoms met with in both tuberculous and non-tuberculous cystitis, such as a diminution in the frequency of micturition, a decrease of the pain, an increase in the capacity of the bladder, and an improvement in the condition of the urine. In some cases a complete cure may be obtained. (2) When the instillations fail to produce the desired effect, curettage of the bladder is indicated in both tuberculous and non-tuberculous cystitis. (3) In gonorrhœal cystitis instillations of sublimate are particularly efficacious and rapidly subdue the pain. (4) Under favorable circumstances a radical cure of primary tuberculous cystitis may be obtained by curettage when the vesical lesions are localized and the kidneys free from the disease. Curettage per urethram will not allow the surgeon to reach the entire surface of the bladder, so that when the lesions are extensive they should be directly treated by suprapubic cystotomy. (5) Much relief may be afforded by curettage to a large number of patients suffering from tuberculosis of the bladder, but who on account of the advanced stage of generalized infection are in no condition to undergo a more radical operation. (6) When cystitis is due to a prolapsus of the genital organs, and when hysteropexy, combined with anterior and posterior colporrhaphy, does not relieve the bladder symptoms, curettage of the bladder, followed by sublimate instillations, is the proper treatment.

A Report of Three Cases due to Ascending Urinary Infection due to the Bacillus Pyocyaneus and the Proteus Vulgaris.—By G. Blumer and A. J. Lartigau. Case I. showed symptoms referable in the main to the nervous system, the most important of these being partial paraplegia and exaggerated reflexes succeeded by complete paraplegia, loss of reflexes, anæsthesia, and analgesia. No lesion of the cord was present. On autopsy, evidences of an old affection of the bladder were found upon which was superimposed a fresh inflammation, and it is probable that this was the route of infection. A bed-sore developed, and this became infected with bacillus pyocyaneus. Case II. followed a stone in the bladder. Case III. presented the clinical features of a hemorrhagic septicæmia, probably incidental to puerperal streptococcus infection.

Membraneous Enteritis.—H. F. Slifer gives the clinical history of a case with a brief outline of the general features of the malady.

The Boston Medical and Surgical Journal, Sept. 20, 1900.

Knee-Joint Surgery for Non-Tuberculous Conditions.—Joel E. Goldthwait reports thirty-eight operations for synovial fringes, injured semilunar cartilage, loose cartilage, coagula, exploratory incision, etc., and judging from the results obtained holds that operations upon joints need not be feared more than operations upon other parts of the body. He urges the importance not only of operating to relieve a definitely recognized condition, but also of making use of exploratory incisions in doubtful cases to determine the exact nature of the disease. Without this, it is impossible in many cases to differentiate in the incipient stage between several different conditions, and it is at this very time that the most can be accomplished in the way of treatment if the exact condition is known. No unpleasant results followed the operation except in one, a case of osteoarthritis, in which the disease was apparently made more acute. The exploratory incision, with this one exception, did not alter the course of the disease. The cases from which the semilunar cartilage was removed have functionally normal joints. The cases in which the synovial fringes and coagula were removed are improved in proportion to the nature of the disease which caused the condition to be present.

Fat-Free Tincture of Digitalis.—Elbridge G. Cutter calls attention to this preparation, devised and used in the Philadelphia Hospital to meet the serious drawback of bulk in the use of the infusion of digitalis, and to obtain a preparation which would not nauseate. A still more valuable feature of the remedy is the rapidity with which the preparation is absorbed and assimilated in comparison with the official product. The time element of direct action is a very important matter in some cases, and might readily mean the difference between the life and death of a patient. No especial difference in the time of absorption between hypodermic injections and mouth administrations is observable, but when the tincture is given hypodermically the pulse reduction seems to be greater with the fat-free tincture, though not extending over any greater length of time. Directions are given for the preparation of this tincture.

Treatment of Pott's Disease after the Development of the Deformity.—By Edward H. Bradford and F. J. Cotton.

Journal of the American Medical Ass'n, Sept. 22, 1900.

Trauma as a Cause of Nervous Diseases.—C. W. Burr speaks solely of the causative influence of trauma and of the various ways in which it acts, and considers only the organic and functional diseases unaccompanied by serious external injury. It is not safe to say always that because a disease follows a trauma it is the result. It is generally accepted that trauma without injury to the skull or spine may produce organic disease referable to the brain or cord. Certain functional nervous diseases may result from accident. It is difficult to prove that trauma is a cause of locomotor ataxia. Hysteria and neurasthenia frequently follow an accident, and are sometimes quickly recovered from after legal settlement. In hysteria there is no discoverable lesion. Serious physical injury is rarely followed by hysteria. It is doubtful if the attempt to group together certain symptoms under the term traumatic neurosis serves any good purpose.

Medico-Legal Relations of Traumatic Nervous Affections.—J. H. Lloyd gives a case as a text for his paper. After a fall downstairs there was immediate paralysis of body, legs, and arms, presenting the picture of total transverse lesion in the middle cervical region. Death took place in five days. The chief lesion was a small hemorrhage involving principally the anterior halves of the posterior columns. The microscope, however, showed extensive destruction of the

essential elements of the medullary tissue, involving the whole transverse area of the cord. Abolition of function in these traumatic cases is accounted for by necrotic organic changes in the neurons. Most, if not all, obdurate symptoms represent changes in the organic bases. They are none the less real because they cannot be seen without the microscope. Functional diseases causing disablement are entitled to the same consideration as the more imposing "organic" affections.

Prognosis and Treatment of the Traumatic Neuroses.—W. Skinner seeks to determine what is meant by traumatic neurosis, and discusses prognosis. Some make a distinction between the neuroses and traumatic neurasthenia and hysteria. Neuroses include all. Heredity and previous health should always be inquired into. Litigation has a great influence tending to self-concentration and magnifying of symptoms, which increase in severity. Simulation is held to be rare by neurologists, and exaggeration frequent, while railway surgeons believe the former common and traumatic neurosis an imaginary disease. The truth lies between. Rest treatment is the best. Prince is quoted to the contrary. Rigid isolation should be insisted upon. If this fails, there should be complete change of climate and scene. Hydrotherapy is of great utility. Drugs are of comparatively little value.

Traumatic Neuroses from the Standpoint of a Surgeon.—A. D. Bevan says the medical attendant is chiefly responsible for the condition of so-called traumatic neurosis. It is a mental state, not an organic disease, and he illustrates his point with cases. Without positive and immediate symptoms of gross lesion, malingering, or abnormal cerebral state, traumatic neuroses or a mixture of the two are present. In traumatic neuroses there are two factors: a brain readily affected by suggestions; suggestions furnished by an accident. Refined means of diagnosis—dynamometer, æsthesiometer, and electricity—are seldom of value. Recovery may be indefinitely postponed under improper surroundings and advice. No secondary degenerations of the nervous system follow traumatic neuroses.

The Identification of Dextrose in Human Urine.—By H. Stern.

Physicians as Speakers.—By William Whitford.

Specialism in Medicine.—By F. C. Shattuck.

Medical News, September 22, 1900.

Toxicity versus Septicity in the Infectious Pathogenic Bacteria.—Eugene Wasdin says in such diseases as typhoid fever and gonorrhœa, in which the infection may take place from the mucosa of some organ other than the respiratory tract, the septic quality will be as readily followed by sepsis as from infections along this tract. The law, then, in these acute types of cases encountered in all of them, is that the infection having taken place, the type of the disease must depend upon the development in the infecting organisms of the inherent qualities of toxicity and septicity; that if toxicity preponderate there will result the toxæmiæ, and if septicity be the more pronounced the septicæmiæ will be produced, since these qualities coexist in each infective germ, the one or the other being exhibited in greater perfection according to environment.

Total Extirpation of the Ureter.—Willy Meyer speaks of the operation at the time of nephrectomy or subsequently. He gives two personal cases. The three indications for nephrectomy and their influence upon a probable extirpation of the ureter are discussed; tumor, tuberculosis, and pyonephrosis. The operation is described.

Studies in Surgical Technique, with a Report on Operative Surgery at the City Hospital for 1898 and 1899.—By George Emerson Brewer.

Philadelphia Medical Journal, September 22, 1900.

Chronic Ear-Vertigo (Ménière's Disease); its Mechanism and Surgical Treatment.—H. Burnett says that inasmuch as the essential cause of chronic ear vertigo is the impaction of the stapes in the oval window, removal of this retractive force and liberation of the stapes will cure the disease. He therefore advises the removal of the incus, which breaks the retractive force of the tensor tympani and malleus exerted through the incus upon the stapes, and the latter bonelet is liberated. In chronic purulent cases it is necessary to excise the remnants of the diseased membrana, and the malleus and the incus, with their synechial bands, in order to liberate the stapes. This operation in such cases, supplemented by local treatment of the purulent drum cavity, is followed by cessation of the vertiginous attacks, and cure of the chronic purulency. Thus excision of the diseased ossicles leads to curing the chronic purulency and acts as a prophylaxis of antrum and mastoid disease. The operation is described in full.

Acute Seminal Vesiculitis.—By H. H. Morton. The author's treatment is as follows: The patient is put to bed and given a saline cathartic, which is always in order in every pelvic inflammation. Hot sitz-baths and copious irrigations of the rectum with hot water are useful in allaying the inflammation. If the posterior urethritis is severe, sandal-wood oil relieves the tenesmus and renders the urine less irritating. Injections into the anterior urethra of course are contraindicated, but above all things any attempt at massage or stripping the vesicles should be absolutely interdicted. Under this plan of treatment most cases of acute vesiculitis will recover in from two to four weeks.

A New Hæmoglobinometer for the Examination of Undiluted Blood.—By Arthur Dare.

The Chemical Examination of Fæces for Clinical Purposes.—By A. E. Austin.

The Injured Tramp; Who is Responsible for Him?—By F. Julian Carroll.

Gynæcology; its Present, Past, and Future.—By Howard A. Kelly.

Multiple Metastatic Sarcomata of the Lungs.—By S. S. Burt.

The Lancet, September 15, 1900.

Thrombosis in the Veins of the Pelvis and Lower Extremities after Operations.—By K. G. Lennander. The author makes a strong plea for the elevation of the foot of the bed after operations. He says that if we wish to prevent the formation or spreading of a thrombus it is necessary to combat all causes of local stasis. For the pelvic and lower extremity veins the raising of the lower end of a patient's bed should be of considerable mechanical assistance in promoting the flow of blood toward the inferior vena cava and right auricle. The value of this aid may be increased and the patient made more comfortable by frequently altering his position in the bed, and lightly rubbing the feet and legs, provided that he has not already a thrombus. If any varices exist on the distal side of the operation wound in a lower extremity the part should be bandaged from the foot to such a point, the leg should be elevated, or, better, the bed should be raised. This procedure exerts a very much more noticeable influence upon the circulation. By its use he believes we may largely prevent thrombosis following surgical operations, parturition, and those diseases which are accompanied by intense anæmia and auto-intoxication, in which a tendency toward the complication of thrombosis exists.

Heat-Stroke in India; an Examination of Some Statistics Relating Thereto.—W. J. Buchanan presents statistics of the British army in India showing that heat-stroke is most fatal and most prevalent where the heat is greatest and most oppressive and at the time of year when these influences are at their maximum. It will require much more evidence than has yet been produced to make those who have had experience of the disease in India accept a microbial or any other cause which seeks to minimize the great and predominating influence of fierce and continuous heat While looking upon heat as the most important factor we must also bear in mind the great influence of the usually mentioned predisposing causes, as age, length of residence in the tropics, occupation, exposure, unsuitable clothing (as the tight-buttoned and belted uniform of soldiers), intemperance (perhaps especially beer-drinking), over-fatigue and overcrowding, want of ventilation, and previous illnesses.

A Case of Total Gastrectomy.—By Viera de Carvalho. The patient was a Brazilian woman aged forty-six years, who suffered acute gastric pains after eating and vomited freely. At times blood was raised. A tumor was found in the right epigastric region close to the costal margin. A diagnosis of malignant growth of the pylorus was made and an operation begun for gastro-enterostomy. The tumor was found as expected, but there were adhesions to neighboring organs affecting the greater part of the gastric lymphatics. It was therefore decided to remove the entire stomach. This was done by Carvalho, who describes the operation in detail. The patient was doing finely on the ninth day, the superficial wound having healed. Her appetite was ravenous, and she was able apparently to digest small quantities of solid food.

Poisoning by Carbon Monoxide.—Two cases are described by C. B. Elgood, one proving fatal. He advocates the use of artificial respiration, which employed alone is not free from danger, but which should be accompanied by oxygen inhalations, slapping and friction over the cardiac region, and faradization of the phrenic nerves.

General Nervous Shock, Immediate and Remote, after Gunshot and Shell Injuries in the South African Campaign.—By M. I. Finucane.

Tuberculous Lesions from a Clinical Point of View.—By E. Owen. Address before the Canadian Medical Association.

Hysterical Somnolence and States of Double Consciousness.—By Ethel M. N. Williams.

Prevention and Treatment of Post-Partum Hemorrhage.—Address by J. W. Byers.

The Chemical Examination of the Gastric Contents.—By F. Shufflebotham.

British Medical Journal, September 15, 1900.

An Address on Tuberculous Lesions from a Clinical Point of View.—Edmund Owen, in his address before the Canadian Medical Association, stated that there are three important facts of which the public must be made conscious: first, that the disease is communicable; second, that it is preventable; and third, that it is curable. Tuberculosis is not of the intractable nature it was formerly considered to be. At the end of the nineteenth century it is somewhat unusual for a patient with any surgical affection to be allowed the opportunity of showing what he can do without submitting himself to operation. The following disconnected statements are based upon clinical observation: (1) Chronic inflammation of a joint in a child or young person is always tuberculous—except in those very rare cases in which it is due to hereditary syphilis or osteo-arthritis. (2) Tuberculous inflammation may completely destroy a joint, and then leave it solidly and soundly synostosed, without the surrounding tissues or the skin having been implicated. (3) If tuberculous granulation tissue breaks down into a fluid, that fluid is not pus, and the collection is not, properly speaking, an abscess—unless, by bad fortune, or by worse surgery, it has become infected by septic micro-organisms. (4) The fluid collection is not to be treated as an abscess—by incision and drainage, that is—but is to be opened and emptied, and scraped and cleansed of its unhealthy lining of granulation tissue. Then the wound in the skin is to be completely closed by sutures; firm pressure is to be evenly applied, and the part is to be kept absolutely at rest. The success attending this line of treatment leaves, as a rule, little to be desired, and for this important advance in practical surgery we are chiefly indebted to the patient researches of our friends with the smock-frocks and the guinea-pigs. (5) Iodoform is of no peculiar value in the treatment of tuberculous lesions. The author has long since discarded it, and has not noticed any falling off in the results of his practice in consequence. Iodoform is an irritant and a poison; it is apt to be septic, as germs can grow upon it, but Mr. Owen said he had no knowledge of the truth of the statement that mushrooms have actually been cultivated on it. Other questions discussed are "the forcible straightening of carious spines" and "the treatment of vertebral caries."

Münchener medicinische Wochenschrift, Sept. 4, 1900.

Observations on the Cocainization of the Spinal Cord.—August Bier over a year ago published a paper (*Deutsche Zeitschr. f. Chir.*, April, 1899) in which the production of major anæsthesia by the injection of minute quantities of cocaine into the spinal canal was described and favorably commented on. At the same time the author drew attention to the very serious by-effects sometimes produced, and advised great care in conducting further experiments. His present communication is a protest against the recklessness with which the method is being applied, regardless of the fact that no noteworthy improvement in the technique has been made, and especially the dangerously large doses that are being employed. Experiments upon animals conducted under his direction have shown that like most drugs cocaine exerts a much more powerful and toxic action when thrown into the spinal canal than when administered by other avenues. As much as 4 cgm. have been used clinically at one injection, while in the author's opinion even 15 mgm. is a high dose and should not, and need not, be exceeded. In conducting further observations on the subject the point is not to apply the drug in the old way as originally described, which method is not very promising, but to attempt to devise means to reduce its toxicity when absorbed from the meninges, and to prevent the occurrence of unpleasant by-effects. Furthermore, the effort should be made to apply the method to operations on the entire trunk and the arms, and to find other harmless drugs which shall be also able to produce anæsthesia in this way.

A Peculiar Case of Azoöspermia.—F. A. Kehre, taking for his text the history of a case, urges the necessity for a more general recognition among the laity of the far-reaching results of gonorrhœal infection, which he considers almost entitled to rank with tuberculosis as a scourge of mankind. Before matrimony every individual who has suffered from a specific genito-urinary disease should submit his genitals and the testicular secretion to medical examination to determine their condition and especially the fecundating power of the semen. In the instance cited no spermatozoa were present in the semen of a man who had been married seven years before. Inasmuch as it was almost certain that the trouble dated back to a severe orchitis necessitating a unilateral castration, which was secondary to a gonorrhœal infection contracted thirteen years previously, the patient was told that his wife's statement that the two children she had borne were the offspring of another man was probably true.

A Case of Indirect Fracture of a Metatarsal Bone.—Ernst Maillefert says that while this form of injury is not infrequent in infantry soldiers it is rarely observed in civilians. The former usually acquire it on the march, when the feet are subjected to undue fatigue and when it is impossible to pay much attention to inequalities of the ground walked on, while these conditions do not obtain among other classes. The characteristic symptoms of fracture are usually absent, swelling and slight pain but no loss of function being commonly found, so that the true nature of the injury is usually overlooked, and inasmuch as displacement of the fragments is rare even *x*-ray examination does not reveal it. Cases of foot injury should always be most carefully tested for such a condition, and doubtless it would be found in many unsuspected instances. Rest in bed for from two to four weeks is sufficient in the way of treatment, as the broken bone is so well splinted by its neighbors that no dressing is necessary.

A Case of Intrauterine Compound Fracture of the Femur.—Otto Kraemer reports a case in which a pregnant woman in her fifth month, while attempting to raise a weight, experienced a severe pain in the abdomen. This gradually diminished, but did not completely cease until three weeks before delivery. At birth the child presented a sharp curvature in the lower third of the right thigh together with a healed cicatrix, undoubtedly the result of a healed intrauterine compound fracture.

Optic Neuritis in Chlorosis; Clinical Course and Death with Symptoms of Brain Tumor.—By A. Engelhardt.

The Observation of the Vital Process of Living Phagocytes Stained with Neutral Red.—By J. Plato.

A Cured Case of Multiple Intestinal Injury.—By Deiters.

Pregnancy and Ovarian Tumors.—By Richard Mond.

Lohnstein's Saccharometer.—By Jacob Meyer.

An Electric Sterilizer.—By Hecht.

The Adrenals.—By Otto Aichel.

Deutsche medicinische Wochenschrift, September 6, 1900.

The Diagnosis of Œsophageal Stenosis.—G. Holzknecht gives the details of a new method of applying the Roentgen rays to the diagnosis of œsophageal strictures. The introduction of a bougie filled with shot or mercury, and subsequent exposure of the patient to a protracted fluoroscopic observation under these conditions, is a disagreeable and sometimes dangerous procedure, the inconveniences of which the author's proposal is intended to obviate. Three tests are to be made; the first consists in causing the patient to drink several ounces of water holding gr. xv. to xxx. of subnitrate of bismuth in suspension as a shake mixture. If the stricture is of any degree of tightness a precipitation of the bismuth will take place at its site and be visible when properly illuminated. The only direction in which the œsophagus is accessible to observation is from the left behind, forward, and to the right, when it is visible as a light streak between the spinal column and heart shadows. In the second test the patient swallows a capsule containing the bismuth while the observer has the œsophagus under observation on the screen, the place of arrest of the black metallic shadow indicating the site of the stenosis. In corroboration of these two procedures, or in case they give a negative result, the deglutition of the capsule is preceded by the administration of a morsel of bread, which is sure to lodge in the stricture if present and arrest the test object in its descent. The advantage of this diagnostic measure is that it is applicable when the use of bougies is not permissible owing to suspected aortic aneurism, hæmatemesis, or the wishes of the patient, and that in a simple, safe, and painless way it gives accurate information concerning the presence, location, calibre, and length of a stricture.

The Chemical Resources of the Body Serving as Antidotes.—Alexander Ellinger understands under the term antidote used in this sense not alone the ability to render harmless a certain quantity of any poison which may have penetrated into the system, but the stopping of its toxic action after it has already reached the circulation. A consideration of the etiological investigations of recent years brings the conviction that a vastly greater proportion of diseases than is supposed is due to the action of poisons either directly introduced, produced by adventitious organisms which have gained access to the body, or originating within it as the result of anomalies of metabolism. The whole understanding of the processes by which the system is enabled to combat these substances is still shrouded in mystery, and the only direction in which it is possible to

approach the subject is by studying first the chemical processes by which the coarser poisons, whose composition is well understood, are disposed of. These are neutralization, oxidation, reduction, synthesis, and decomposition, but for the details of their application to specific reactions reference must be made to the original paper.

The Examination of the Thorax by the Roentgen Rays, with Some Results.—By Levy Dorn.

Hæmatological Investigations.—By Ernst Becker.

A Sieve for Stools.—By I. Boas.

French Journals.

Nodules of Rabies and Rapid Diagnosis.—V. Babes refers to a previous publication in which he stated that if, after minute examination of the spine and bulb, no perivascular or pericellular miliary nodule was found, it was to be regarded as highly probable that the animal bitten was not mad. Pericellular nodules speak in favor of rabies. The nerve centres as well as the ganglia should be examined. When the bulb, marrow, and ganglia present no leucocytic thromboses or perivascular or pericellular undulations, we may suppose with great probability that the dog was not mad. If the dog died a natural death this examination permits us to exclude rabies with certitude.—*La Presse Médicale*, September 8, 1900.

Suppurative Arthritis Consecutive to a Penetrating Wound of the Knee Joint.—Xavier Delore gives a case with arthrotomy followed by recovery in a man aged sixty-three years. Suppurative arthritis of the knee after penetrating wounds presents such gravity, especially in the adult, that treatment should most often consist in resection of the knee. At any rate, in certain cases characterized by slow evolution and by attenuation of the virulence as shown by cultures and inoculations, arthrotomy is sufficient. It is justifiable by the results of laboratory research when the latter is possible. Benign arthritis of traumatic origin is an exception.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 9, 1900.

Abscess of Bones.—L. Longuet concludes an article in which he advocates trepanation by tunnelling as a substitute for trepanation by grooving or scooping out. There is nearly always absence of fluctuation. Distiuction must be made between tuberculous osteitis, syphilitic osteitis, chronic primary osteomyelitis, bony neoplasm, etc. Trephining is indicated in all bone abscesses. It is also imperative in neuralgic osteitis without tumor. The technique is indicated.—*Le Progrès Médical*, September 8, 1900.

The Practitioner, September, 1900.

Notes on a Case of Gastric Tetany.—J. Christian Simpson describes a case of tetany associated with dilatation of the stomach. Kussmaul was the first to associate tetany with gastrectasis in 1869, and latterly it has been observed more particularly—ninety-two per cent. according to Fenwick—in those who have pyloric or duodenal disease rather than a primary affection of other parts of the stomach. Its mortality has been placed as high as seventy-five per cent. As to treatment, if the active cause be auto-intoxication, this must be dealt with in two direct ways; first, to remove the gastric and, if possible, the intestinal contents; and secondly, to flush the toxins out of the blood and lymph by saline transfusion in one way or another. A secondary point in favor of the saline treatment is the relief it gives to thirst. After the acute symptoms have been alleviated comes the question of operation as a preventive of further attacks, by curing or relieving the local gastric condition which allows the auto-intoxication to be carried on.

The Surgical Treatment of Trigeminal Neuralgia.—Victor Horsley has in twenty-one cases removed the Gasserian ganglion for the cure of trigeminal neuralgia, limiting this term strictly to what was originally called tic douloureux. In the early stages the disease can be treated by drugs, but neither drugs nor electricity bring about a cure. All clinical evidence seems to point to the fact that it begins in the peripheral branches of the fifth nerve, and creeps as an inflammatory process up the peripheral branches of the nerve until it reaches the Gasserian ganglion. The writer describes the technique of the operation, and says that out of the twenty-one cases operated on there were only two deaths. He has operated on four patients over eighty years of age, so that age itself is not necessarily a bar to the operation. In no one of his cases has he seen a recurrence, and his experience extends over five years.

Some Disorders of Memory Associated with Epilepsy, with Special Reference to "Reminiscences."—H. Campbell Thomson describes a reminiscence as a strange, evanescent feeling of familiarity with some place or event which occasionally crosses the mind, although the place is being visited or the event happening for the first time. They occur in otherwise healthy people, but their occurrence must be looked upon as abnormal, and probably due to a localized discharge of nervous energy. Undue or sudden increase in the frequency or intensity of sensations should be viewed with suspicion, and should lead to careful inquiry for any other suspicious symptoms. Their association with any other slight symptoms of epilepsy, which may be so trivial as almost to pass unnoticed by the patient, is of the utmost importance, and will often permit an accurate diagnosis to be made and early treatment to be adopted.

A Clinical Lecture on Pelvic Pain.—By G. Drummond Robinson.

The Edinburgh Medical Journal, September, 1900.

Sarcoma of the Suprarenal Capsules in a Child Aged Seven Weeks.—John Orr reports a case which presents the following points of interest: (1) The extreme youth of the patient. Abdominal swelling had been noticed as early as five weeks. (2) The entire absence of any symptoms pointing to the organ affected. One would have expected involvement of or pressure on the kidney, but evidence of such never occurred. (3) The absence of all bronzing, or cutaneous or mucous pigmentation of any sort, which seems to be a point of distinction between malignant disease of the suprarenal capsules and tuberculous affections of these organs associated with Addison's disease. (4) The peculiarly smooth, uniform character of a secondary hepatic enlargement, especially the deceptive and misleading enlargement of the left lobe, which was erroneously supposed during life to be the spleen.

L'Union Médicale du Canada, August, 1900.

Voluminous Chondroma of the Leg in a Patient with Cutaneous Angioma.—A. Marien reports the case of a young girl aged fourteen years, whose leg was amputated because of a large tumor which from its macroscopic and clinical characters was supposed to be an osteo-sarcoma. Microscopic examination showed it to be a chondroma. It first appeared when the child was only four years old, and followed a severe injury caused by a fall. For about eight years it was quiescent, very slightly painful, hard, smooth, and the size of a hen's egg. It then began to grow, and invaded the whole circumference of the leg, attaining the size of a child's head. For a year and a half previous to the operation the patient was unable to walk, the slightest motion of extension causing exquisite agony. Angiomata were found on the lower left eyelid and the dorsal surface of the left foot. This would seem to point to some congenital affection.

Attempt at Murder.—J. O. Villeneuve reports in detail the case of a boy aged fifteen years, who attempted to kill a station-master whom he saw handling a large sum of money. The boy acknowledged the crime and regretted it, attributing it to a momentary evil impulse. He was intelligent, but had been early deprived of home influences and obliged to work for masters who overtaxed him and, in most cases, cheated him out of his wages. The question arose as to his mental condition, and responsibility for the act. He was found guilty, but recommended to mercy, and sentenced to five years in a reformatory school.

Two Cases of Cysts with Torsion of the Pedicle.—L. Harwood describes two cases of ovarian cysts which were removed by operation, the patients making a good recovery.

Chemical Analysis of Potable Water from a Hygienic Standpoint.—By J. A. Chopin.

Finska Läkaresällskapets Handlingar, July and August, 1900.

Dietetic Treatment after Gastrotomy.—Max Buch observes that very frequently in the case of patients who have had a gastrotomy for atresia of the œsophagus, improvement does not follow in spite of nourishment introduced into the stomach. The reason for this appears to be that when food is introduced directly into the stomach, the secretion caused by stimulation of the pneumogastric nerve by appetite and the pleasure of the palate is absent, and digestion incomplete. Pancreatic secretion, which is usually in proportion to the gastric juice, is also deficient, and there is of course no salivary digestion. The patients should be made to masticate their food, and be given palatable food, and anything repugnant to their taste should be avoided. Bouillon, water, and milk have slight influence on the psychically induced secretion, but they have on the reflexly induced secretion, and can therefore be introduced directly into the stomach. Solids, especially starchy foods, should be masticated because the psychically induced gastric juice is more potent upon them than the juice produced by reflex action on the sympathetic.

The Treatment of Rupture of the Uterus.—Georg von Zweygberg gives the statistics in regard to twenty-six cases treated in the Helsingfors Hospital since its foundation in 1833. Only two of the mothers and none of the children lived. In twenty-two cases treatment was conservative; in four operation was performed. The death of twenty-one patients who were treated conservatively was due in eight cases to septicæmia with peritonitis, one

and one-half to eight days post partum; six times one-half to twenty-two hours post partum with signs of peritonitis; once probably from septicæmia with pelvic abscess, twenty days post partum; three times from profuse hemorrhage one and one-half to three or six hours after labor; once immediately after delivery (the patient was dying when admitted); twice two to three days after labor, cause not recorded. In the cases operated upon, death was due to septicæmia. The high death rate is doubtless owing to infection during labor.

Arteriosclerosis: its Clinical Aspect, Symptoms, Course, and Treatment.—J. W. Runeberg says that the heart is the chief organ affected by this disease. He divides the disorders caused by arteriosclerosis into three chief classes: (1) Syphilitic sclerosis, attacking the large and medium-sized arteries, characterized by intense local symptoms, without general circulatory disorders; (2) sclerosis of the type of granular atrophy (arterio-capillary fibrosis), a general affection of the small arteries and capillaries, characterized by slight local symptoms, but by serious general circulatory disturbances; (3) the sclerosis of old age, a general affection of the large and medium-sized arteries, characterized by mixed symptoms of the various organs and disorders of the general circulation. These three varieties may be found combined.

Retrosternal Goitre with Grave Dyspnœa.—E. Sandelin reports a case of severe dyspnœa due to a retrosternal goitre. Tracheotomy gave only temporary relief, for which reason strumatomy was performed, and complete recovery ensued. The tumor was a benign colloid goitre, which had developed in the left lobe of the thyroid gland. In its lower posterior portion was an extravasation, to which the author attributes the dyspnœa. The larynx and the upper part of the trachea were pushed to the right and bent, and the walls of the trachea were flattened; lower down, behind the sternum, the tumor had completely flattened the trachea. From the fact that these deformities persisted after removal of the tumor, it may be supposed that they had existed for a considerable time.

Myxœdema in Childhood.—Albert de la Chapelle reports a case in a girl aged fourteen and one-half years, who since the age of two years has had symptoms of the disease, with almost complete arrest of physical and mental development. Under thyroid treatment, continued for four years, the symptoms of myxœdema have disappeared, the body is less deformed, and the movements are more active. She has grown twelve inches, the large fontanelle has ossified, and the patient has twenty-eight new teeth. The genital organs have not developed, nor has puberty appeared. The patient has improved mentally to the extent that she can attend to her own needs and no longer has a mania for destroying and picking up objects.

Speech in Memory of J. M. Charcot at the Banquet of the Neurological Society at Paris, August 9, 1900.—By E. A. Homén.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE PLAGUE IN GLASGOW—COMMISSION ON DYSENTERY AND TYPHOID—WAR HOSPITALS COMMISSION—BRITISH ASSOCIATION'S MEETING—PRIVATE ASYLUMS—THE LAMENT OF THE DEALERS IN POISONS.

LONDON, September 7, 1900.

THE outbreak of plague at Glasgow is a source of some alarm and much speculation throughout the country. After I sent off my last letter some other cases occurred, and the next day there were eleven in hospital and ninety-three contacts isolated. You will have learned by cable the daily numbers. We heard on Monday that your sanitary authorities had imposed quarantine, and of course other places are doing the same. Our port authorities are pretty confident of their ability to meet the danger, and you know a few years ago they kept cholera out of London. On Tuesday there were fourteen patients in hospital, three doubtful, and one hundred and three persons isolated. On Wednesday the hospital cases stood at thirteen, one doubtful. Yesterday the figures were the same, and one hundred and nine persons are still under observation. All the patients are progressing satisfactorily, and the authorities are confident of their ability to restrict the outbreak. The health committee will keep all contacts isolated until the houses from which they have been removed have been thoroughly cleansed and disinfected. They are also ready to accept any "suspects" from any suburb. In some districts a "scare" has taken place for a day or two, but generally a calm confidence prevails. In Govan the same precautions are taken, and the single case has not been followed by another.

The commission to "inquire into the nature, causation, pathology, and modes of prevention (more particularly as affecting armies in the field) of dysentery, and its connection, if any, with enteric fever," consists of Prof. W. J. R. Simpson, J. Lane Notter, and Major D. Bruce, R.A.M.C. On accepting this office Colonel Notter has resigned his professorship at Netley and is succeeded by Major Frith. It is hoped that this commission will obtain valuable information.

Items of evidence before the War Hospitals Commission continue to attract some attention even on the part of those who are determined to await the conclusion of the inquiry before attempting to digest them or to form an opinion on the questions involved. Thus one officer admitted that a portion of some stores was mislaid for three days and another part delayed at the base. Major Watson said Indian ambulances were superior. Colonel Exham, principal medical officer, declared that on his arrival on April 23d at Bloemfontein there was ample accommodation, and to meet the rush after the advance he added to it largely. He flatly contradicted several statements of Mr. Burdett-Coutts, and denied that there were ten thousand patients on May 22d, the highest number on any day being four thousand and ninety-eight men and one hundred and seventy-eight officers, and there was no insufficiency of staff. Nor was there any foundation for Mr. Burdett-Coutts' statement that convalescents were sent down without proper food. He put in a statement controverting in detail Mr. Burdett-Coutts' allegations, and said he believed the sanitary arrangements at Bloemfontein were satisfactory and not accountable for the outbreak of fever. Further, he was not aware of any friction between the military and civil surgeons at No. 8 hospital. On this last point, however, other witnesses spoke of the existence of some friction. Dr. Kirkman declared every necessary was deficient, and specified bed-pans, feeding-cups, and utensils. Dr. Whittington corroborated him. Dr. Fitchell said some of the orderlies had been drunk, and he thought the senior officers were indifferent to the state of the patients, though he had seen the principal medical officer inspecting the tents. Dr. Leon, in charge of the enteric division, said there was a shortage of utensils, and requisitions for them and for more orderlies and nurses took a fortnight to be complied with. Colonel Butcher attributed the delay to the exigencies of railway transport. He was never short of blankets, there was an ample supply of all articles except bed-pans, bedding, and mattresses; the shortage lasted five weeks and was due to interruption of transport and the excessive number of patients. Dr. Johnstone, who practised for years at Bloemfontein, said there was typhoid among the Boers at several places, and they took it with them to Paardeberg, where the British of course contracted it. He thought the principal medical officer was too sparing in bedding.

The British Association for the Advancement of Science held its annual meeting on Wednesday at Bradford, where it was cordially welcomed. The president this year is Sir William Turner, who is quite at home in such a position. His opening address was devoted to a careful review of the century's progress in the department of science he so well represents and adorns. The advance of knowledge of animal structures, especially in reference to the cell theory, was an attractive subject and interested the large audience. The sections were opened on Thursday, most of them by addresses of their presidents.

Private asylums have been a good deal to the front lately, and much ink has been shed by correspondents who are not well versed in the differences of the law relating to the different classes of lunatics. Undoubtedly there are extra precautions in the law for the protection of private patients, but that is because in their cases the motive for consigning them to an asylum is more open to suspicion. No one is likely to take a pauper to a private asylum and pay heavy expenses for his accommodation. Then the keepers of such asylums are bound to forward to the commissioners every letter of a patient, and that unopened. The possibility of a lawsuit must also be present continually to the minds of such owners, for litigation would probably spell ruin, and border cases must be a source of great anxiety.

The dealers in disinfectants are making a great outcry against the order adding carbolic acid to the poison schedule. They now say nearly all disinfectants contain this poison—a fact they grievously tried to conceal. They plead for the poor, who could hitherto buy two pennyworth at the grocer's, but will now have to go to the chemist and have it registered and labelled. "Pity the poor" is an excellent cry, but here it seems to mean pity the tradesman, and let the poor supply the holocaust of accidental poisoning. It is surprising that the manufacturers of poisons should have the impudence to father such a plea for their profits.

POSITION IN LABOR.

To the Editor of the Medical Record.

Sir: Some twenty-five years since the New York Medical Record published a letter from me entitled "Position in Labor." I was called to attend our pastor's wife in labor, over thirty-two years ago. For several hours she made no progress—what was the trouble? Easier asked than answered. The question arose, had position anything to do with the lack of progress? I questioned the lady as to the position she occupied when lying in bed. Her reply was that she "had usually lain upon the right side." I had her at once assume a position on that side, and to my gratification her labor took on a favorable and satisfactory turn. The child was soon delivered.

Many times after that I had women in tardy labor change their position to that occupied for some weeks prior to confinement, with like results; and I became convinced that there was a good deal in this question of position. I called the attention of several medical men to this subject, who told me of their experience. There is a good deal in this question of position.

But again, some thirty years since I was called to attend a young lady in her first labor. The forceps was used in her mother's labors, she warned me, and I would have to use the forceps in her case, and did so successfully. I used the forceps in other labors of this woman. When I was called on another occasion, this lady remarked to me, "You will have to use the instruments." My reply was, "I will see." I had used the knee position a good deal in difficult labors with satisfactory results, and resolved to use that position in this case. She was placed on a cushion on the floor, with a person in front for support. The result was that an infant was delivered in a short time. I attended this woman once, and I think twice, afterward with like results. I attended her sister-in-law a number of times. The first child was still-born—this was in September, 1881. In most of her confinements I had to use the forceps. In one case her husband, a strong man, took hold of the forceps with me, and straightened out one blade of Bedford's forceps. Finally, I resolved to try the knee position in her next case, and did so in two subsequent labors with satisfactory results.

My experience has been such, in the more than forty-seven years since I received my degree of M.D. in New York City, that I have come to consider the knee position to be the normal position in the very many difficult labors, and I believe that the assumption of this position will obviate the necessity of instrumental labors in very many cases.

For several years I have thought to write this experience out, believing the matter of so much importance.

A word further upon the use of chloroform. Some thirty-five years ago I had a case of labor in which there were convulsive symptoms. I used chloroform at once, which relieved those symptoms, and since that time I have used chloroform when the pains were severe. My mode of using it was to have the patient inhale the chloroform while the pain was on, and only then.

S. Haynes, M.D.

Saranac, N. Y.

DEFENCE OF SUITS FOR ALLEGED MALPRACTICE.

To the Editor of the Medical Record.

Sir: I was very much interested in the editorial which appeared in your journal for September 15th, entitled "Plea for a Medical Defence Union in the United States," and which was based on an article that appeared in the *St. Paul Medical Journal* for July, written by Dr. Donald B. Prichard, in which you state as follows: "His idea is to organize a mutual association, the membership of which should be confined to those who belong to the State or some properly organized medical society. In order that the organization might be of the highest standing, it would not be proper to defend one guilty of gross malpractice. That this might be accomplished, every case should be submitted to a standing committee, who after a thorough examination would decide whether or not it would be proper for the association to defend."

The New York State Medical Association, last winter, believing that the time had come when State organizations of physicians must do something more for their members than simply to furnish a scientific meeting once a year, if they would keep abreast of the time in which we live, applied for a charter from the legislature (which was granted) giving it increased powers, especially in regard to its legal rights, as shown in Section 2: "'The New York State Medical Association' may and shall have perpetual succession, shall be capable of suing and being sued, of pleading and being impleaded, answering and being answered unto, defending and being defended, in all courts and in all causes whatsoever."

In the by-laws, which the committee on reorganization has drawn up in conformity with this charter, the following provision is made for the protection of its members from suits for alleged malpractice. Section 6, Article 2: "It shall be the duty of the council to receive and consider all applications of members of 'The New York State Medical Association' for assistance in defence of suits for alleged malpractice, or other matters affecting their professional status, and all complaints of violations of the laws of medical practice and of public health; and the council shall without delay, and with the advice of its attorney, examine the case and determine the expediency of defending such action or prosecuting the alleged violators. . . . If the council's decision be in the affirmative, then the 'New York State Medical Association' shall furnish the funds and legal services necessary for the conduct of such defence or prosecution."

From this you will readily see that it is our intention to defend only such of our members as can show that they have been reasonably right in their treatment of their patients. We believe that much benefit will accrue to the general profession as well as to the individual practitioner from State organizations looking out for the welfare of each of its members in any matter relating to their professional honor and status. Common interests are necessary if we desire to bind men together into a compact and strong organization, and we believe that this can best be done by the concentration of all work which can be done by medical men in these county, State, and national associations in addition to the ordinary scientific work which these associations are in the habit of doing.

The multiplication of associations having different objects in view weakens the profession by subdividing the interests of its members.

Frederick Holme Wiggin, M.D.,
Chairman Committee on Reorganization, New York State Medical Association.

Reviews and Notices.

A Dictionary of Medicine and the Allied Sciences. Comprising the Pronunciation, Derivation, and Full Explanation of Medical, Pharmaceutical, Dental, and Veterinary Terms, together with much Collateral Descriptive Matter, Numerous Tables, etc. By Alexander Duane, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute; Reviser of Medical Terms for Webster's International Dictionary. Third edition, enlarged and thoroughly revised. Philadelphia and New York: Lea Brothers & Co. 1900.

An epidemic of dictionary making passed over the medical profession a few years ago, and some eight or ten works, some in several volumes, others in a single volume of unwieldy bulk, others again of pocket size, were successively brought out for the convenience and instruction of students and practitioners. Some of these have already disappeared from view, and some others ought to follow them. Among those which have survived the test of actual use and have appeared in successive editions, one of the most deserving is that of Dr. Duane. The book is of convenient size to be taken from the shelf by others than Sandow, yet is large enough to contain all the words that any reader of medical literature is likely ever to come across. The type is small but clear, the definitions are correct so far as our examination has gone, and the tables are good; but the figured pronunciation is in many places execrable. In most cases this attempt to represent the sounds is of benefit only to a foreigner, and he often pronounces badly enough without being misled by an assumed authority, as he assuredly would be if he consulted this dictionary. It is to be hoped, if this work reaches a fourth edition, as we trust it will, that the author will cut out this useless feature. It is a pity to mar a book of such excellence as is Duane's dictionary.

A Manual of Personal Hygiene. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to Wills' Eye Hospital, Philadelphia; Fellow of the American Academy of Medicine; Former Editor of the International Medical Magazine. Philadelphia: W. B. Saunders & Company. 1900.

This is apparently primarily intended to be a work for the guidance of the laity, but we fear there are many members of the medical profession whose knowledge, or at least practice, of the elementary rules of hygiene is so slight that they are in as great need of direction as their patients. There are seven writers of this work, each contributing a

chapter, as follows: Hygiene of the digestive apparatus, by C. G. Stockton; of the skin and its appendages, by G. H. Fox; of the vocal and respiratory apparatus, by E. F. Ingals; of the ear, by B. A. Randall; of the eye, by W. L. Pyle; of the brain and nervous system, by J. W. Courtney; and physical exercise, by G. N. Stewart. There is a sufficiently complete index, but one should read the book through first, and use the index only when he subsequently wishes to refresh his memory regarding some special point. We can commend the book as sound in advice and as free from the common fault of books for the laity, of going too deeply into purely medical and technical matters.

Dermato-histologische Technik. Von Dr. Max Joseph und Dr. George Loewenbach. Second edition. Berlin: Louis Marcus. 1900.

This guide to histology of the skin, especially prepared to demonstrate the technique to students and physicians, has reached its second edition within a brief period, and has been enlarged and improved, meeting the requirements in an excellent manner.

Report on the Mortality Records of the Mutual Life Insurance Company of New York, for Fifty-six Years, from 1843 to 1898. By Elias J. Marsh, M.D., and Granville M. White, M.D., Medical Directors. New York: The Mutual Life Insurance Company. 1900.

This collection of tables is of great value to the medical statistician as well as to the insurance man. The very careful analysis of the tables made by Drs. Marsh and White is exceedingly interesting to the plain medical man who is neither a statistician nor an insurance examiner, but who is curious as to the relation of age to the several diseases of greatest fatality.

The Medical Directory of New York, New Jersey, and Connecticut. Published by the New York State Medical Association. Vol. II. 1900.

This is an almost indispensable work for the physician in this city or State, who cares to know anything of his colleagues and of the work in which they are engaged. We are glad to note several improvements in this volume, especially in the list of hospitals, where we find information as to the class of patients admitted, the names of the consulting, attending, and house staffs, and such other matters as may be of value. Other useful features of the volume are an official list of registered pharmacists, and a list of the health board stations in this city at which antitoxin and culture outfits may be obtained.

Manual of the Diseases of the Eye, for Students and General Practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, Eye Department College of Physicians and Surgeons, Medical Department Columbia University, New York. New York: William Wood & Company. 1900.

We know of no book at present before the profession which better answers its purpose than this. It is not intended for the specialist, but for the student, who needs an elementary knowledge of ophthalmology as of the other specialties to fit him for graduation, and for the general practitioner practising at a distance from cities where specialists congregate, who is obliged to treat many cases of eye disease whether he will or no. Such a one will find here, expressed in clear and not too ophthalmologically technical language, just the guide he needs to enable him to benefit his patient and save his own reputation. The book will also teach him to recognize the serious eye troubles which he had better not attempt to treat.

Beneath Hawaiian Palms and Stars. By E. S. Goodhue, M.D., Government Physician; Medical Superintendent, Malulani Government Hospital, etc. Illustrated by photographs and pen sketches. Cincinnati: The Editor Publishing Company. 1900.

This is an entertaining description, made after no particular system or order, of matters in the Hawaiian Islands. The author writes in a colloquial and rambling style that is a little provoking at times, for just as the reader becomes interested in some description he gets a jar by being shunted off on some other subject; then probably the writer forgets to come back and pick up the thread he dropped, and the reader is left with his curiosity piqued but unsatisfied. However, there is enough information in the book on all imaginable topics, from coffee to leprosy and from missionaries to annexation, to satisfy any one, and though descriptions of what we learned at school to call the Sandwich Islands are plentiful we have read none that gives more practical information than this. Dr. Goodhue has lived several years in the islands, and his book is filled with the knowledge he has himself acquired, and not that gathered at hearsay during a hurried visit to Honolulu. It is well worth reading despite its peculiarities of style.

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. XII. For the year 1899. Philadelphia: William J. Doran. 1900.

This volume contains the usual number of papers, good, bad, and indifferent, but chiefly good. Some are illustrated with plates and wood-cuts in the text.

Transactions of the Southern Surgical and Gynæcological Association. Vol. XII. Twelfth Session, held at New Orleans, La., December 5, 6, and 7, 1899. Published by the Association. 1900.

This is one of the most active and progressive of the special societies in the country, and its volume of transactions always contains many papers of interest. The present volume offers no exception to this statement.

Les Tubercules des Pédoncules Cérébraux. Par le Dr. Georges Edouard Raviart, Ancien Interne des Hôpitaux de Lille, etc. Paris: Georges Carré et C. Naud. 1900.

This interesting monograph, based upon the study by the author of a case of tubercles of the cerebral peduncles, contains a résumé of all the cases of this condition of which the writer has been able to find reports in medical literature, forty-three in number. The morbid anatomy, symptomatology, and diagnosis of this rare affection are quite fully discussed, and we may say that Dr. Raviart's work contains an epitome of all that is known at present of these neoplasms. A bibliography of one hundred and seventy-one titles is appended.

A Text-Book of Practical Therapeutics. With Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin, and Barton C. Hirst. New (eighth) edition. Philadelphia and New York: Lea Brothers & Co. 1900.

It is hardly necessary to review a book which is so well known as this, and the popularity of which is evidenced by the fact of eight editions in ten years. It differs from many works of the kind, and herein probably lies the secret of its popularity, in that the author does not take it for granted that his reader already knows the subject perfectly. He addresses himself to students and endeavors to teach them what they ought to know in order to become reasoning physicians. The drugs—their source, preparations, physiological actions, and therapeutic uses, are treated of in alphabetical order, no attempt at classification having been made. Although especially adpated to the needs of the undergraduate student, the book will be found to be a useful work of reference by the practitioner who may be temporarily in doubt or difficulty.

A City Hall and Basement Schools.—Major Farley is right when he says that no money should be spent upon a new city hall for Cleveland so long as one child remains in a basement school. The educational, utilitarian, and æsthetic value of fine buildings in a city is not to be questioned; but it sinks into unimportance when compared with the city's crime in forcing a large number of its children to attend school in poorly lighted and worse ventilated basements. We hope the committee of the Cleveland Medical Society appointed to study the school question will be able to suggest practical ways and means for permanently and radically improving the unhygienic conditions under which our school children are condemned to work. It has been said that the basement school-room is even at its worst a more hygienic place than the homes from which many of the children come who occupy it, but this is really an additional reason for improving the school conditions. . . . This question of basement schools has much to do with the sobriety, industry, and health of the coming generations, and in comparison five or ten years' delay in securing a magnificent city hall is a mere bagatelle.—*Cleveland Medical Journal.*

Society Reports.

CANADIAN MEDICAL ASSOCIATION.

Thirty-third Annual (Century) Meeting, Held in the Academic Hall of the Ottawa University, Ottawa, on September 12, 13, and 14, 1900.

Dr. R. W. Powell, President, in the Chair.

The minutes of the last meeting, held in Toronto, were read by the secretary, Dr. F. N. C. Starr, of Toronto, and adopted.

Dr. Drewer, of Ottawa, presented the report of the committee of arrangements.

The Present Status of the Eliminative and Antiseptic Treatment of Typhoid Fever.—Dr. W. B. Thistle, of Toronto University, read this paper. Some seven years ago he had introduced this plan of treatment of typhoid fever to the profession. He claimed that this form of treatment for typhoid fever had time and again been misrepresented by Professor Osler and others, as he had never held to the opinion that the eliminative and antiseptic plan could rid such organs as the liver and spleen of the bacilli lodged in them. When once the typhoid bacilli gained access to the intestinal tract, the multiplication of them occurred with extreme rapidity and the intestinal contents teemed with countless numbers of them. These were not confined to the intestine, but were to be found in the walls and in fact in almost every organ of the body. He was of the opinion that the draining of the intestinal walls following upon the action of a purgative, either calomel or magnesium sulphate, would tend to get rid of some of these bacilli in the intestinal walls, but he did not claim that it would effect their exit from the liver, etc. He thought the treatment had been imperfectly applied in many instances without a clear conception of the underlying principles. Under this plan of treatment Dr. Thistle had never had a single case of hemorrhage, what hemorrhage occurred having been always very slight. He had also had very few perforations, and twenty per cent. of the death rate was from perforation and hemorrhage. In Toronto this plan of treatment was universally adopted. Statistics at the Toronto General Hospital showed that from 1893 up to the present time there had been eight hundred and thirty-three cases in that institution, with fifty-six deaths—a mortality of 6⅛ per cent.

Dr. McPhedran said that he had been watching Dr. Thistle's work in this direction from the time of the appearance of his first paper on the subject, but could not agree with all his conclusions. He did not think that this plan of treatment lessened diarrhœa, tympanites, fever, or delirium. He considered that Dr. Thistle was harboring the idea that purgatives in typhoid were a new discovery with him; this was not so. Twenty-five years ago the speaker gave these for the first ten days at least. In addition to this he used to give carbolic acid and iodine, and in a certain class of cases he thought he had the exact treatment. Another class would then come along in which that treatment had no effect whatever. He considered that the general toxæmia that existed could not be eliminated through the bowel; it had to be done through the kidneys and skin.

Dr. Thistle, in his reply, emphasized the fact that he was not trying to eliminate bacilli from the glands; in clearing out the bowels he was trying to eliminate toxins from the body and not bacilli.

A Case of Sarcoma of the Right Nasal Fossa with Acute Sinusitis and Orbital Cellulitis. — Dr. Perry G. Goldsmith, of Belleville, Ontario, presented this paper and patient. The patient was a man aged thirty-eight years, a farmer, with an unimportant family and personal history. He consulted the doctor on August 4th last, with severe frontal headache and double vision. Examination of the nasal fossæ revealed growths which along with some of the bone in the right fossa were removed. After this swelling and pain in the eye began, so that it was seen to project far forward, downward, and outward. The right nasal fossa was curetted, the tissues being sent to Professor Anderson, of the Trinity pathological laboratory at Toronto, who pronounced them of sarcomatous origin, small round-cell variety, with the walls of the blood-vessels thin and poorly developed. The discharge from the nostril was of an odor similar to that emanating from cancer of the rectum. Up to ten years ago Bosworth had collected forty of these cases.

Dr. R. A. Reeve stated that a number of years ago he had presented a paper before this association on the same subject. He directed attention to the importance of examining the naso-pharynx in diseases of the orbit. He instanced a similar case to Dr. Goldsmith's. In his case there was little pain, but an examination of the nose revealed the tumor.

Some of My Experiences in the South African War.—Dr. George S. Ryerson addressed the association on this subject. He dealt first with the experience gained of modern bullets. The very latest returns showed that 986 officers and 11,701 non-commissioned officers and men had been wounded, of whom only 732 died of wounds received in battle, which was to be ascribed to the aseptic character of the bullet and the prompt attention and antiseptic treatment. Dr. Ryerson then dealt with the wounds caused by these bullets. Referring to poisoned bullets being used, he said this was not the truth, as the tarnish or verdigris probably accumulated in transit through the barrel. He also doubted the fact of explosive bullets being used. The Boers made use of thousands of the Martini-Henry, a heavy bullet, which caused great destruction of soft parts, necessitating amputation. There were few amputations in this war. He quoted Kendal Franks, who had performed twenty amputations in two thousand cases. While abdominal section in wounds of the abdomen was mainly inadvisable, he saw one case in which the results were excellent. He spoke highly of the magnificent work of the Royal Army Medical Corps.

Dr. T. G. Roddick, M.P., told of the great sacrifices of Dr. Ryerson in proceeding to South Africa at his own expense to carry out the work of the Red Cross Association. While in England recently, he stated he had made it his special business to inquire of returning Canadian soldiers as to the hospital management in South Africa, and although he had spoken to many of these, he had completely failed to find a single Canadian who had anything but praise for the hospital arrangements in that country.

Our Race and Consumption.—This was the title of a very able paper contributed by Sir James Grant, of Ottawa, who considered it an important fact and one worthy of consideration that races had been born on this continent, had lived and entirely disappeared, leaving mounds in the West and other traces in Florida and elsewhere of their undoubted existence; and that thus far there was no information as to the exact cause of the disappearance of these races. He thought it remained for the Anglo-Saxons to see whether they would prove more successful than their predecessors in establishing themselves on this continent. He referred to the loss of three thousand lives in the fair province of Ontario in 1898 by consumption alone, and deplored the fact that the people were not as yet alive to their danger. Sir James indorsed the legislation passed at the last session of the provincial Parliament designed for the purpose of assisting

municipalities in the erection and maintenance of sanatoria for consumptives.

Recognition and Management of Tabes Dorsalis.—Dr. Allan McLane Hamilton had prepared this paper, but on account of illness was unable to be present to read it. The president undertook this task. It appeared that, as an etiological factor, syphilis was not referred to by the early writers on this disease. While some would attempt to divide the symptoms of the disease into the leg and eye types, the writer would consider that to be unwarranted. He considered there was a close resemblance or rather relationship between the different forms of cerebro-spinal sclerosis. There was no disease of the nervous system which had drawn forth so many plans of treatment; and but little or no good had resulted from any one thing. Most tabetics were favorable subjects for expectant treatment, and many derived temporary benefit from some new drug. Looking back over a number of years, he found that most good had been accomplished when little or no medicine had been given. He had found rest by suspension and persistent cauterization of the back good treatment. In the opinion of the writer, syphilis could not be traced in more than fifty per cent. of the cases. For the arthropathies there was little to be done. Perforating ulcer was a rare feature of locomotor ataxia, and most obstinately resisted treatment. He had seen three cases of this unusual condition in ataxics, and the ulcer rarely exceeded 2 or 3 cm. in diameter. One authority mentioned five cases resulting in cure by means of nerve stretching. Throughout the course of the paper numerous cases were cited with their symptoms and treatment.

The Physician's "Vaster Empire."—In this paper Dr. John Hunter, of Toronto, dealt with the questions of sanitary science, education, social purity, and medical missions. Referring to sanitary science, he entered a plea for the broader and freer application of the principles of this branch of medicine, in the building and construction of our homes, schools, churches, theatres, etc. No dwelling-house should be constructed except under the supervision of an architect and a physician versed in sanitary science. In the matter of sanitary science architects had improved wonderfully during the past ten years. Another important question was that of our educational system—the mental and physical health and development of our school children. The best way to secure physical vigor and high mentality was surely within the province of the physician to grapple with and study. In all forms of social purity and impurity, physicians should speak *ex cathedra* against every form of vice and immorality. The boys and the girls of the family should be enlightened as to their sexual proclivities at proper periods, by their fathers and mothers respectively. In medical missions he referred to the vast field for medical missionary work in foreign countries.

Address in Surgery—Tuberculous Lesions from a Clinical Point of View.—The president introduced Mr. Edmund Owen in a few well-chosen words. This address was delivered at the evening session of the first day, and the distinguished visitor was greeted by a crowded house. In commencing his masterly address, he stated that he would deal with tuberculous lesions as the surgeon met them day by day in the hospital wards, in private practice, or in the operating-theatre. Referring to the pathologists, he considered his (the pathologist's) thought to be only of the dead tissue, while the surgeon saw the human tree during its life and rarely followed it after death. The student did clinical and pathological work at different times; and he was enabled to follow the case straight from the ward to the laboratory. He considered that study of the fresh specimen was the best; for the specimen taken from formalin was no more like the actual condition than canned salmon was like fresh-run fish. He would not hinder experimental research work; it was absolutely necessary. The life of a man was of more value than a sparrow or many guinea-pigs. It would be almost impossible to overestimate the direct value of experimental laboratory work. Strumous and scrofulous were now terms devoid of meaning, and tubercle was now called by its proper name. There were three great factors in connection with tuberculosis which the public must be made acquainted with: (1) The disease was communicable; but the public must be allowed a little time before accepting this statement and fact. (2) The disease was preventable; this followed almost as a corollary to the first statement. (3) The disease was curable. Years ago the subject of tuberculosis was regarded as wellnigh hopeless; but now it was not considered of the untractable nature that it was formerly thought to be. Tuberculous lesions were exactly what they used to be; and Mr. Owen had worked at the largest children's hospital in London for over a quarter of a century. We now took a much more hopeful view of these lesions. Many of his hearers had studied tuberculous lesions under these skies and also in the mother country. Did they find that the tuberculous lesions were the same in both hemispheres? One rarely heard now of the vis medicatrix naturæ; surgery had rendered it superfluous. All had noticed cases of old standing hip-joint disease in which in time the sufferer actually grew out of his trouble. This might be a popular superstition, but, like most erratic beliefs, it was founded upon a stratum of truth. In children these chronic diseases were always tuberculous. When chronic abscesses occurred, it would not do to open and drain, but they must be scraped out—their unhealthy lining destroyed. In the treatment of these diseases, the speaker stated that he had failed to find any virtue whatever in the employment of iodoform. It was an irritant and a poison, and it was apt to be septic, as germs can grow on it. Mr. Owen condemned the use of complicated apparatus, and also forcible correction in cases of spinal deformities. He considered that this deformity did not lend itself to operative treatment. There might perhaps be a small class of cases in which it might eventually be found applicable, as when bone or organized inflammatory deposits pressed upon the cord so that the patient had lost movement in the lower extremities. The plaster-of-Paris jacket must be held responsible for much of the deformity of Pott's disease. The proper treatment of these cases was rest in the horizontal position, with plenty of good fresh air and sunlight.

At the conclusion of his extremely able and instructive address the thanks of the association were moved in a complimentary speech by Professor Shepherd, of Montreal, and seconded by Professor Cameron, of Toronto, put by the president, unanimously carried amid great enthusiasm, and appropriately presented to Mr. Owen by Dr. Powell. Mr. Owen made a happy reply.

Excision of the Knee Joint in Tuberculous Disease.—Professor Primrose, of Toronto University, minutely described Kocher's method of dealing with tuberculous disease of the knee joint. He recited the histories of a few cases in which he had obtained excellent results, in which this operation had been employed. The steps of the operation were made clear by a blackboard drawing. At the conclusion of his demonstration, Dr. Primrose was highly complimented by Mr. Owen for his lucid exposition of his subject.

Recent Pathological Studies of the Blood.—The last paper on the evening of the first day was a most interesting and instructing one by Dr. L. H. Warner, of Brooklyn. At the commencement of his paper he asserted that he believed there was a necessity for ex-

periments for the progress of pathology. His experimental researches were directed along three lines of inquiry, viz.: experiments, observation, and individual observation at clinics in hospitals. He considered that the examination of the blood in most cases was of more importance than an examination of the urine. Dr. Warner gave the formula of a new staining-solution which he had found very practicable: The blood specimen should be prepared in the regular manner. The slides were heated in a hot oven to 98° F., and immersed for one minute in a one-per-cent. aqueous solution of methylene blue, washed in water, then put in a one-per-cent. alcoholic solution of eosin, washed again with water, and then placed in a one-per-cent. solution of Bismarck brown. Dr. Warner's paper was illustrated with suitable diagrams.

President's Address.—On the afternoon of the second day, with a packed hall for an audience, Dr. Powell delivered the annual presidential address. He first recited a few reminiscences, when on former occasions the Canadian Medical Association had convened in the capital city; that was in 1871, 1881, 1889, and 1893. He referred to the South African war in order to show the unsatisfactory condition of affairs which permitted other colonial surgeons from Australia and New Zealand to practise their profession in that land without hindrance, while Canadians were debarred from the same privileges. An earnest and united effort on the part of the profession throughout the whole Dominion of Canada, in an endeavor to bring about inter-provincial registration, would facilitate matters in the direction of securing these privileges for the Canadian profession in other parts of the British empire. The hackneyed subject of tuberculosis was lightly touched upon; while a very important matter relating to the profession, that of a Medical Defence Association, was dealt with at considerable length. Dr. Powell favored the formation of such an association, and later on in the proceedings nominated a committee to look into the question, to report on the advisability and practicability of forming a Dominion association of this character.

Some Experiences in the Treatment of Hernias.—Dr. F. J. Shepherd, of Montreal, contributed this paper. He said that some twenty years ago surgeons began to perform these operations by the open method. Older methods in vogue were touched upon and described; and he instanced one very large hernia which had come under his observation then, when the man could not put his trousers on. The methods of operation were almost as numerous as were surgeons, but there were certain general principles underlying all operations: (1) The necessity for excision or obliteration of the sac; (2) closure of the canal; (3) union by first intention. Some also held that alteration in the direction of the canal was necessary. The operation performed by Dr. Shepherd was Bassini's, but with it he was not always successful. He had used all kinds of sutures. Absorbable sutures were the best, and if aseptic they were to be preferred. A suture that would last for three weeks was all that was wanted. He had used chromicized catgut now for some time. He never washed out the wound, and thought it better to dissect out the sac with the knife than to tear it with the fingers. He never used a drain. For the past two years, he had used rubber gloves in all his surgical work abdominal in character, and he considered that he had got better results since he began their use. In hernia operations, the mortality was practically *nil*. Operations on children were now the most successful cases; formerly they were not advised except in strangulated cases.

Dr. Lapthorn Smith discussed this paper and the cases described, although his experience lay mostly in ventral and umbilical work. In some of this he had seen hernias so large as to require twenty stitches. During the past two years he had abandoned silk and resorted to chromicized catgut, which he always prepared himself.

Replying to the criticisms, Dr. Shepherd stated that if there was any oozing in the wound, he would pass a probe between the edges of the wound to let out the accumulated serum. This way he found to be quite efficacious, as thus the chance of the introduction of any germs from without was minimized.

A Case of Sypilitic Gummata of the Spinal Cord Successfully Treated by Enormous Doses of Iodide of Potassium.—Dr. F. W. Campbell, of Montreal, reported the history of this very interesting case. It occurred in a man of highly neurotic temperament, who a short time before the onset of symptoms of a definite character had suffered from repeated attacks of insomnia of a very aggravated character. When his sickness began, there were noticed retention of urine and loss of power in the lower limbs. The patellar reflex was about normal. The loss of power in the lower limbs was absolute. The pulse varied from 80 to 96; the temperature was never above 99° F. The stomach remained in fairly good condition all the time. A consultant from New York was brought on, and a diagnosis was established of tumor of the spinal cord situated about at the first lumbar vertebræ, which might be sarcomatous or syphilitic. The advice of the consultant was to give gr. d. of iodide of potassium per day, commencing with one drachm three times a day. Dr. Campbell detailed minutely the daily history of the patient while getting him under the large dose, and then again while it was gradually being withdrawn. The patient was alive to-day and in good health, having recovered complete control of his lower extremities.

Address in Gynæcology.—A very practical address was delivered by Dr. William Gardner, of Montreal, on the mistakes in diagnosing gynæcological and obstetric cases. He said that we often learned more from our mistakes than we did from our successes. Correct and accurate diagnosis depended mainly upon the sense of touch, which could be attained only by long and patient practice. He referred to the advantages of examining on a plain table instead of on a couch or bed. The patient's rectum should always have been emptied before she presented herself for examination. As for the bladder, it was best for one to empty that viscus himself per catheter when the patient was on the table, as in this way one would be able to notice any discharges, etc. That the physician would have to do this often was quite clear from the fact that there were many women of nervous temperament who would not be able to empty the bladder voluntarily in the physician's office. Another advantage of doing this for one's self was that an uncontaminated specimen for examination was obtained. In cases in which tension was present in the muscles of the abdomen, if a series of circular movements over the lower abdomen were made, gradually narrowing the circle, one would be able to overcome whatever rigidity might be present. Dr. Gardner urged caution in the use of the uterine sound. He considered it a rather dangerous instrument, so that its use ought to be extremely limited, and held the opinion that many women had lost their lives through this instrument. Then there were the danger and risk of infecting and injuring the uterine canal. This sound was a great deal too much employed by the general practitioner. Mistakes in diagnosing displacements of the uterine body he considered to be the most common. The uterus was a very movable organ, and a distended rectum or bladder might cause it to be diagnosed as an ante- or a retroversion. Then it was important to remember that it might be displaced through acts of coughing, vomit-

ing, etc. In all examinations of the pelvic organs, Dr. Gardner had made it a point to examine the position of the kidneys as well. Referring to examination by the Sims method he said it was necessary to have the patient in the proper position; and if one had not a Sims speculum, a bent table-fork or the finger of the opposite hand could be used to distend the perineum. Mistakes were often made in the diagnosis of pregnancy; but still the patients were few in whom the diagnosis could not be made by careful examination of history, signs, etc. Many women were probably inaccurate as to date. Dr. Gardner illustrated his points as he proceeded, by reciting cases. One in particular he instanced, when he once found a woman in his office on her hands and knees in the throes of a twin labor, which a fellow-practitioner had failed to recognize and had tapped the gravid uterus and drawn a quantity of the liquor amnii. Dr. Gardner spoke of the mistakes made by himself as well as by his brother practitioners. The close of the paper referred to an interesting account of mistakes which had occurred in diagnosing extra-uterine pregnancy.

The association tendered him unanimously a hearty vote of thanks for his exceedingly practical paper.

An Unnoticed Factor in the Production of Abdominal and Pelvic Disturbances in Women.—Dr. Clarence Webster, of Chicago, contributed an interesting paper with the above title. Symptomatology in women, he said, was often overlooked by the general practitioner. The question of the normal relationship of the abdominal and pelvic contents was dwelt upon, and then he proceeded to account for intra-abdominal pressure, holding the view that the pelvic as well as the abdominal organs were to a large extent held in their respective positions by reason of the pressure of the abdominal and pelvic walls. He stated the average specific gravity of the viscera to be a little more than that of water; that of the liver was 1.5. He maintained that there was no proof that the mesenteries acted as constant supports or were ever meant to be such; and the main factor in sustaining the viscera was the strength of the abdominal wall and pelvic floor. Local weakness of the abdominal wall had been fairly well described under hernia, while general weakness of the abdominal wall had been described as pendulous belly. General weakness in his experience was an exceedingly rare condition. As to the question of etiology, this condition was found in women who had borne children; and so, on examination of the great majority of women, there was found some degree of separation of the recti muscles in the region of the navel. All evidence later on might disappear, but permanent widening remained. The results of all this was unavoidable enteroptosis; and this was generally found in women who had been addicted to the pernicious habit of tight-lacing. A very common displacement seen was that of the right kidney. Dr. Webster dwelt upon the diagnostic symptoms of these conditions, and then proceeded to describe the operation he performed for their relief. This consisted in bringing the edges of the two recti muscles into apposition. He first performed this operation in November, 1898. Since that time he had operated upon forty-one cases, and the results had been most satisfactory in all.

Mr. I. H. Cameron took exception to Dr. Webster's using the word "unnoticed" in the title of his paper, as he thought this was not an unknown factor in the production of the conditions mentioned.

Dr. W. S. Muir, of Truro, N. S., asked what leaving off the use of the binder after confinements had to do with the production of these conditions.

Dr. Webster held to the opinion that this had not been noticed except by himself, and challenged Mr. Cameron to quote authority otherwise. The absence of the binder in his opinion had not made any special difference.

Address in Medicine.—Prof. S. F. Shattuck, of Harvard University, said in opening his address that there was noticed a subdivision of labor in every branch of industry. As a consequence, specialization had taken place in the science and art of medicine. In specialization lay the cleavage between medicine and surgery; and nowhere had the line been more closely drawn than in England. Anæsthesia had greatly enlarged the bounds of surgery. Twenty-five years ago there was not a pure surgeon in America. Bellyache was now a surgical disease. The heart was practically the only viscus which remained the exclusive property of the physician, and he was not so sure but that even this organ would soon be attacked and we might hear of suturing of the mitral valves. In this country the general practitioner was clinging to obstetrics for family practice. In some of the larger centres, there was now even a tendency to specialism in obstetrics, when the specialist would preside at the accouchement, and the family practitioner then step in to oversee the attendance throughout the puerperium. Pure gynæcology scarcely existed to-day, and pelvic tinkering was suffering from a rapid decline. The great bulk of major gynæcology was nothing more than abdominal surgery, which properly belonged to the general surgeon. Gynæcologists should study general surgery and become general surgeons first. The field in medicine was so large that no one man could grasp it all in a lifetime. Other specialties were referred to. The desire on the part of some to escape the hurly-burly of general practice might be a cause in throwing them into special lines; and then there was the fact that special knowledge drew larger fees. Ophthalmologists got more for removing a speck of dust from the eye than did the general practitioner. Since we had specialists for diseases of the young, why not also have a specialty for the diseases of the old? In the belief of the speaker specialism had come to stay.

The gathering was exceedingly delighted with the deliverance of Dr. Shattuck, and at the close tendered him a cordial vote of thanks, to which he made an appropriate reply.

Gastric Hemorrhage.—This paper was read by Dr. George E. Armstrong, of Montreal, who said he believed there was a fairly well-determined field in which surgical interference might be of use in hemorrhage of the stomach. Hemorrhage occurred in fifty per cent. of gastric ulcers and was fatal in eight per cent. Cases were arranged in two groups, the acute and the chronic. Rodman had reported thirty-one operations for frequently occurring or chronic hemorrhages, with six deaths. The speaker had operated five times for gastric hemorrhage, one being a chronic case. In one of these the patient was getting along nicely after the operation, when she expired suddenly; and on a post-mortem examination being made, thrombi were found in the branches of the pulmonary artery.

Some Cases in Stomach Surgery—Gastrotomies, Two Cases; Gastro-Enterostomies, Two Cases; Pylorectomy.—Dr. A. E. Garrow, of Montreal, reported these cases. In one patient operated on, the patient was fed before he left the operating-table. Another, a woman aged fifty years who had a persistent hacking cough, had gastrostomy performed, and was discharged able to feed herself through a tube. In another case, in a man aged thirty-three years, who had vomiting and blood in the stools, the patient suddenly felt acute pain and became pale. Duodenal perforation was present, and when the abdomen was opened, gas escaped from the incision. When discharged on July 24th last, the patient was feeling well. Six cases were reported.

The Modern Treatment of Retroversion and Prolapse of the Uterus.—Dr. A. Lapthorn Smith presented an able paper with the above title. It referred to the proper and most successful management of procidentia uteri in elderly women between seventy and seventy-five years of age—a most pitiable condition. Except for this trouble, the patient might be otherwise in excellent health; the perineum, however, was so relaxed that no pessary would remain in place. Then in the majority of these cases there was an ulcerated cervix. After confinement the uterus remained large, and the pernicious habit of keeping women too long on their backs had a tendency to produce the backward displacement. Dr. Smith felt certain that women who had been relieved of this distressing condition would have little difficulty in persuading others to avail themselves of the treatment. He removed a woman's uterus a few months ago, which had been out of her body for twenty years; and the patient now assured him that she felt like a young woman. In correcting this deformity, Dr. Smith made a small incision in the abdomen and performed ventrofixation. After that the vaginal canal was narrowed by a large anterior and posterior colporrhaphy. In selected cases, he also amputated the lower half of the organ and then stitched the vagina to the upper half. He considered ventrofixation, if properly performed, a most reliable means of fastening up the uterus. The operation had given him the most complete satisfaction of any operation he had ever performed, especially when combined with amputation of the cervix and posterior colporrhaphy.

Gasoline as a Surgical Detergent.—A highly original paper was contributed by Dr. Bruce L. Riordan, of Toronto, on the use of gasoline as a detergent. With this the dirty, greasy hands of machinists, who are the subjects of injuries in these parts, could be effectually and rapidly cleaned, without the ordinary brush and soap and water. It was far better for this purpose than any method heretofore devised for cleansing. He now constantly carried a small bottle of this in his surgical bag. A report from Dr. William Goldie, of Toronto, showing its effects upon germs and germ life, would conduce to its employment as indicated. One word of caution was thrown out by Dr. Riordan as to its use; as it was a highly inflammable substance, it should not be used in any quantity near an exposed light; and then it was painful in the eyes or ears. It was also useful in cleansing sutures of accumulated serum, blood, and dressing-powder, thus freeing these particles and enabling one to locate the stitches more easily and quickly.

Dr. J. C. Mitchell, of Inniskillen, Ont., stated that he had tried gasoline recently as a detergent in two very severe threshing-machine accidents, in which the parts were all smeared over with oil and grease and dirt; and it was very satisfactory, as he was able to get perfect cleanliness in a short time, both wounds healing by first intention.

Dilatation and Prolapse of the Stomach.—Prof. Alexander McPhedran, of Toronto University, presented this paper, which dealt principally with prolapse. This condition rarely occurred alone, but was associated with prolapse of other abdominal organs. There was generally present as well some degree of dilatation, and the abdomen might be prominent or flat, or even retracted. The case of a man aged fifty-one years was referred to, a manufacturer, who had been ailing for two or three years. The stomach was below the umbilicus. He was directed to massage the abdomen very thoroughly and to practise abdominal gymnastics. Through this treatment, combined with dietetics and some strychnine, he had been restored to health and was able to resume business. Another case of a woman aged thirty-five years was reported. This woman had been the subject of recurrent attacks of vomiting for two years. The symptoms were detailed; massage and abdominal gymnastics were ordered with satisfactory results. The different ways of examining the stomach were described, and in concluding Dr. McPhedran spoke of the benefits of a change of scene in treating these cases.

Physical Training; its Range and Usefulness in Therapeutics.—Dr. B. E. MacKenzie, of Toronto, gave a very interesting account of the methods employed by him in correcting deformities in his orthopedic hospital in that city. The paper was illustrated by lithographs showing improvements in spinal deformities after physical training in the direction indicated. The paper embraced the results of his observations for thirteen years past, and was ample justification of the benefits derived from gymnastics in the correction of lateral curvature, club-foot, etc. He had also found physical training valuable in hysteria and chorea, especially the former.

Inter-Provincial Registration.—Dr. T. G. Roddick, M.P., read the report of the committee having this matter in hand. A new feature to be incorporated in the measure was that of allowing the homœopaths representation on the proposed Dominion council, as, according to the law of Ontario, these had their vested rights in that province, and so must be accorded similar interests in any proposed Dominion council. These would be allowed three representatives, which would be equivalent to the representation from any one province of the Dominion. Their term of office would be four years. Homœopaths, however, as such, would not be mentioned in the measure, but they would be classified under "any other school of medicine having legal recognition in any of the provinces in Canada," as the British Medical Council would not recognize any such body. Dr. Roddick stated that the bill would be introduced at the next session, and advised the members of the committee from each province to bestir themselves before their respective provincial parliaments, as these bodies must sanction the measure before it can be finally acted upon by the Dominion Parliament.

Cerebral Abscess.—Dr. James Stewart, of Montreal, reported two interesting cases of abscess of the brain situated in the temporo-sphenoidal lobe, and referred to the unusual existing aphasia which was present in both cases, viz., simple inability to name objects. The first case occurred in a young man of twenty-two years who had otitis media following an attack of influenza. Some six weeks afterward an abscess formed. The abscess was diagnosed as being confined to this area simply on account of the peculiar aphasia—the simple inability to give the name of a pen when that object was presented to him. The patient was operated on by Professor Bell, who secured two ounces of pus. Meningitis, however, set in, and the patient died. The second case was that of a girl of twenty-one or twenty-two years of age. She had had ear trouble for a great many years, with very severe pain at times. She too had difficulty in naming objects, and finally she could not name any object whatever. She died suddenly a few hours before the operation was to be performed for her relief. On the opening of the skull at the subsequent post-mortem examination, two abscesses were found, one skirting the upper margin of the lobe and the other situated about the centre thereof.

In reply to a question of the president, whether we were to take this kind of aphasia as a distinct diagnostic symptom of abscess in that region, Professor Stewart stated that there was what they called a "naming centre," and when this was destroyed that particular form of speech defect was present. The cases were aptly illustrated by a diagram.

Gangrene of the Leg following Typhoid Fever.—Dr. H. H. Chown, of Winnipeg, reported two cases of gangrene of the leg following typhoid fever, which had recently come under his observation. In the first case the patient had the classical symptoms of typhoid fever, the spots appearing at the end of the first week and being very numerous. There was great pain in the calf of the leg, with collapse symptoms, while the limb was cold and bloodless. Cutaneous sensibility was lost over the leg. The third day after the complication set in the part involved included the lower third of the leg on the inner side and the lower half of the outer. Operation was done at the junction of the upper and middle third of the femur. The patient stood the operation well. The temperature before the operation was 102.6° F.; the pulse was 120. On the following day the temperature was normal and the pulse 110. On the tenth day the flaps were united. There was a rise of temperature a few days later—a relapse, with hypostatic congestion of the lungs. On the fifth day after there was hemorrhage of the bowels. The patient was now a picture of health, weighing two hundred pounds. The second was a somewhat similar case, in which the blood reacted early and promptly to the Widal test. The gangrene began in the first case on the eleventh day of the disease; in the second on the ninth. Keen had reported gangrene on the fourteenth day. The gangrene in the second case extended to the upper and middle third of the leg. The leg was amputated, and prompt union took place throughout.

Dr. R. B. Nevitt, of Toronto, discussed these cases and mentioned a similar case coming under his observation during the past summer. Gangrene occurred in his case about the third week of the fever, and the patient was seen about a week or ten days thereafter. Amputation was performed through the middle third of the femur. He also referred to a case of gangrene of the arm following an attack of pneumonia, recently observed by him.

Notes on Atropine.—An interesting paper was contributed by Dr. R. D. Rudolf, of Toronto University, which was illustrated by means of a chart showing the action of the drug on animals and the inferences drawn therefrom of its therapeutic uses. He found that the drug directly stimulated the heart, and thus the blood pressure was markedly raised. He considered the maximum single dose as laid down by Witherstine, of gr. $\frac{1}{20}$, as too large unless used as an antidote; and he thought that one ought never to give more than gr. $\frac{1}{100}$ of atropine sulphate at one time except in emergencies. He also referred to its action in catarrhal pneumonias of children, and its employment before anæsthesia to ward off danger.

The paper was discussed by Dr. A. D. Blackader, who congratulated Dr. Rudolf upon it, and said that he hoped he would pursue his studies further upon the same subject to find out the effect produced by atropine in controlling vomiting after anæsthesia. He considered, however, that strychnine and not atropine was the most powerful heart tonic in our possession. He thought that late experiments would throw doubt upon atropine being a direct stimulant to the heart muscle, and thought it would be questionable practice to administer a drug that would paralyze nerve endings, when it was desired to stimulate the heart's action.

Lantern-Slide Demonstration of Skin Diseases.—The demonstration of these cases was conducted by Dr. George H. Fox, of New York City, and proved to be one which the members of the association thoroughly appreciated. The great majority of the skin lesions shown were of syphilitic origin; and as they appeared on the canvas Dr. Fox described the histories of the cases. One in particular was remarkable from the disfigurement of the woman's face. It was a large mass of excrescences on the nose, which Dr. Fox was able to get rid of in the course of two or three months, leaving only a slight superficial scar. He laid down a timely word of caution in treating syphilitic conditions, that when the patient was run down and emaciated through large doses of mercury or iodide of potassium, one should not continue pushing these drugs, but should desist for a time, and in the interval endeavor to build up the patient's strength and general condition. That accomplished, the specific treatment should be resumed, and the results would be found to be more beneficial.

At the conclusion of the doctor's demonstration, which will rank as one of the features of the meeting, Dr. Fox was tendered a cordial vote of thanks for his instructive work.

Dr. F. J. Shepherd showed a very interesting case, that of a boy of sixteen years, who at the age of six sustained a severe cutting injury of the nerves and vessels of the axilla, all the nerves of the brachial plexus below the cords of the brachial plexus being severed completely. At that time, ten years ago, Dr. Shepherd dissected out each nerve separately and united their respective ends by suture. All did well with the exception of the musculo-spiral; as a consequence, the lad exercised very little control over the extensors of the forearm.

The Successful Treatment of Two Important Cases of Disease of the Eyes by the Combined Methods of Mercury and Iodide of Potassium Internally and Pilocarpine Hypodermically.—Dr. C. H. Burnham, of Toronto, reported two cases successfully treated by his combined method. No such result followed other plans of treatment, and with this plan a permanent result was got. This treatment had a wide application. Whenever iodide of potassium and mercury or the iodide alone was given internally in suitable cases without satisfactory results, if the pilocarpine was added good results would always follow.

Mental Sanitation.—Dr. R. W. Bruce Smith, assistant superintendent of the Brockville Asylum for the Insane, contributed a scientific paper with the above title. It was a plea for prophylaxis in insanity, and he thought that much would be accomplished in this direction during the twentieth century. Insanity was on the increase in Canada, and it could be ascribed to the fact that while these unfortunates were well attended when they become insane, the fact that there had been no preventive measures employed spoke for itself. In order to accomplish good in this direction, we must seek either to lessen the demands on the brain, or to strengthen its resisting-power. He condemned intermarriages in families and also among those of a deranged mentality. Fifty per cent. of the cases of insanity were hereditary, and the descendants of these persons should be careful in contracting marriage ties. He referred to a portion of one county in Ontario alone, where indiscriminate marriage and intermarriage had become most fruitful; he had seen several members of one family from that locality inmates of the same institution at the same time. He considered that the day would yet dawn when the same attention would be given to the rearing of children as was now given to the breeding of horses. Speaking of farm life and the tendency it had to induce melancholy, he thought this class of the community should receive education by participating more in the enjoyments of life and not continue to rot in domesticity. An upheaval in the sentiment and surroundings of the rural homes would work wonders in prophylactic principles.

Anti-Consumptive League.—The Canadian Medical Association indorsed the scheme for the formation of a Dominion Anti-Consumptive League. The

following were recommended as provisional officers: *President* (honorary) the governor-general; *President*, Sir James Grant, of Ottawa; vice-presidents were appointed for all the provinces; the secretaries are to be the secretaries of the different provincial boards of health. *Secretary-Organizer*, Rev. Dr. Eby, of Toronto; *Treasurer*, J. N. Courtney, Esq., deputy finance minister of Ottawa.

The Medical Defence Association.—The association recommended that Dr. V. H. Moore, of Brockville, be the permanent chairman of the committee. One member for each province was appointed. This committee will gather information on the subject and bring in a recommendation at the next annual meeting.

Election of Officers.—The following officers were elected: *President*, H. H. Chown, of Winnipeg. *Vice-Presidents*—Prince Edward Island, H. D. Johnson, of Charlottetown; Nova Scotia, A. J. Maiter, of Halifax; New Brunswick, T. D. Walker, of St. John; Quebec, A. Lapthorn Smith, of Montreal; Ontario, A. A. Macdonald, of Toronto; Manitoba, J. A. Macdonald, of Brandon; Northwest Territory, J. D. Lafferty, of Calgary; British Columbia, S. J. Trinstile, of Vancouver. *Treasurer*, H. B. Small, of Ottawa. *General Secretary*, E. N. G. Starr, of Toronto.

Sir William Hingston and Dr. F. W. Campbell, of Montreal, were appointed on the board of governors of the Victorian Order of Nurses, as representatives of the Canadian Medical Association.

The treasurer's report showed that one hundred and fifty-three members were in attendance, and that there was a balance in the treasury of $240.65.

The next place of meeting will be Winnipeg.

Medical Items.

Cholera in India.—Cholera is devastating Western India in an alarming manner. The death returns are truly appalling. The epidemic is pursuing its course through the area under British rule as well as in the native states. To comment on the tragic significance of the weekly death roll would be superfluous. The dreadful facts speak for themselves. It is natural to connect the appearance of the complaint among the sufferers from famine with that scourge, but it is equally severe at long distances from the zone of dearth. Apart from the mortality and suffering involved, the officials who minister to the wants of the stricken people are almost in despair as to what to do for the best. Those engaged in the Indian service have brave hearts and no doubt will conquer in the end, but it is enough to make angels weep at this last load of misery.—*English Public Opinion.*

Modern Small-Bore Rifle Bullets.—Dr. Clinton Dent, who has recently returned from service as a surgeon with the British army in South Africa, read a paper at the meeting of the British Medical Association on the effect of wounds by modern rifle bullets. The London *Lancet* reports his remarks as follows: Broadly speaking, bullet wounds of all kinds in the South African campaign had done well. Recoveries from very severe wounds had been numerous, and many of these recoveries had been most remarkable. The percentage of wounded men who had been found fit to return to duty had been unusually high. Wounds inflicted causing permanent disability had been less frequent, and injuries the consequences of which necessitated amputation had been proportionately fewer than in previous wars. Conservative surgery had most probably been carried further and with more successful results than in former campaigns. These satisfactory results had been ascribed mainly to the "humanity" of the modern small-bore bullets. He believed that the surgical healthiness of the climate of South Africa and the widespread employment of the "open-air" method of treatment had quite as much to do in bringing about this most satisfactory state of affairs. Septic complications attacking either bullet or operation wounds had been very rare. The idea that the heating of the bullet had any influence was probably universally discarded. The heating effect was never seen even when bone was struck; although arrest of motion was possibly the mode of transformation of motor energy into heat, yet its effects were not seen. Again, the bullet, even if made white-hot by aerial friction, passed far too rapidly through the tissues to have any cauterizing effects. The "hydrodynamic" theory as explaining the destructive effects of certain bullet wounds has now few adherents. As instances of cases in which military surgery was now much more conservative than formerly might be cited perforating abdominal wounds, compound fractures, wounds of joints, and nerve injuries. All wounds did well, even shell wounds; the only joint wound which did not do well was that of the ankle. Among injuries in which surgery was now much more active were those of the head, which nearly all had to be and were operated on, and with success.

Dangers to Public Health from Railway Carriages.—Mr. Durant Cecil, a civil engineer, read a paper upon this subject at the Congress of the British Institute of Health lately held at Aberdeen. In the course of his remarks he said that the difficulties and costliness of properly cleansing carriages were illustrated a short time ago by a report made to the corporation of London by the medical officer of health, describing the means employed to cleanse and disinfect a carriage in which a person suffering from small-pox had travelled. The whole carriage had to be completely dismantled. As to the shutting up of carriages as soon as they have been vacated by passengers, strong and authoritative and reiterated protests are needed. There are wonderful remedial forces in nature if only we would give them free scope and harmonize our artificial arrangements with their health-giving, life-renewing action. This shutting up of carriages belongs to the same category of benighted prejudices as the drawn-down blinds and closed windows of houses.

Heredity and Imitation.—The social sciences have always been ardently pursued and brilliantly expounded in France, and nowhere have the doctrines of Darwin and Spencer received a warmer welcome. Indeed, fifteen years ago, when Oxford lecturers were riddling Spencer with criticism, he ruled the Latin Quarter like a sultan. But of late there has been, as elsewhere, an effort made to delimit with greater accuracy the sphere of hereditary transmission. In the field of strict biology Weissmann has denied the transmission of acquired quality. In the field of sociology a young French thinker, M. Tarde, whose singular union of philosophic insight and expository power reminds one of De Tocqueville, has called attention to the importance of the social as distinct from the biological factors. M. Tarde does not, of course, deny the influence of hereditary transmission or the biological basis of social life, but in the brilliant volume entitled "Les Lois d'Imitation," he points out that the biological force is continually supplemented and corrected by the social force of imitation. The racial factor is not presocial, insoluble, persistent, nor is the ultimate term of human progress a world divided into highly differentiated social groups. On the contrary, man is essentially imitative and goes through life

like a somnambulist, unconsciously registering and imitating the desires, the thoughts, and the actions of others. Every day the world is becoming more similar, not, as De Tocqueville thought, because of democracy, but because a series of inventions has increased the imitativeness and the "imitativity" of man. Society is, in fact, "the organization of imitativity," and perfect and absolute sociality would consist in an urban life so intense that a thought once conceived by an individual would be immediately communicated to his fellow-citizens. The prospect is appalling, but that, of course, is not to the point. The process of biological evolution is slow, the process of social evolution is very often surprisingly rapid. How many centuries did it take to develop the wing of the eagle? How many months to modernize Japan? Social progress, then, as distinct from biological progress depends upon the discovery and diffusion of inventions, some of which, such as Christianity, are substituted for old inventions, while others, as telegraphy, are added to them.—*London Speaker.*

Garbage Disposal in China.—Consul Fowler says: "The cleanest cities in China are Hang-Chow and Ning-Po. In the centre of these two cities I have myself seen dogs eating bodies of babies; the rotting corpses of cholera cases; snakes winding in and out—in fact the most horrible filth on one side, while across the way was the glitter of gold, pomp, and luxury."

First Aid for the Wounded.—The Vincennes annex of the Exposition, notwithstanding its distance, attracts quite a crowd of people every Sunday to witness the sports and the international competition of physical exercises. One Sunday, a few weeks ago, the spectacle offered to those who wended their way toward the municipal velodrome was both novel and picturesque. Their programme announced an international competition of aid to the wounded. The various societies proceeded in turn to the installation of relief stations, which the public were afterward allowed to inspect, and which comprised all the usual material—carriages, harness, and various apparatus designed for the carriage of the wounded. Then the competitions proceeded with exercises in lifting the patients and dressing their wounds. Several obstacles had been set up upon the lawn of the velodrome, such as walls, hedges, and taluses. Here and there were seen young men seated or lying flat upon the ground, the victims of an imaginary battle, and bearing placards that indicated the nature of their wounds. Then came the relief corps with their litters, antiseptics in bags, and bottles and rolls of linen, wadding, and lint, and lifted each wounded person and bandaged his leg, arm, or neck with dexterity, rapidity, and delicacy. Then the patient was placed on a litter in a proper posture to spare the part affected. Then, more speedily than they had arrived upon the scene, the litter-bearers carried away the patient to the ambulance or hospital. In coming as well as going, it was necessary to surmount walls, hedges, taluses, and pass their burden over them gently and without shock.—*L'Illustration.*

Weight of Hydrogen Gas.—Lord Rayleigh has determined the weight of hydrogen gas dried by means of liquid air acting as a cooling agent. In recent experiments by himself and others phosphoric anhydride has been the desiccating agent, but a doubt remained as to whether on the one hand the removal of aqueous vapor was complete, and on the other whether some new impurity might not have been introduced. The object was not so much to make a new determination of the highest possible accuracy as to test whether any serious error could be involved in the use of phosphoric anhydride, such as might explain the departure of the ratio of the densities of oxygen and hydrogen from 16:1. The experiment proved that no serious error could result in this way.—*Proceedings of the Royal Society.*

Destruction of Rats by Means of Bacteria.—Loeffler has already advised the destruction of field mice by means of cultures of bacteria of bacillus typhi murium mixed with food, and the method has been carried out on a practical scale with some success. Danysz has used cultures of another species of bacillus in a similar way for the destruction of rats in the public sewers in Paris. The bacillus employed is one which Danysz isolated in investigating a spontaneous epidemic which occurred in field mice. When freshly isolated the organism was pathogenic to a certain extent for gray rats, killing about two or three out of every ten animals inoculated. It was found possible by artificial means to increase the virulence for rats to a much higher degree. The method employed for exalting and fixing the virulence was as follows: "A mouse was first killed by an ordinary inoculation; broth cultures from the mouse were then enclosed in collodion capsules, which were kept in the peritoneal cavity of a living rat for thirty-six hours. At the end of that time a subculture was made in broth and then passed through another mouse. This process having been repeated four or five times, the culture was passed first through the more susceptible young rats and then through adult rats. In the end a culture highly pathogenic for both the gray rat and the black rat was obtained. Pieces of bread soaked in broth cultures of the bacillus were then laid down in the sewers, and by this means a large number of rats were killed.—*Public Health.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 22, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Kansas, Cherokee Co.	August 1st to 31st	Reported.	
Crawford Co.	August 1st to 31st	11	
Eureka	August 1st to 31st	1	
Olathe	August 1st to 31st	1	
Parsons	August 1st to 31st	1	
Sumner Co.	August 1st to 31st	11	
Louisiana, New Orleans	September 8th to 15th	3	1
Michigan, Houghton	September 8th to 15th	5	
Torch Lake	September 8th to 15th	2	
Massachusetts, Fall River	September 8th to 15th	1	
Ohio, Cincinnati	September 7th to 14th	1	
Cleveland	September 8th to 15th	8	
Portsmouth	September 8th to 15th	3	
Utah, Salt Lake City	September 8th to 15th	6	
Smallpox—Foreign.			
Brazil, Pernambuco	August 8th to 15th	..	3
Canada, Province of Quebec, St Alexandre	September 4th	3	
St. Sebastian	September 4th	2	
England, Liverpool	August 24th to September 1st	6	3
London	August 24th to September 1st	2	
France, Paris	August 24th to September 1st	..	2
Rouen	July 1st to 31st	..	1
India, Bombay	August 14th to 21st	..	1
Mexico, City of Mexico	August 31st to September 8th	..	4
Russia, Moscow	August 18th to 25th	6	2
St Petersburg	August 24th to September 1st	21	8
Warsaw	August 18th to 25th	..	6
Scotland, Glasgow	August 31st to September 7th	30	
Yellow Fever.			
Colombia, Panama	September 3d to 10th	2	
Cuba, Havana	September 1st to 8th	..	12
Sagua	September 17th	2	
Mexico, Vera Cruz	September 1st to 8th	..	6
Cholera.			
India, Bombay	August 14th to 21st	..	764
Karachi	August 12th to 19th	22	8
Madras	August 4th to 17th	..	86
Japan, Osaka and Hiogo	August 11th to 18th	1	
Plague.			
China, Amoy	July 28th to August 4th	..	100
Hong Kong	July 28th to August 4th	51	50
India, Bombay	August 14th to 21st	..	65
Scotland, Glasgow	August 31st to September 4th	23*	1
Govan	September 4th	..	1

* Four under suspicion.

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Original Articles.

MEDULLARY NARCOSIS DURING LABOR.

By S. MARX, M.D.,

NEW YORK.

In the preliminary report[1] on this subject, I was extremely conservative in my remarks. Further and ever-increasing experience makes me realize that in medullary narcosis we have a means of the greatest importance and of supreme scientific value, not alone for annulling the pains of labor but as a substitute for general narcosis, covering an enormous domain in surgery. It is of interest to note that this form of narcosis is not a new method. As far back as 1885 Dr. J. Leonard Corning, of this city, not alone suggested but carried to a practical termination the method about to be described. In a small book entitled "Local Anæsthesia," our distinguished countryman experimented on animals, and in one case in one of his patients, furthered suggestions which absolutely compel us to admit him as the originator of the operation for special anæsthesia with cocaine. He described his technique almost as it is carried on by us, except that he did not consider it essential to successful anæsthesia to enter the subarachnoid space. He simply introduced the needle between the spinous processes, and sent the solution in, "allowing it to become absorbed by the minute plexuses of veins and so carried to the cord." In this we do not agree; but more of this farther on. In this classic work, the author finishes by saying: "Whether the method will ever find an application as a substitute for etherization in genito-urinary or other branches of surgery, further experience alone can show. Be the destiny of the observation what it may, it has seemed to me, on the whole, worth recording." The prior claim to the operation must in all justice and honor be given to Corning, not alone because of his suggestions, but because of his original practical experiments in 1885. A number of papers by the same author appeared thereafter in rapid succession. These will form the basis of a historical review to be published shortly.

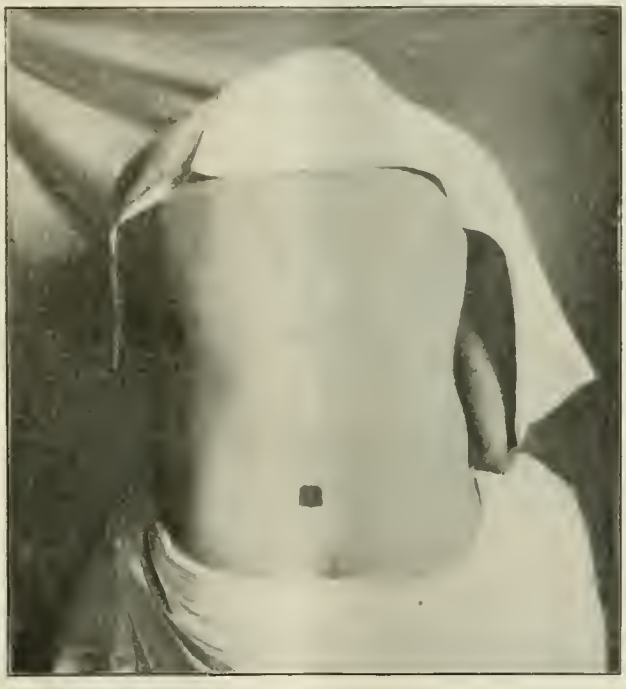

Fig. 1.—Dark Spot Marks the Spine of Fifth Lumbar Vertebra

I have used this method of anæsthesia in fully thirty cases, and there has never appeared any symptom which would make me apprehensive of either immediate or remote danger. In fact I never have had such smooth convalescences as since my experiments commenced. All the patients made ideal convalescences, and all the children alive before delivery were born alive and well, in spite of the fact that many difficult and trying labors were encountered.

Technique.—From an increased experience, the position of the patient for an easy, successful puncture is the exaggerated inclined one, *i.e.*, the scorching (bicycle) position. When for any reason the patient cannot sit up, a right- or left-sided posture with arched back, the head in an elevated position, is the next best one. When so placed there is a distinct curve in the lumbar region with the convexity downward. This has a tendency to increase the space between the individual vertebræ, and the puncture is made from the convex side. When the puncture fails, *i.e.*, inability to get spinal fluid, the other side may be tried. It is always absolutely necessary for successful anæsthesia to enter the spinal canal; in other words, a *sine qua non* to an absolute analgesia is the escape of subarachnoid fluid before the cocaine solution is injected. By the escape of fluid I am in positive position to state that the needle is in the space. There is no other absolute guide. My primary trials in the first three cases were absolute failures, for this important landmark was unknown to me and consequently omitted. Since I have depended on getting a fluid tap I have never failed to get a perfect anæsthesia. As a rule the puncture is very easily done, but in some few cases there has been the greatest difficulty in its performance. In one case six distinct punctures were made before the tap revealed fluid. In one case with an antecedent lumbar disease I failed absolutely, and was compelled to make the injection in the dorsal region, and then with good success. The operation was an abdominal hysterectomy, and when the abdomen was opened the lumbar lesion was readily noted.

The patient's back, from the coccyx to the middle of the dorsal vertebræ, is rendered absolutely sterile after the usual methods, even as the abdomen is sterilized before abdominal section. The parts are surrounded by sterile towels. A finely tempered needle, 10 cm. long, is employed with a solid metal hypodermic syringe, both of which are boiled for ten minutes. The patient having been placed in position, the thumb of the left hand is placed on the spinous process of the fifth lumbar vertebra. This point may readily be

[1] Medical News, August 25, 1900.

found by locating the deep depression between the spine of the fifth lumbar and first sacral, the posterior landmark of the external conjugate; or, in very fat women, a line drawn joining the highest points of the crista ilii will pass over the centre of the fourth lumbar vertebra and is a reliable guide. The needle is inserted immediately in front of and just outside the edge of the thumb at an angle of about 165°. The direction of the needle is slightly from below upward and without inward. If the point strikes the lamina it is to be moved gently up or down until the space between the vertebræ is felt. The point is pushed in very slowly and gently in a downward direction until the clear, limpid spinal fluid runs out drop by drop. If the tap brings pure blood it is, in my experience, beyond the canal, and gradual withdrawal will usually bring success. Should clogging of the needle be suspected, then it can be cleared by the stylet. Immediately fluid runs out, the barrel of the syringe is screwed on and the cocaine injected. From ♏ x. to xv. of a

Fig. 2.—Position as Needle is Being Introduced. Note position of thumb and its relation to needle.

two-per-cent. cocaine solution is used, representing between gr. $\frac{1}{3}$ to gr. $\frac{1}{4}$ of the salt.

Within from two to fifteen minutes anæsthesia is ushered in, occurring rather suddenly, occasionally preceded by a marked hyperæsthesia. Operating can usually be commenced as soon as firm pinching or pulling upon the labia minora elicits no pain. If at the end of fifteen minutes the desired result is not obtained, the injection may be repeated; or if, after complete anæsthesia, the sensation of pain returns, the same dose may be repeated. Thus I have injected three-fourths of a grain in one hour in a rebellious case without bad results. The cocaine solution to be efficacious must be freshly prepared, or else it becomes inert from frequent sterilization. Eucaine I have found valueless; Schleich's infiltration tablets I have found of little value. The area of anæsthesia varies considerably and cannot be influenced by either the dose given or the force with which the solution is thrown in. In some cases the whole body from the neck down is absolutely in an analgesic condition. In all cases the patient is void of sensation from the umbilicus down.

The anæsthesia lasts from one to five hours. Complications of a severe grade have never occurred. Disagreeable features frequently occur; in fact it is a rule to have them present, but fortunately their effect is very transient, lasting from eight to twenty-four hours. There are frequent nausea, vomiting, severe headache, profuse perspiration, chilly sensations, temperatures up to 102° to 103° F., probably all due to a shock to the central nervous system or to a disturbed intraspinal pressure, whether diminished or increased I am not prepared to state. Fortunately when severe these symptoms can be readily controlled by nitroglycerin gr. $\frac{1}{100}$ alone or combined with small doses of morphine. I have tried to anticipate these symptoms by combining morphine with the cocaine, but the results were not satisfactory. In fact in one case in which gr. $\frac{1}{6}$ morphine was injected into the canal, I got dangerous symptoms of morphine poisoning, showing how strong is the absorbing power of the spinal fluid. Lately I have had good results by injecting hydrobromate of hyoscine gr. $\frac{1}{200}$ as soon as the symptoms arose. In a limited experience with this drug I would suggest its use by the ordinary hypodermic method as soon as the cocaine is administered, or else its use immediately on the occurrence of the nausea and vomiting, which are always the earliest symptoms to arise after the puncture.

The physiology of the anæsthesia is not quite clear. Most probably the cocaine solution, thrown directly in contact with the lumbar plexus, deadens its sensibility or that of its important nerve roots (Fig. 3). The greater area of analgesia is probably due to rapid molecular absorption by the cord or its membranes. Motor disturbances so far as the uterus is concerned have not been noted. Uterine contractions go on regularly as if no narcotic had been used, the patient feeling no pain; and one is cognizant of the contractions only when the hand is placed on the abdomen. Reflex action of the abdominal muscle was found only when incomplete anæsthesia existed, and was then accounted for by the presence of pain. When analgesia was complete there was no spontaneous bearing down, and the muscles were not voluntarily called into action. Only on command did the patient bear down and bring her abdominal muscles into play as powerfully as in an ordinary case. Explorations, versions, extractions, placental removals were readily done, not with quite as great ease as under chloroform, but with greater facility than in a non-narcotized woman. I never noted a disposition to bleed, at least no greater than in an ordinary case. Is the operation associated with danger whether immediate or remote? There are two possible immediate dangers: (1) collapse from cocaine, (2) sepsis from the puncture. I have used as much as gr. $\frac{3}{4}$ of the drug within one hour, and have never noted any untoward symptoms. My average dose is about gr. $\frac{1}{4}$, the smallest gr. $\frac{1}{6}$, the maximum individual dose gr. $\frac{1}{3}$. The symptoms which follow all the injections are not due to cocaine, since they occur after an injection of a saline solution. It is possible that dangerous symptoms might arise in some cases from a special idiocyncrasy to the drug, since severe symptoms of poisoning have been noted after instillation of cocaine in the eye or nose. But I have never met them after lumbar injection.

(2) Sepsis. There is no denying the fact that, in unclean hands and with unclean instruments, this otherwise safe operation can and will produce a severe if not fatal sepsis. Any serous cavity invaded carries a certain profound risk. In the operation we penetrate dura and pia mater, and invade a canal freely communicating with a similar space in the brain, consequently a dangerous territory. Therefore we must surround our manipulation with every possible known safeguard. Asepsis of person, of instruments, of patient, of solution is the only safeguard, and this must be as carefully attended to as if the belly were about to be opened. The operation should be done only by one trained in surgical asepsis, or else surely

bad results will occur in the form of septic intraspinal complications. I have never, at least so far, noted any remote complications; but this may be due to the fact that my cases are too recent, the latest being about two months old. One useful point that my experience has taught me, in order to further the absolute success of operating under spinal anæsthesia, is to have perfect quiet while operating. Sight and hearing are unusually acute in these women. Apprehension is ever present, and a morbid fear that they might suffer pain causes not actual but psychical pain. This I have demonstrated on more than one occasion. To this end my audiences are told to refrain from talking, especially in reference to pain. The eyes of the patient are snugly bound, and the ears are thoroughly plugged with cotton. No unusual bustle is allowed, and instruments are handled so as to insure absolute quiet. The patient is constantly being reassured, and is interrogated by one person as to her sensations.

Indications.—I have carried a woman by repeated injections for eight hours through her labor with practically no pain. By improved methods and further observations it may be possible to carry a labor through from beginning to end under this narcosis. In multiparæ we must be prepared to inject when the os is three-fourths dilated, in the primipara when fully dilated. For purposes of exploration, either pelvic or fœtal, there is a field. In very prolonged and painful first-stage labors, when it is impossible for the doctor to sit for hours giving whiffs of chloroform, it would be ideal to give a lumbar puncture and relieve all pain and suffering for from one to five hours, and yet have the labor go on and the os dilate painlessly. Again a case might be imagined, in which both ether and chloroform are contraindicated, or a case in which no assistance can be had, and operating is absolutely necessary. A simple puncture is made, anæsthesia is complete, and the operator can attend strictly to his field of operating. In cases of threatened or already present convulsions, in which a simple examination would produce the spasm, a lumbar narcosis, lessening as it does peripheral nervous sensibility, might be of avail. Again in cases of sepsis, such as is noted in one of the cases cited below, one of profound nature in which both heart and kidney are affected, making the administration of a general anæsthetic dangerous, exploration and, if necessary, curettage could be undertaken. But at last, so far as we are concerned, it is a method ideally suited to mitigate or absolutely allay the dreadful pains of a normal labor, with no danger to the mother and none to the child, immediate or remote.

In the preparation of the report of these cases, I am deeply indebted to my very excellent house staff, Drs. W. R. Stone, M. M. Guillen, and W. P. Healy, for their very efficient assistance in all my work upon this subject. If it be remembered that our work has been almost entirely original, that references as to operative technique practically unknown to us, especially with reference to the absolute necessity for entering the spinal canal—all these various little details for furthering the success of our inquiries, must make evident the difficult work entailed upon all during the trying months of a hot summer. Again I must state that without so proficient and enthusiastic a house staff, the material for this paper would have been well-nigh impossible to obtain.

As an addendum, since writing this article, I feel that in the use of the hydrobromate of hyoscine, about

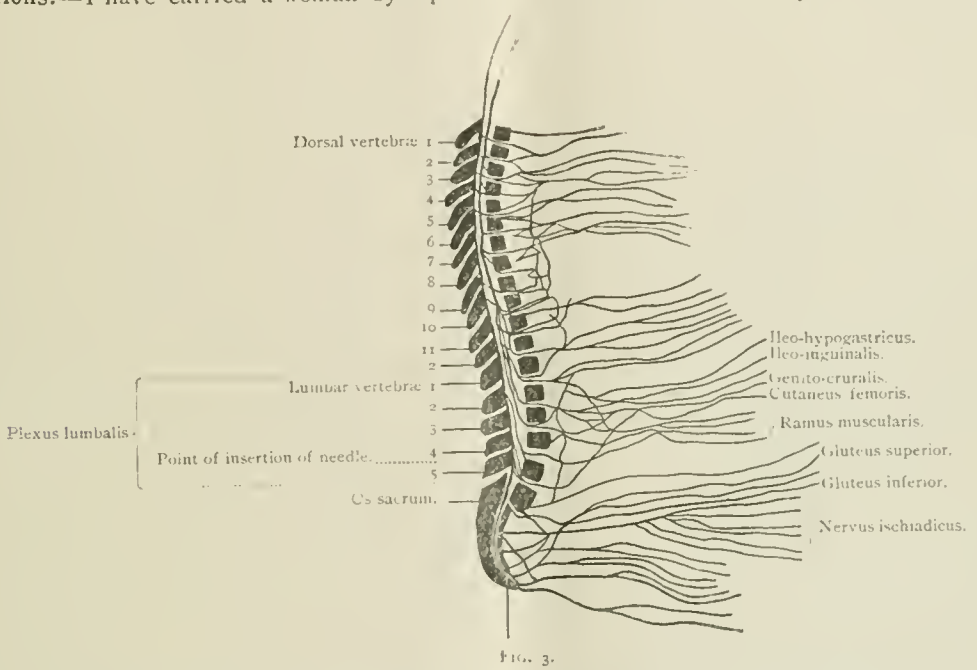

FIG. 3.

gr. $\frac{1}{200}$ given by the needle, we have a drug of the greatest utility in combating to a positive degree the post-operative symptoms arising from the cocaine puncture. If future results bear out past experiences, we have in the hyoscine a veritable specific.

CASE I.—H. B——, aged thirty-three years, multipara, anæmic, double femoral hernia. August 7th, in labor at 11 P.M., presentation L. O. A. August 8th, membranes ruptured 3:30 P.M., os fully dilated; 3:48 P.M., cocaine injected; 3:56 P.M., pain sensation dulled and delayed; 3:59 P.M., muscle and motor sense not affected; sensory paralysis complete below the level of the umbilicus; uterine contractions every two minutes; patient has no painful sensations; 4 P.M. child born spontaneously without the knowledge of the mother; 4:22 P.M., placenta born spontaneously, and after a lapse of ten minutes the mother asked if afterbirth had come. The following afternoon the temperature rose to 100.5° F., but fell to normal in eight hours. Three hours after the injection the patient experienced a tingling sensation in her legs and thighs. During the next ten hours a slight throbbing headache was felt, which disappeared in twenty-four hours without medication.

CASE II.—K. S——, aged thirty-five years, multipara; previous labors normal with a great deal of pain during the second stage; physical condition poor; patient has hydramnios to extreme degree. August 11th, 2:30 P.M., patient went into labor; 6 P.M., waters broke;

cervix present, os admits four fingers; head presenting above but fixed at brim. August 12th, 9 A.M., pains all night, no effect on os, contractions have now ceased. August 12th, 1:47 P.M., lumbar injection of gr. $\frac{1}{6}$ cocaine; 1:52 P.M., sensation to pain diminished and delayed; 1:56 P.M., absolute sensory paralysis below the umbilicus. Manual dilatation was begun, and during its performance the patient gave no evidence of knowing what was taking place. The operation was as easily carried out as under chloroform narcosis. The head was then above the brim. It was then decided to leave the patient unmolested to see if labor would proceed spontaneously without any complication. She was therefore put to bed, version or high forceps being abandoned for the sake of the experiment. In twelve hours the woman broke out in a profuse sweat. Temperature, 102° F.; pulse, 90; respiration, 60; slight headache. In twelve hours the condition returned to normal. The following day labor-pains again appeared, and in five hours the child was born spontaneously; normal, severe second-stage labor pains.

CASE III.—This proved to be a control test. S. D——, primipara, aged twenty years. August 12th in labor at 6 A.M.; in twelve hours os fully dilated; gr. $\frac{1}{6}$ cocaine injected; no effect whatsoever. In forty minutes another ℥ x. of the same solution was injected and still no effect. As the patient became very nervous and hysterical it was decided to use chloroform and deliver by forceps. Later on, having the cocaine solution tested by various methods, it was found totally inert. This case proved to be an excellent control test, as did the case in which the saline solution was used by mistake. Here also in three hours the patient complained of headache, tingling in the legs, slight nausea, and vomiting. In fourteen hours the temperature rose to 102° F.; pulse, 100; respiration, 28. Her condition returned to normal in eight hours.

CASE IV.—M. T——, aged thirty-eight years, multipara; condition excellent, previous labor normal. August 13th, 3 P.M., in labor; V. L. O. A., head in cavity; 3:48 P.M., cocaine gr. $\frac{1}{6}$ injected; 3:53 P.M., sensation below umbilicus delayed for pain; 3:55 P.M., total sensory paralysis below umbilicus. Patient had no knowledge of the uterine contraction, which occurred normally every two minutes; 4:28 P.M., head at outlet, and forceps applied without the patient being aware of the operation; 4:32 P.M., patient delivered; the mother was conscious of the traction alone; she wished to know why she was being pulled to the bottom of the bed. At 4:40 P.M., perineum repaired without pain; 4:55 P.M., placenta expressed; sensation of mother was as if something warm were passing through the vagina; 5:15 P.M., sensory paralysis still present; 6:45 P.M., sensation restored to lower part of body; 7 P.M., patient complained of intense throbbing headache referred to frontal lobes; 7:45 P.M., gave injection of morphine gr. $\frac{1}{4}$, nitroglycerin gr. $\frac{1}{50}$; patient felt cold and was shivering; 8 P.M., vomited; head symptoms less, rise of temperature to 101.5° F.; pulse, 88; respiration, 22; twelve hours later patient was in normal condition.

CASE V.—L. M——, aged thirty-five years, multipara, admitted to surgical ward with cellulitis of leg and thigh. August 18th, 10 A.M., membranes ruptured spontaneously; no labor pains. Transferred to septic ward; V. R. O. A.; os nearly dilated; prolapse of cord; pulsation 120 per minute; no contractions; 11:45 A.M., pulsation had fallen to 100; indication to deliver child; 12:45 P.M., cocaine injection, gr. $\frac{1}{6}$; 12:50 P.M., sensation of pain delayed and one minute later complete sensory paralysis; slight nausea and vomiting; burning sensation along spinal cord and feeling of cold in feet and legs; podalic version was performed without any pain to mother, although she expressed a feeling of suffocation when the hand was being introduced into the uterus; 1 P.M., child born by extraction. Mother had no knowledge of its birth. During the version the uterus contracted firmly around the operator's hand so that manipulation was very trying.

CASE VI.—R. M——, aged twenty-six years, primipara. August 19th, 9 P.M., labor began with rupture of the membranes, child presenting foot. August 20th, 6:30 A.M., os fully dilated; pains not severe nor frequent; 7:21 A.M., cocaine injection, gr. $\frac{1}{6}$. During the next thirty minutes the only change noted in the patient's condition was slight dulling and painful sensation; 7:51 A.M., injection repeated; patient complained of burning in lower extremities; nausea and vomiting; profuse sweat; 8:20 A.M., sensation entirely gone; hand introduced without pain, both feet brought down; 8:26 A.M., child delivered in usual fashion unknown to mother. A second child is found in utero; 8:50 A.M., hand introduced into uterus, macerated fœtus discovered; 8:55 A.M., child delivered, mother still oblivious of any pain or discomfort. The uterus continued to contract regularly and strongly up to birth of first child; 9:15 A.M., neither placenta having come away, the Credé method was unsuccessfully tried; 9:35 A.M., attempts were made in succession by the entire house staff to remove the placentæ manually, but because of the pathological adherence and the spastic contraction of the uterus it was found impossible to remove them. During all this manipulation the patient did not complain of pain or discomfort. Chloroform was now administered to the surgical degree. Dr. Stone then made the attempt, but it was still found impossible to remove the placentæ, as the same conditions obtained as during the cocaine analegesia, *i.e.*, placental adhesion and a spastic uterus. The uterus was accordingly packed with gauze, and the patient put to bed. At 2 P.M. I made the attempt to remove the placenta under local cocaine narcosis, gr. $\frac{1}{6}$; 2:08 P.M., sensation delayed and dulled; the hand was introduced and the placenta peeled off. The uterine contractions were not so strong as normal, nor did they materially interfere with the manipulation; 3:30 P.M., nausea and vomiting; sensation to pin-prick, dull; anæsthesia continues; 5 P.M., temperature, 100.8° F.; pulse, 90; same headache, but not severe; no medication was employed, and the condition became in every respect normal in twenty-four hours. This patient received half a grain of cocaine in less than seven hours.

CASE VII.—A. M——, aged twenty years; primipara; general condition excellent; full term, went into labor August 29th, 10 A.M.; pains strong and occuring every half-hour. At 8:30 P.M., patient was brought to the delivery room; pains strong and occurring every three minutes; cervix four fingers dilated; 9 P.M., pulse good and strong; 9:07 P.M., cocaine gr. $\frac{1}{6}$ injected into the spinal canal between third and fourth lumbar vertebræ; 6:09 P.M., complains of terrific cramps in legs and all through her; 9:11 P.M., nausea and vomiting; 9:16 P.M., sensation to pin-prick gone; 9:20 P.M., pain during uterine contraction is absent; 9:40 P.M., fœtal heart 130 per minute, clear and strong; mother's pulse, 80; 10:40 P.M., pain sensations still absent; pulse, 100; 10:50 P.M., patient seems to feel uterine contractions and bears down with them; 11 P.M., sensibility to pin-prick returning in legs; 11:10 P.M., patient is again having labor pains; uterine contractions for the last one and one-half hours have occurred every two minutes unknown to the patient; 11:24 P.M., cocaine gr. $\frac{1}{4}$ injected into spinal canal; 11:30 P.M., complains of cramps in her legs and coldness of the lower half of her body; she is nauseated; pain from pin-prick gone below the umbilicus; 11:32 P.M., patient is vomiting; 11:40 P.M., Magendie solution given hypodermically.

to quiet the vomiting; 11:45 P.M., sensibility to labor pains gone; 12:01 A.M., cramps in legs severe, have been present since 11:24 to more or less marked degree; 12:12 A.M., complains of pain over the symphysis pubis; pulse, 114; 12:25 A.M., complains of headache and great thirst; 12:48 A.M., perception of pin-prick as pain still absent; 12:51 A.M., labor pains are returning; pin-pricks not noticed; 12:56 A.M., chloroform administered and forceps applied; 1:11 P.M., child was born. The third puncture was not performed in this case, as the patient refused to permit it, saying that she did not care to vomit again; 2:50 A.M., patient has headache; post-partum temperature, 99.8° F.; pulse, 120; respiration, 30; 5 P.M., temperature, 100.4° F. August 31st, 5:10 A.M., temperature, 98.6° F.

Case VIII.—M. L——, aged seventeen; primipara; physical condition excellent, previous history negative; somewhat neurotic; went into labor September 6th, 8 A.M.; uterine pains slight, occurring every half-hour. Examination at 12 noon showed cervix conical and hard, admitting one finger. Patient had pains all the afternoon and night. At 10 A.M., September 7th, on examination, the cervix is thinned out and admits three and a half fingers; membranes intact and protruding. Position R. O. A.; presentation vertex; 11:47 A.M., cervix four fingers dilated; cocaine gr. $\frac{1}{3}$, morphine gr. $\frac{1}{6}$ injected into spinal canal at the third lumbar interspace; 11:53 A.M., uterine contractions not so painful; 11:57 A.M., patient complains of burning sensations in legs and feet; sensation of pain abolished as high as the umbilicus; 12 noon, uterine contractions strong, but patient is unaware of this occurrence; 12:15 P.M., feels nauseated and vomits; 12:20 P.M., vomiting continues; 12:50 P.M., patient again vomits; 1 P.M., complains of burning in feet and legs; is unconscious of uterine contractions; 1:20 P.M., is in a profuse perspiration; 1:40 P.M., cervix thin, dilated five fingers; "bag of waters" bulging; head well down but not fixed; 2 P.M., patient says she cannot see, feels as if she had been in a sound sleep and is just awakening; 2:20 P.M., pulse, 96; 2:36 P.M., pulse, 120; 2:46 P.M., cocaine gr. $\frac{1}{6}$ injected; 2:50 P.M., membranes rupture; 2:53 P.M., pulse, 120; 2:56 P.M., ordinary forceps applied without mother's knowledge; 2:58 P.M., axis-traction applied; 3 P.M., forceps removed after rotation had been made, the mother feeling only the traction; 3:05 P.M., low forceps reapplied, no pains with the tractions; pulse, 124; 3:10 P.M., child born; pulse, 120; 3:12 P.M., placenta removed manually, without pain to mother; 3:15–3:20 P.M., perineum repaired without pain; 4:10 P.M., patient carried to ward. Temperature, 100.6° F.; pulse, 106; respiration, 14. The patient was drowsy and showed contracted pupils; atropine gr. $\frac{1}{100}$ given; 7 P.M., complains of headache; strychnine sulphate gr. $\frac{1}{30}$ and atropine gr. $\frac{1}{100}$ given, also saline enema. Temperature, 102.2° F.; pulse, 100; respiration, 10; 12 midnight, atropine gr. $\frac{1}{100}$ given; respiration, 9. September 8th, 1 A.M., temperature, 101.6° F.; pulse, 112; respiration, 14. The patient is still drowsy; 5 A.M., temperature, 99.8° F., and then fell to normal, as did the pulse and respiration, where they remained after the iodoform gauze was removed at the end of twenty-four hours.

Case IX.—Y. L——, aged twenty years; physical condition excellent; in her seventh month of gestation; fœtus has been dead a week. At 11 P.M., August 27th, went into labor; pains irregular and infrequent. August 28th, 1 P.M., patient was brought to delivery room; os three and a half fingers dilated, cervix thinned out, and having pains every two minutes; 2:11 P.M., cocaine gr. $\frac{1}{6}$ was injected into spinal canal; 2:16 P.M., nausea and vomiting; 2:20 P.M., sensation of pain abolished below umbilicus; cervix dilating rhythmically and to a degree of four and a half fingers; diagnosis of macerated fœtus made; 2:25 P.M., cervix manually dilated, hand introduced into uterus; 2:30 P.M., macerated fœtus delivered; 2:56 P.M., placenta expelled with difficulty by modified Credé method; 3 P.M., the patient taken to ward and complains of slight dull pain in right leg. Temperature, 99.6° F.; pulse, 84; respiration, 26; 5:50 P.M., complains of thirst; 6:05 P.M., temperature, 102.6° F.; pulse, 92; respiration, 26; 9 P.M., temperature, 102 F.; pulse, 84; respiration, 26. Complains of severe headache; 11:20 P.M., still complains of headache; 1 A.M., August 29th, headache gone; temperature, 101° F.; pulse, 80; respiration, 24; 8 A.M., temperature, 99° F.; pulse, 74; respiration, 24. With the exception of a rise of the temperature to 100.6 F. at 5 P.M. the same afternoon, there was no further point of interest during the puerperium.

Case X.—M. L——, aged twenty-eight; Russian; primipara; physical condition excellent. The patient went into labor 11:30 A.M. September 3d, pains strong every fifteen to twenty minutes. Cervix soft, thin. Position, vertex R. O. P.; 6 P.M., cervix fully dilated; 6:08 P.M., cocaine gr. $\frac{1}{6}$ given by lumbar puncture with morphine sulphate gr. $\frac{1}{12}$; 6:11 P.M., has lost all pain sensibility below umbilicus. Uterine contractions continued normally, but painlessly; 6:23 P.M., child born spontaneously without pain to mother; 6:35 P.M., perineal tear (first degree) sutured, and 6:40 P.M., placenta expressed by modified Credé; 7:30 P.M., the patient is carried to ward, complains of heavy feeling in the head. Post-partum temperature, 100.2° F.; pulse, 116; respiration, 30; 9:30 P.M., complains of headache and vomited; ice cap to head for headache. September 4th, 1 A.M., temperature, 102 F.; pulse, 146; respiration, 48; 4 A.M., headache ceased; 1 P.M., temperature, 100 F.; pulse, 102; respiration, 24. September 5th, 1 A.M., temperature, 98.4 F.; pulse, 102; respiration, 24. Temperature has remained normal ever since this time. The remainder of convalescence was uneventful. The patient was discharged on the sixteenth day of her puerperium.

Case XI.—A. E——, aged thirty-eight; primipara; physical condition excellent; the patient at full term. September 11th, 7 A.M., went into labor; pains were hard, but had little effect upon the cervix. The patient was brought to the delivery room at 11:15 P.M., September 12th, cervix gone and four and a half fingers dilated. September 13th, 12:39 A.M., cocaine gr. $\frac{1}{6}$ injected; 12:43 A.M., sensation delayed and diminished; 12:48 A.M., nausea and vomiting; sensation abolished; 12:53 A.M., profuse perspiration; 1:15 P.M., sensation returned for uterine contraction; 1:30 P.M., membranes were ruptured artificially, the patient unconscious of the procedure; 2:37 P.M., cocaine gr. $\frac{1}{6}$ injected; 2:45 P.M., nausea and vomiting; 2:50 P.M., forceps applied; traction at regular intervals painless; 3:05 P.M., first child born, vertex, three and seven-sixteenths pounds; 3:15 P.M., second child born, breech, two and eleven-sixteenths pounds; 3:25 P.M., placenta born; 3:50 P.M., sensation seems to be normal; 4:25 P.M., returned to ward. Post-partum temperature, 98 F.; pulse, 72; respiration, 24. The patient complains of headache; glonoin gr. $\frac{1}{30}$ given; 1 A.M., temperature, 100.6° F.; pulse, 84; respiration, 22. For twelve hours temperature remained about 100° F., and then fell to normal, where it has remained. In this case the headache was very pronounced, so that in all the patient received gr. $\frac{6}{100}$ of glonoin to stop the headache within twenty-four hours.

Case XII.—M. Y——, aged twenty; colored; curettage; admitted from another hospital to maternity five days after delivery. Temperature, 104° F.; foul, stinking uterine discharge. September 15th, 5 P.M., cocaine gr. $\frac{1}{4}$ injected; 5:10 P.M., sensation partially

abolished; 5:15 P.M., feels the tenaculum forceps on the cervix; 5:33 P.M., cocaine gr. $\frac{1}{6}$ injected; 5:38 P.M., sensation abolished; hand introduced and placental particles located; 5:48 P.M., curettage finished. Patient says she felt no pain or discomfort, nor was there any evidence that she did.

CASE XIII.—M. P——, aged twenty-eight; IIIpara; physical condition excellent; full term; went into labor at 11 A.M., September 18th; 11:45 A.M., brought to delivery room; cervix thinned out, and four fingers dilated; 12:25 P.M., cocaine gr. $\frac{1}{6}$ injected; 12:30 P.M., painful sensation abolished, complains of coldness of feet; 12:40 P.M., child born; mother heard it cry and exclaimed, "Thank God, and no pain"; 12:50 P.M., placenta born spontaneously without mother's knowledge; 1:30 P.M., patient carried to ward. Post-partum temperature, 99.2° F.; 5 P.M., temperature, 102.6° F.; pulse, 90; respiration, 24; 9 A.M. next morning. September 19th, normal; rest of convalescence normal—no headache, vomiting, or sweating.

CASE XIV.—L. R——, aged thirty-two; multipara; physical condition fair; five previous labors; fourth child delivered with instruments; went into labor 12:10 A.M., September 12th, position V. R. M. P.; membranes ruptured 3 A.M., September 12th; patient brought to delivery room at 7:30 A.M.; cervix fully dilated; 8:30 A.M., cocaine gr. $\frac{1}{6}$ injected; 8:36 A.M., patient nauseated and vomiting; 8:38 A.M., sensation to pain abolished below nipples; 9:34 A.M., still feels uterine contractions, but does not notice pin-prick; 9:30 A.M., pains have returned; 10:35 profuse perspiration for about one-half hour; 10:40 A.M., head shoved back above brim of pelvis and rotated into L. M. A.; 11 A.M., child spontaneously born without pain to mother; 11:20 A.M., placenta expressed by modified Credé method; 11:30 A.M., patient carried to ward. Post-partum temperature, 99.4° F.; pulse, 74; respiration, 28; 12:05 P.M., patient vomited; 1 P.M., temperature, 100° F.; pulse, 102; respiration, 16; complains of pain in back and head; 9 P.M., temperature, 100.2° F.; pulse, 80; respiration, 18; severe headache. Glonoin gr. $\frac{1}{50}$ given and headache ceased after an hour. September 13th, 9 A.M., temperature, 98.4 F.; pulse, 72; respiration, 18. Temperature has been normal up to time of discharge from hospital.

CASE XV.—M. H——, aged twenty. First full-term child; had a miscarriage at four months, eighteen months before; physical condition good; highly neurotic. September 11th, 7 A.M., went into labor; pains fair; cervix admits tip of finger; vertex L. O. A. September 12th, 10:45 A.M., the patient was brought to delivery room; cervix three and a half fingers dilated and thinning out; head partly engaged; 11:30 A.M., September 12th, cocaine gr. $\frac{1}{3}$, morphine gr. $\frac{1}{20}$ were injected into spinal canal; 11:37 A.M., sensation to pin-prick gone; muscles tonically contracting. Uterine pains still felt; 11:45 A.M., total abolition of pain sensation below nipples; uterine contraction not felt; 12:04 P.M., marked tonic contractions of leg muscles; 12:34 P.M., profuse perspiration. Says that for the last ten minutes things have looked red before her eyes; 1:12 P.M., pain to pin-prick felt, but uterine contractions give none; 1:40 and 1:50 P.M., patient vomited; 2 P.M., feels the contractions of uterus; 2:28 P.M., cocaine gr. $\frac{1}{6}$ injected with no further result; 2:49 P.M., cocaine gr. $\frac{1}{6}$ repeated; 3:02 P.M., forceps applied and patient complains severely of the tractions alone, but has no pain; 3:13 P.M., child born; no pain. There was some doubt in the minds of the gentlemen present whether the narcosis was successful, as the patient yelled at the top of her voice when the necessarily powerful tractions were made. To my mind, the patient, seeing all the manipulations as they were done, was simply fearful of our giving her pain, and anticipating this pain simply gave vent to her feeling, for fear of realizing what never was felt by her. To prove that she really did not suffer, the forceps was removed; a natural pain occurred of which she was absolutely unconsious, and on command she began to bear down, so that the head was forced well down into view of those around her. Again, when the perineum was absolutely distended, the house surgeon held the head fixed at this point for fully two minutes, and yet when under other normal condition the acme of suffering is reached, this patient lay perfectly quiet, absolutely free from all pain or discomfort. After the labor, when the patient's mind was clear, and her nervous condition quieted, she admitted total absence of pain. 3:18 P.M., placenta removed manually; 3:35 P.M., the patient returned to ward. Post-partum temperature, 100.6° F.; pulse, 100; respiration, 32; 7:30 P.M., profuse perspiration and severe headache; 10 P.M., glonoin gr. $\frac{1}{100}$ was given. The temperature stayed about 100° F. until 5 P.M., next day, when it dropped to normal and remained there.

CASE XVI.—L. S——, aged thirty-one; multipara; previous labor normal; has mitral regurgitant murmur. Presentation vertex, position R. O. A. The patient went into labor August 25th, at 4 A.M.; pains poor; cervix admits tip of one finger. At 1 P.M., patient was brought to delivery room, four fingers dilated and cervix thinned out completely; 1:33 P.M., cocaine gr. $\frac{1}{3}$ injected into spinal canal; 1:34 P.M., pulse, 90; 1:35 P.M., sensation to pin-prick and pinching below umbilicus gone; 1:43 P.M., patient vomited; 1:45 P.M., pulse, 118; 1:46 P.M., version, and baby delivered without pain to mother; 1:46 P.M., pulse, 92. Placenta removed manually without pain to mother; 1:51 P.M., slight nausea and vomiting. Pulse, 94; 1:54 P.M., patient is beginning to perspire; Pupils moderately dilated and react well to light and on accommodation; 1:57 P.M., marked perspiration; pulse, 88; 2:10 P.M., suture of cervix gives no pain to patient; 2:35 P.M., vomited; 2:40 P.M., patient taken to ward; no pain. Post-partum temperature, 98.6 F., pulse, 66; respiration, 18. August 25th, 1:30 A.M., temperature, 100.4° F.; pulse, 80; respiration, 22; she has had headache; glonoin gr. $\frac{1}{100}$ stopped it; 9 A.M., temperature 99.2° F., and remained normal.

CASE XVII.—B. E——, aged twenty-nine; physical condition poor at term. August 22d, at 7 P.M., patient went into labor; pains strong and occurring every half-hour. Presentation vertex; position, L. O. A. At 11 A.M., August 23d, patient was brought to delivery room: cervix gone, and four fingers dilated; pains strong every two minutes; 11:30 A.M., eucaine gr. $\frac{1}{3}$ injected; 11:35 A.M., patient vomited; 11:45 A.M., no anæsthesia obtained; 12:45 P.M., eucaine gr. $\frac{1}{3}$ injected; 12:50 P.M., the patient vomited and complained of cramps in lower extremities; 1 P.M., anæsthesia below umbilicus; uterine contractions not felt; 1:15 P.M., sensation is returning for pin-prick, and there is slight knowledge of uterine contractions; 1:25 P.M., pains are severe; 1:35 P.M., child born, and during the last uterine contractions the pain was normal; 2:15 P.M., the patient in ward. Post-partum temperature, 98° F.; pulse, 60; respiration, 28; 3 P.M., complains of headache and thirst; 5 P.M., temperature, 101° F.; pulse, 80; respiration, 20. The patient is in profuse sweat; headache severe, heavy feeling in legs; 10:20 P.M., glonoin gr. $\frac{1}{100}$, morphine sulphate gr. $\frac{1}{4}$ given hypodermically; 1:45 A.M., August 24th, glonoin gr. $\frac{1}{100}$ given by mouth; 5 A.M., temperature, 99.4° F.; pulse, 78; respiration, 24. No headache after this; temperature remained normal, and rest of convalescence was normal.

CASE XVIII.—K. G——, aged twenty-one; primipara; physical condition excellent. The patient went into labor September 13th, at 11 P.M., pains good and

strong, and occurring every twenty minutes; patient was brought to delivery room at 9:30 A.M., September 14th, cervix gone and four fingers dilated; 10:14 A.M., cocaine gr. $\frac{1}{3}$ injected; 10:18 A.M., sensation to pin-prick gone in perineum and lower extremities; 10:19 A.M., no longer perceived uterine contractions; 10:20 A.M., the patient is quiet and no longer complains of pain; 11 A.M., child born, no painful sensations; 11:05 A.M., perineum sutured, no discomfort to mother; 11:15 A.M., placenta delivered without pain to mother by modified Credé; 11:30 A.M., the patient returned to the ward. Post-partum temperature 97.8° F.; pulse, 60; respiration, 22. The patient seems slightly exhausted; 2:15 P.M., complains of headache, which became severe at 3:20 P.M.; 4:45 P.M., glonoin gr. $\frac{1}{100}$ with relief; 5 P.M., temperature, 101.4° F.; pulse, 96; respiration, 26; 1 A.M., September 15th, temperature, 99.4° F.; pulse, 84; respiration, 22. Since then there have been no rise of temperature and no further headache.

Case XIX.—M. B——, aged twenty; primipara; physical condition poor. Patient went into labor at midnight of September 15th; the uterine contractions were poor and irregular. Presentation, vertex; position, R. O. A. September 16th, 8 A.M., the patient is having labor pains every three minutes, but not very severe; pain in back moderate; position, V. R. O. A.; 8:14 A.M., cocaine gr. $\frac{1}{4}$ per spinal canal administered. At this time pains were quite severe; 8:20 A.M., pain sensation in the right side gone, slightly dulled in left leg and thigh; 8:23 A.M., analgesia complete below nipples; 8:32 A.M., patient pale and nauseated; 8:35 A.M., is shivering but says she is not cold. Temperature, 98.2° F.; pulse, 124; respiration, 20; 8:50 A.M., the patient is still shaking; ability to distinguish between heat and cold absent in lower extremities; this is not so on the abdomen, arms, or face; 9:10 A.M., uterine contractions not felt; 9:11 A.M., membranes rupture spontaneously; the patient thought she was micturating; 9:30 A.M., has consciousness of uterine contractions; 9:56 A.M., cocaine gr. $\frac{1}{8}$ injected; 10.05 A.M., pain abolished; 10:20 A.M., forceps is applied; 10:29 A.M., episiotomy; 10:30 A.M., child born, no pain; 10:37 A.M., placenta born by expression; 10:45 A.M., perineorrhaphy; 5 P.M., September 16th, temperature was 101.2° F.; pulse, 88; respiration, 20. September 17th, 5 A.M., temperature normal; pulse, 88; respiration, 22. Rest of convalescence was uneventful.

Case XX.—L. S——, negress, aged twenty-six; primipara; physical condition excellent; at full term. At 10:30 P.M., August 27th, the patient went into labor. Presentation vertex; position, L. O. A. Pains infrequent and poor; before the injection of the cocaine the patient was crawling over the floor and shrieking with pain. August 28th, at 6:54 A.M., cocaine gr. $\frac{1}{3}$ was injected; 6:59 A.M., sensation to pain diminished in feet, legs, and thighs; 7:04 A.M., nausea and vomiting; 7:12 A.M., membranes ruptured artificially; 7:18 A.M., the patient in profuse perspiration; uterine contractions still keeping up rhythmically; 8:16 A.M., the uterine contractions are more frequent, and during them the patient is told to bear down, and in so doing experiences no discomfort; 9 A.M., low forceps was attempted, but the pains have returned, and so operations were suspended, and 9:16 A.M. cocaine gr. $\frac{1}{8}$ injected; 9:24 A.M., pains have gone and forceps is now applied; 9:30 A.M., child born without knowledge of the mother; 9:33 A.M., placenta born spontaneously and no pain; 10:20 A.M., patient returned to ward. Post-partum temperature, 98° F.; pulse, 90; respiration, 20; 2:10 P.M., patient complains of headache; ice bag gives relief; 5 P.M., temperature, 100.6° F.; pulse, 104; respiration, 20; 9 P.M., temperature, 100.2° F.; pulse, 100; respiration, 24; she complains of headache. August 28th, 9 A.M., temperature, 98.2° F.; pulse, 92; respiration, 20; no headache. Rest of convalescence was normal.

Case XXI.—M. W——, aged twenty-three; primipara; physical condition good; came to delivery room at 2 A.M., September 21st, cervix three fingers dilated and thinned out. At 2:21 A.M., cocaine gr. $\frac{1}{3}$ injected; 2:24 A.M., the patient vomited; 2:25 A.M., does not feel pin-prick below the nipples, nor is she aware of the uterine contractions; 2:40 A.M., the patient complains of great heat and is perspiring; 2:50 A.M., an enema was given with no discomfort to the patient; 3:20 A.M., uterine contractions begin to give pain; 4:07 A.M., cocaine gr. $\frac{1}{6}$ injected; 4:16 A.M., absolute analgesia; the patient is vomiting at 4:36 A.M.; 5:30 A.M., child is born, some slight pain; 5:10 A.M., perineum sutured; 5:24 A.M., placenta delivered with slight pain; 6:14 A.M., the patient is carried to ward. Post-partum temperature, 99° F.; pulse, 80; respiration, 36; 7 A.M., vomited; 9 A.M., temperature, 100.6° F.; pulse, 68; respiration, 36; 9 P.M., temperature, 99.4° F.; pulse, 80; respiration, 26. September 22d, temperature, 98.4° F.; pulse, 80; respiration, 20. N. B.: This patient never had the slightest headache, and has been perfectly comfortable during her convalescence.

Case XXII.—R. B——, aged twenty-two; primipara; is in secondary stage of syphilis. The patient is in the ninth lunar month and has not felt child move for the last week; fœtal heart not heard. The patient went into labor at 8 A.M., September 22d, pains poor and infrequent; at 11:30 P.M., patient was brought to delivery room with very hard pains; cervix three-fourths dilated and thinned out almost completely; 12:18 A.M., September 23d, cocaine gr. $\frac{1}{4}$ injected; 12:22 A.M., the patient still feels the contractions but to a lessened degree; 12:24 A.M., uterine contractions still less felt; 12:45 A.M., slight pain above symphysis pubis during contractions; 12:47 A.M., sensation to pain below nipples absent; 1:15 P.M., the patient is beginning to have severe pain during uterine contraction; 2:18 P.M., cocaine gr. $\frac{1}{4}$ again injected; 2:57 P.M., forceps applied without the patient's knowledge; 4:04 P.M., macerated fœtus born, without pain to mother; 4:15 P.M., placenta born spontaneously; 4:20 P.M., perineal tear sutured without pain to mother. Post-partum temperature, 99.2° F.; pulse, 88; respiration, 24; 6:10 P.M., the patient has headache; 11 P.M., hyoscine hydrobromate gr. $\frac{1}{150}$ given; headache gone in twenty minutes. The twenty hours are not up at the report of this case, so that the temperature curve cannot be noted.

Case XXIII.—H. S——, aged twenty-two; primipara. September 23d, at 9:29 P.M., cocaine (lumbar puncture) gr. $\frac{1}{3}$; external os two fingers dilated; cervix almost gone. Uterine contractions every three minutes; 9:35 P.M., sensation to pin-prick in lower extremities almost gone. Vaginal examination, which before lumbar puncture gave great pain, now causes no discomfort; manual dilatation of cervix, no pain; 9:55 P.M., pains in back have returned; 10:15 P.M., cocaine gr. $\frac{1}{4}$ injected; 10:18 P.M., sensibility to pain again totally abolished; 10:30 P.M., the patient vomited; 10:32 P.M., complains of great warmth and perspires profusely; 10:34 P.M., forceps applied without pain or knowledge of patient; 10:55 P.M., child born without pain, but during the tractions on the head there was some slight pain; 11:10 P.M., placenta born spontaneously with no pain; 11:25 P.M., perineum sutured with not much discomfort to the patient; patient carried to ward at 11:50 P.M. Following this delivery hyoscine hydrobromate gr. $\frac{1}{150}$ was given, and none of the usual after-symptoms came save a rise of one degree in temperature.

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OBSERVATIONS ON SUBCLAVIAN DELIGATION.*

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WHILE the operation of placing a ligature around the subclavian artery is not a common one and hence has no everyday bearing upon the profession, it nevertheless is a most important procedure, and, as a rule, announces in the demand for its performance an urgent necessity. That the operation is anything but simple every operator of experience will admit, and therefore any contribution to the anatomy or surgery of this subject which will tend to diminish its perplexities, and thus render its performance easier, will add materially to our common stock and bear fruit in the curtailment of its present dangers.

The original guide to the third or operative portion of the subclavian artery was the scalenus anticus muscle, with the first-rib tubercle marking the site of its insertion, and these factors have retained their prominence in this respect to the present day.

FIG. 1.—Boundaries of the New Triangle: Cord of the brachial plexus externally; scalenus anticus muscle internally; first rib inferiorly. 1, Sternomastoid muscle; 2, 3, divided portions of the posterior belly of the omohyoid muscle; 4, scalenus anticus muscle; 5, cord of the brachial plexus; 6, scalenus medius muscle; 7, subclavian artery; 8, first rib; 9, subclavian vein.

That the exposure of these landmarks is a delicate feat in itself no one will gainsay. The scalenus anticus lies deeply in the neck and bears an intimate relation to such important structures as the subclavian vein, the phrenic nerve, the thoracic duct, the pleural apex, etc., not mentioning the artery under consideration and its branches. In fact, the thorough, workmanlike exposure of this anatomical guide constitutes the principal and most dangerous feature of subclavian deligation.

In my own experience, limited to one case on the living subject, but including many dissections and post-mortem operations, the truth of the foregoing has been brought forcibly to my mind; but I early saw what I then believed would prove to be an easier and as constant a guide to the artery as the scalenus anticus. I refer to the cord of the brachial plexus.

The plexus in its relation to the subclavian artery is not spread out and loosely arranged, but is round, compact, and invested with a special fascia, so that by the novice it can readily be mistaken for the anterior scalene muscle. As a matter of fact, the tendinous expansion of this muscle above its point of attachment to the first rib bears a striking resemblance to the white, corded nerve-trunk as seen through its fibrous investment. The inexpert, seeing and feeling the cord, can thus easily imagine that he has exposed the muscular guide, and hence be thrown completely off the track.

Speaking of the brachial plexus, Gray,[1] in this connection, says: "It is broad and presents little of a plexiform arrangement at its commencement, *is narrow opposite the clavicle* [italics mine], and becomes broad and forms a more dense interlacement in the axilla." This narrow portion is the new guide, and is the structure previously described as round and compact and as bearing so close a resemblance to the old muscular guide.

I desire to call the attention of the profession to two facts in connection with this subject:

1. The brachial-plexus cord is an easier guide than the anterior scalene muscle to the subclavian artery.

2. This nerve bundle is as reliable, is as constant a factor as the latter.

Kocher[2] says: "The relation of the artery to the nerve plexus is very characteristic."

The mere statement of the liability of error in mistaking the cord for the muscle proves the existence of the first of these facts, and for convincing evidence as to the truthfulness of the second I recommend to my hearers the scalpel and frequent visits to the dead-room.

If this recommendation be adopted not only will the constancy of the cord as a guide factor be established, but the investigator will also notice that the artery lies considerably higher in the neck than does its companion vein, this difference in altitude being more pronounced on the left side than on the right.

Some authors seem to think that the brachial cord is more difficult to expose, because of its imagined depth, than the anterior scalene muscle. This is not so. The easily and, I believe, oft made error of mistaking the cord for the muscle demonstrates the relative superficiality of the former. Moreover, my personal dissections as well as my operative experience confirm this statement, and eminent practical surgeons bear corroborative testimony as follows: Liston:[3] "You get at the nerves and expose them distinctly enough, and a little lower down on the same plane you at least reach the vessel." Agnew:[4] "If the cords of the brachial plexus or the omo-hyoid muscle are seen the exploration must be carried farther downward in the direction of the chest, and more inward, as the artery lies between the scalenus anticus muscle on the inside and the brachial plexus on the outside." Kocher:[5] "After removing the adipose tissue the thin, deep fascia covers the brachial plexus, now becoming visible, whose thick nerve trunks emerge between the scalene muscles and descend steeply under the clavicle."

It was with much interest and considerable pleasure that I noted, in my dissections, a clear-cut triangle which bears a constant relation to the third portion of the subclavian artery; in which, as a rule without exception save in case of gross irregularity, this portion of the artery will always be found. This triangle is

* A paper read before the Surgical Section of the Michigan State Medical Society at Mackinac Island, Mich., July 11, 1900.

located almost wholly below the posterior belly of the omo-hyoid, and hence is a component part of the subclavian cervical triangle. Its boundaries are as follows: externally, the cord of the brachial plexus; internally, the scalenus anticus muscle; inferiorly, the first rib. Within these boundaries the subclavian artery can always be found. It is an ultimate triangle, incapable of further subdivision, because its boundaries come into actual touch with the vessel, no other tissue intervening.

Treves[6] describes a triangle in connection with the subject of subclavian ligation. He says: "It [the subclavian artery] runs in a triangle, the base of which is formed by the outer edge of the anterior scalene and the sides by the clavicle and the omo-hyoid." This triangle varies but slightly from the subclavian triangle itself, the outer edge of the scalenus anticus being substituted for the corresponding edge of the sterno-mastoid, and it has no working value in the performance of the operation under consideration. The relative merit of the newly mentioned triangle and the one described by Mr. Treves I leave to the judgment of my audience.

The subclavian vein crosses this new triangle, if it cross it at all, low down, passing in front of the scalenus at its costal attachment, while most of the triangular interspace is occupied by the artery, particularly in its upper portion where the vessel will be found solitary. Reference to this condition of affairs has indirectly been made in the foregoing by the statement concerning the different cervical levels of the artery and vein. This solitary point in the course of the artery being the most superficial, the highest, and the least associated with important structures, is naturally the site of election in any operative attack upon the same.

In contradistinction to the exposure of the vessel at this point I need but mention the usual search for the first-rib tubercle, deeply situated in the neck and in relation to structures the accidental wounding of which might mean dire calamity to the unfortunate patient.

Moreover, the reliability and hence the real value of this guide is sadly shattered by no less distinguished an authority than Agnew,[7] who says: "This tubercle to which so much importance has been attached is, in my experience, not a very reliable guide in consequence of its development being very imperfect." The contrast between the deeply lying tubercle (which may or may not have an existence) and the brachial cord at the upper confines of the new triangle must make self-evident the superiority of the latter over the former, as a guide to the artery under discussion.

Now to the point of this paper. I propose substituting for a difficult guide in the ligation of the subclavian artery an easy one, viz., the cord of the brachial plexus of nerves for the scalenus anticus muscle.

In the performance of this operation, then, if, instead of exposing the deep-lying scalene muscle and feeling in front of it, the more easily located brachial cord is exposed and the finger placed behind it, less time will be consumed and fewer important structures endangered. The resultant, other things being equal, must be a shrinkage in the mortality rate.

The illustration is from a photograph of a personal dissection made for the purpose of elucidating the points I have here brought out.

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TUBERCULOSIS AND ITS TREATMENT.[1]

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It is safe to say that the burning medical question of the day is tuberculosis and its treatment. We are now in the closing years of the longest reign in British history; you know what of war and conquest that period embraces. Could the dead buried in those battles by land and sea, with those who afterward died of their wounds or from exposure or disease contracted in the service, rise in one great company, it would be far outnumbered by the dead from tuberculosis. The loss is not the less striking because unaccompanied by the boom of cannon, the clash of steel, the whiz of bullets, the click of telegraph wires, the speed of railways, or the big type of yellow journals. The masked, the insidious progress of the capture of the citadel of life by this all-conquering disease is marked with such delusive fair-seeming, that the tuberculous with his dying lips assures you he feels better, and is confident of recovery. War takes away our strongest and those in their prime, but this dread scourge makes of our strongest the weakest, and spares neither sex nor age.

I have lived the greater part of the last ten years among the tuberculous, and the study of the treatment of this disease has forced itself upon me. We have progressed so far in the study of the cause of the disease that we feel sure we have caught the culprit. We have declared it to be contagious, and, therefore, a menace to the public health—yet we have left it at large to prey upon the people because there is not sufficient public enlightenment to quarantine it properly. Fellow-practitioner, that is your fault and mine. We have not been doing our duty. We have been taking our work lightly. Is it that we have been careless or ignorant or commercial? There is war to be waged; there is to be brisk fighting all along the lines to the extermination of the germ or the patient. Let us prepare ourselves well, for the enemy's phalanxes are full and the patients must put up a great fight. But if it is true, whisper it not in Gath, "that the struggle must begin in the ranks of the profession itself; let it start at once and not cease until every old prejudice and ignorance are crushed to earth to rise no more." Our only chance is during the incipiency of the disease. Early diagnosis is all-important. It wins the day by reducing the number of the slain to a minimum. Even with improved methods of diagnosis we must often revert to the old, which existed before the discovery of the bacillus. Though the lungs give forth no sign and though the family and personal history be mute, when there is loss of flesh, appetite, and strength, loathing of fat and distress of digestion, with absence of symptoms of other diseases, remembering that the lungs hide away their secret as their depths are silently being undermined, that family history is often unreliable, and that tuberculosis frequently begins that way, let us treat our case as if it stood out clearly photographed. Having the case before us, the next move is taking those measures which will insure that which we call cure. To cure, what will cure? When death gives up life's secrets we know that nature cures sometimes; but her powers are not ours, and we cannot distil her elixirs.

I will illustrate by a case under my observation how

[1] Address of the president at the annual meeting of the Onondaga County (N. Y.) Medical Society.

physicians proceed to bring about cure. The patient was from one of the largest cities in this State, a young woman teacher twenty-four years old, well built, taking much exercise in the open air, passing her vacations with her brother in the woods fishing, tramping, bicycling, and taking long nights of sleep; she was out of sorts, nothing definite, food didn't taste good, bicyling was an exertion, walking a task, schoolroom duties were irksome. After a while of this the family physician was consulted, and recommended change of air, a visit to the Adirondacks, as a condition existed that might give rise to trouble in the lungs. This was scouted at home, no lung trouble ever having been known on either side. The family physician was getting old, they said, and the patient was advised to go to Dr. Blank, who was young, modern, had European advantages, etc. He declared there could be no degeneration in such finely developed lungs, laughingly remarked of the suggestion to go to the Adirondacks, "That will do no harm, but you need not go now; you can go a little while in the summer if you like" (yet six months); "torpid liver; don't mope nor worry, do this and take that." More valuable time passed without improvement. Once more to the doctor's, still another. This one had neither ifs nor ands. "Your lungs are in danger. Waste no more time with drugs. Go into pure air at once, and keep in it a year." When doctors disagree, who shall decide? I am not throwing stones, but is it too much to require unanimity in the treatment of tuberculosis? The meeting to discuss this entire subject, held at Berlin a year ago, did not settle this vexed question of treatment. There were differences of opinion, although the great majority favored the outdoor treatment. Pure air is the remedy; believe me, it is the whole thing. The purest air is to be sought for out-of-doors, and in the incipiency of the disease. This air may be found in different parts of the world, but I will confine myself to that part easiest of access to us, the Adirondacks of our own State. They may be reached from within the boundaries of this State in twenty-four hours. That is an inestimable advantage. The journey does not exhaust the patient's strength nor deplete his pocketbook. He can communicate with his friends quickly, and have their society when that seems a good measure. He may also have the hope and cheer of a visit from his family physician, if at any time it may seem advisable. He may even be permitted a few days at home when the craving for familiar scenes appears to stand in the way of improvement. Whether he goes to a sanatorium or not, certain rules must be followed. One of the most difficult things to be eradicated in the lines set down for a patient to follow is the belief in the necessity of exercise—exercise in every shape, from complicated gymnastics to record-breaking walks. We see the poor, deluded victims of a pernicious relic of barbarism every day on the streets literally walking to death. They exercise even in the second stage when they have "temperatures." Fancy a patient with typhoid fever or any other fever walking. It is left to their own judgment and discretion, too, when actually they have neither. The less left to their own determination the better. They are ill, and everything should be prescribed for them. The nourishment that should be used in building up the degenerate tissues of the body is wasted in harmful channels. Insist strongly upon this—no exercise whatever beyond lounging about to vary the position. It is pleasant and efficacious to be driven about at a moderate pace, kept without exertion in that finest of tonics, moving air, exhilarated and refreshed by changing scenery. This may be indulged in to the fullest extent in fine weather. Of course, when hemorrhage is to be feared, even the gentlest driving is not to be recommended. Mountain-climbing is a great temptation. It alone is responsible for a large increase in the death rate every year. Imbue your patients with such a wholesome fear of it at the start that they would consider it the wildest folly even to think of such a thing. The tuberculous patient must live to eat; he must be a feeder; his eating must be the object of constant care to himself and others. It is astonishing how much he can assimilate if he can only get it down.

One of my patients worked out a good rule for her own guidance which others will do well to follow: "I eat all I can of the dishes supplied for each meal; then when I can take no more I finish with several glasses of milk, sometimes with a raw egg in each." I have given the rule to others and find it works wonders. It never spoils the appetite for the next meal, and one can worry down fluids when it would be impossible to swallow solids. For those who can take but very small quantities of food at a time, lunches every two hours are desirable. Many patients require the most minute attention in the matter of food; the exact quantity must be insisted on with them. For lack of this insistence, I have seen them pass days with food scarcely enough to support an infant, yet thinking themselves indulging almost voraciously in the light of their poor appetites. The time when the patient's demijohn could not be emptied too quickly has gone by, I hope never to return. Yet the shadow of that belief still lingers, especially among the laity, and the patient must be fortified to refuse the drop of good whiskey or the sip of old brandy that is offered him for his good, and to turn a deaf ear to the histories of cures that stimulants have wrought. Patent medicines and cough mixtures will be urged upon him, and if weak or unwarned he may use them, to his detriment. Early retiring must be inculcated. There cannot be too much of nature's sweet restorer, balmy sleep. Exciting amusements between the last meal and bed-time, and also irritating arguments, are to be forbidden. Quiet conversation, light reading, etc., are the best pastimes. A dry rub or an alcohol or sea-salt bath every night is most excellent, the patient being his own rubber. Protected from draughts, he must sleep with windows well open, even in 30° below zero weather. When possible, in summer he should sleep in a tent, well floored. If he is confined to the house or bed an airy room must be selected, and all windows must be thrown open night and day. We should discourage requests for permission to go home, even for a few days. I have seen the work of months in the Adirondacks negatived by a week at home, and cases which might have resulted in cure go on to death from the same cause. You will be assailed by piteous appeals for a home visit, but you must firmly deny. Occasionally it is wise to grant the indulgence, but generally a kind letter stating the danger suffices. Patients, especially men, in the second stage should never be sent away alone. If they cannot have the company of a friend, a woman preferred, then a trained nurse should go. These lonely, unhappy creatures present the saddest sights. As in the end some one must be sent for, it is better to start with a care-taker, when care will not come too late for cure. For these unfortunates admonitions and precautions must be doubled, as this stage is one of despair. They do not yet appreciate their slow but sure gain. Patients in the third stage should never be encouraged to leave home. Their days are shortened in most cases, and disrepute is brought upon the treatment. Failures are remembered, while no account is kept of their causes.

Explain the danger that lurks in dried sputum. The handkerchief should never be used to receive it, but instead of this the individual cuspidor, squares of cheese-cloth, Japanese paper, absorbent cotton, or clean rags. These should be burned within twenty-

four hours. The enormity of promiscuous expectoration should be held up to general execration. Among the tuberculous will be found the usual percentage of those who "cheat the doctor," especially in the matter of remaining out-of-doors. Eight hours in winter, and ten in summer at least, should be spent in taking the cure. Dry summer evenings may be passed in the open air until nine o'clock. Time spent indoors does not count. Indoor air, about the same in all sections, is not fit to breathe. A temperature of 20° below zero in the open air in the Adirondacks does not seem so cold as zero weather here; it is wonderfully bracing. In it the hours pass quickly and pleasantly while one is out-of-doors, bundled up in furs. When exercise can be taken, walks in the forest, skating, and snowshoeing are delightful amusements. The encouragement of a fad is to be strongly urged—an out-of-door fad by all means. I have met tuberculous patients whose camera work was fine; and some added largely to their income by the sale of their pictures. A partnership in which one furnished the description for the newspapers and the other the photographs of places of interest in the mountains, interested me very much. The indulgence in a fad occupies the mind, preventing too much brooding and introspection. Time, next to air, plays the principal part in the cures—time, plenty of time. We say to a patient in the incipient stage: "In a year you will be cured." True, but not cured in his sense—to go back, pick up the thread of his life where he dropped, it and carry it on as he left it. His cure does not enable him to do that. In nine cases out of ten he pursues that course only to experience a renewal of his trouble. It requires from three to five years spent in the Adirondacks to make it safe for a man to marry and live anywhere. So when we say a year to these patients, it is with a reservation. Is it well to have that reservation? One might despair at the beginning if told that the treatment must be continued so long, who might be brought on to accept the limit in progressive stages from one year.

Now comes a consideration of those who from their own resources cannot hope to avail themselves of this or any other means of cure. What is to be done for them? The tuberculous patient without money or friends is the most pitiable creature on earth. Our heart's profoundest sympathy is his. Let us give him our very greatest aid. Let us hold up his misery and desolation, until the whole world recognizes them and joins in ameliorating his condition. In this age of altruism, we see philanthropy shedding its bounty with overflowing hands on every conceivable cause. Bibles for the Hottentots, clothes for the South Sea Islanders, churches for the millions, colleges for the different sects and sexes, libraries for the masses, hospitals for the maimed, the cancerous, and the epileptics, and every claim is answered, while the hosts of the tuberculous have not been offered a place where they may cough out their allotted three years in decent peace and comfort. And now that the government is becoming so paternal, what has the State done for the tuberculous? Nothing, I may say. Certainly nothing for them as a class. Their claims upon it have been met with scant recognition. To those having absolutely no other resource it has offered its poor-houses, which means death without reprieve in a very short time, and burial by the State. If the cost even of maintenance in the poor-house and of burial, with a trifle more, were used in a more judicious way, lives would be saved and good citizens spared to the State. Zola, in his last great work "Fécondité," makes a powerful appeal for larger families in France. At the present birth rate, he says, France will soon lose her rank as a great nation from sheer lack of numbers. If he would but enlist his masterly pen in the effort to keep in life those already born, his task would not be so formidable. The tuberculous poor are best cared for in sanatoria, and these should be built and maintained by the State. They should be absolutely free for those having no means whatever, and at a low fixed rate for those able to pay something. The sanatorium is an educator; in it a patient is taught how to get well, keep well, and preserve himself from being a source of danger to others. When he goes abroad he is capable of teaching self-care to others. The best model of a sanatorium on the cottage plan is to be found at Saranac Lake: a central building containing the offices of administration, common dining-room, reception and music rooms, with baths and infirmary; an amusement pavilion that may be opened on all sides to the weather, fitted with pool and billiard tables; a separate building for the library, golf, croquet, and tennis grounds. The cottages contain from six to eight light rooms opening upon a central common sitting-room, they are surrounded by verandas and are very cozy. A Catholic sisterhood maintains a similar one at Gabriels, N. Y. It has the advantage of being close to the railway station. The Berlin congress decided that sanatoria need not necessarily be in the mountains, but must be in the vicinity of forests. Each county can find an excellent site within its own border. Pompey Hill affords just the spot for Onondaga. Let this society make a foundation there its aim.

APPENDICITIS LARVATA AND INFLAMMATION OF THE RIGHT BROAD LIGAMENT, TUBE, AND OVARY.

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At the twenty-eighth German Surgical Congress held at Berlin, in April, 1899, Ewald introduced the term appendicitis larvata. By this expression he understood appendicitis of a chronic, insidious character which moves softly without developing into a real attack of acute appendicitis. Such a conception would correspond to the actual situation and reveal the nature of the disturbance.

Not infrequently we meet in practice patients complaining of intermittent pain in the abdomen of varying degrees of severity, which disappears after a longer or shorter time. These cases are very often treated as intestinal colic, gastritis, or flatulent enteritis without or in connection with some sort of enteroptosis. On a careful examination of these patients pain may be elicited by palpation, sometimes at McBurney's point, sometimes in the neighborhood of the navel, or even in the left iliac region or beneath the liver; in some of these cases there are occasionally slight elevations of temperature.

In recent years, in which the study of the topographical anatomy, pathology, and symptomatology of the processus vermiformis has aroused the deepest interest and has resulted in the most exact investigations, it has also been shown that these vague pains may have their real origin in an anatomical lesion of the appendix. In some cases, in which it was believed that movable kidney or retroflexio uteri was the cause of the symptom complex, and in which, in order to overcome these disturbances, the kidney or the uterus was fixed, it has been found that these operations had no influence whatever upon the pain, and many operators have had to confess with Wood:[1] "I can attribute many of my early failures in abdominal work to not directing my attention to the appen-

[1] American Journal of Obstetrics, 1899, p. 94.

dix, the pain in the right side persisting as well as the gastro-intestinal disturbances."

Edebohls[1] has shown that movable kidneys are very often closely connected with appendicitis larvata, which he thinks is due to the pressure of the movable kidneys on the vena mesenterica superior causing hyperæmia in the processus. He even says that movable kidney which is not followed by appendicitis does not furnish an indication for treatment. This opinion is still very far from being generally accepted, as other authors have not been able to find any relation between these two disturbances. So far as my experience goes I must confess that in some cases this coincidence without doubt exists, and when we fix the kidney in such cases, without paying attention to the appendix, the patients will be in the same condition as before the operation. Upon a macroscopic and microscopic examination of the underlying anatomical causes of the above-named disturbances, it has been found that there is no proportionate relation between the anatomical conditions and the troubles presented by the patient. Sometimes it has been seen in the sectio in vivo that the serosa of the appendix was only slightly injected, generally at the tip; sometimes there have existed only delicate adhesions between the appendix and another portion of the bowel, or one of the pelvic organs, or the lateral abdominal peritoneum; and upon dissection of the processus there is frequently found only a slight catarrhal inflammation with swelling of the follicles of the mucosa, or sometimes a follicular abscess, sometimes stenosis at one or more points, sometimes slight fecal concretions. On the other hand, we all know of cases coming to post-mortem section, in which during life there were no or very few symptoms of disturbances, but in which were found surprising destructive lesions and malformations of the appendix. At this point I will call attention to cases cited by Combemale,[2] Guttman,[3] and Maryland,[4] in which the distal portion of the appendix was dilated into an egg-shaped, tense, cyst-like structure without giving rise to any subjective symptoms.

Wood[5] says that in nearly every recorded case of cystic disturbance of the vermiform appendix there were no subjective phenomena arising from the conditions, and that in the majority of cases the affection was discovered accidentally.

There seems to be some analogy between the condition of the processus vermiformis and gastric ulcer. Many pathological anatomists have stated that large cicatrices of former gastric ulcers are found in cases in which during life an examination would not have revealed any lesion of the stomach.

As the diagnosis of an appendicitis larvata, which at any moment may be followed by an acute attack of appendicitis, menacing life, is very difficult, I think every point which might suggest the possibility of such a condition should receive favorable consideration. In the following three cases, observed in my practice, there were symptoms of such a nature that it was possible, relying upon them, to make the diagnosis of appendicitis larvata:

Case I.—Miss O——, twenty-two years of age, complained for two years of vague pain in the abdomen, mostly in the right side; since the beginning of this pain she suffered from dysmenorrhœa, sometimes in combination with menorrhagia. Very often the pain extended to the epigastrium, the attack being followed by headache and slight rise of temperature, sometimes by diarrhœa. She thought the trouble was due to a blow on the abdomen. Since the beginning of her illness she had lost nearly fifteen pounds. At her first appearance I could not decide whether or not there was an hysterical element, though the family history on this point was negative. Examining the patient, I found by abdominal palpation slight tenderness upon pressure in the region of McBurney's point; no sign of exudate; hymen intact, but so distensible that it permitted the careful introduction of the index finger. There were no indications of gonorrhœa. On bimanual palpation I found the right tube and ovary very tender and slightly enlarged; the right broad ligament was retracted; the uterus was in dextro-retroposition; from the right ligament extending to the cæcal region there was a not well-defined resistance, which gave the impression of a structure of about the size of a lead pencil. My diagnosis was appendicitis larvata; the appendix extending to the small pelvis and perhaps adherent with the tube, retraction of the right broad ligament, inflammation of the right tube and ovary, dextro-retroposition of the uterus. At the operation (Sonnburg's oblique incision in the region of the anterior spine), which was kindly performed by Professor Rotter, of Berlin, who, seeing the case for the first time, was somewhat loath to believe the appendix was the cause of the trouble, the diagnosis was confirmed. The appendix removed was about 10 cm. long; upon opening it we found three constrictions with two fecal concretions, one at the tip of the appendix, the other between the two constrictions; the patient made an uneventful recovery, her weight increasing twenty pounds in two and one-half months. The dysmenorrhœa disappeared.

Case II.—Miss L——, twenty-three years of age, from a healthy family, complained of running pain over the abdomen mostly in the umbilical region. This condition in a more or less pronounced state had existed for some eight weeks, interrupted sometimes by constipation, sometimes by diarrhœa. The last menstruation had been very painful. The patient had been treated for some time on the diagnosis of enteritis catarrhalis. The examination showed tenderness on palpation near the navel on the right side; no sign of exudate; hymen intact. Rectal bimanual examination revealed the uterus lying in dextro-retroversion position, the right broad ligament shortened, and slight tenderness of the right adnexa. When I performed the operation I found the uterus lying as above mentioned; the tip of the processus vermiformis, whose serosa was slightly injected, with an appendix epiploicus originating from it, was attached to the right ovary by adhesions. I removed the appendix and fixed the uterus to the abdominal wall, after the method of Czerny-Leopold. The dissection of the appendix showed only swelling of the mucous membrane and follicles, the distal part of the process containing fluid fecal matter.

Case III.—Martha P——, nurse in my private hospital, twenty-eight years of age, complained for two years and a half of pain in the right inguinal region sometimes in connection with very painful menstruation. Since the beginning of her illness she never felt quite well and could scarcely perform her usual work. Six months ago she had to remain in bed six weeks suffering from intermittent fever and great disturbances in the abdomen, and was treated by Dr. P——, of Frankfort-on-the-Oder, Germany. Examining her, I found great tenderness on palpation at McBurney's point; no exudate; hymen intact; no sign of gonorrhœa; on bimanual palpation I found the right broad ligament retracted; the right tube enlarged at its distal end, the size of a hen's egg; the ovary on the same side the size of a small apple adherent to the tube, and very painful on palpation; the uterus in

[1] Centralblatt für Gynäkologie, 1898, p. 1084.
[2] Bulletin médical du Nord.
[3] Deutsche medicinische Wochenschrift, 1899, p. 186.
[4] Transactions of the Glasgow Pathological and Clinical Society, vol. iv., p. 111.
[5] American Journal of Obstetrics.

retroflexion position; an adhesion from the ovary to the cæcal region could not be palpated; the adnexa on the left side showed no abnormal condition. Diagnosis: Appendicitis larvata, hydrosalpinx or pyosalpinx dextra, retroflexio uteri, oöphoritis dextra. Performing appendectomy, oöphorectomy, and salpingectomy, and dextraventrofixation of the uterus, I found the processus adherent to the fimbriated extremity of the tube, and the other complications as mentioned. The recovery was uncomplicated. A fortnight after the operation the patient was able to chloroform another of my patients for operation, and in a letter received half a year afterward she assured me that she was quite healthy and able to perform any required work. The dysmenorrhœa had not recurred.

If the symptoms found in these three cases are summarized, the following of a more general nature are obtained: Disturbances in the intestinal tract, flatulent colic, abdominal pain of more or less intermittent nature, located by the patient sometimes in the right, sometimes in the left iliac region, extending in some cases to the navel, epigastrium, or right hypochondrium. These disturbances are associated sometimes with headaches, dysmenorrhœa combined with menorrhagia, and more or less increasing cachexia; slight attacks of fever occur in some cases. On physical examination slight ill-defined tenderness is found at McBurney's point, about the navel, even sometimes in the left side or in the neighborhood of the liver. On bimanual palpation, through either the vagina or the rectum, the uterus is found to be in dextroposition, or dextro-retroverted or flexed, the right broad ligament shortened and retracted; the right tube and ovary more or less in a state of inflammation. In one case I was able to distinguish a structure of the configuration of the processus vermiformis with adhesions.

The question which should arise in a diagnosis of any abdominal inflammatory process in a woman is the possibility of the existence of hysteria. It is well known how difficult it is generally to exclude hysteria in cases of abdominal disturbance, mostly in those cases in which there is paralysis of the intestines, and the literature contains reports of cases in which a disregard of possible hysteria has led surgeons to perform laparotomy not only once, but even three times on one patient without finding an anatomical basis of the trouble. Nothnagel calls this condition pseudoperitonitis or pseudo-perityphlitis hysterica. I shall never forget one case in which the abdominal symptoms combined with the general condition of the patient misled Dr. Madgeburg (first assistant to von Bergmann's clinic in Berlin) and myself to a diagnosis of peritonitis, possibly of appendicular origin. It was shown by von Bergmann after chloroforming the patient, during which the bowels collapsed, that the whole symptomatology was due to hysteria, excited by a very slight attack of gall-stone colic. Of course an operation was unnecessary.

When the above-mentioned conditions of the pelvic organs are discovered in a female patient, the second most important and difficult question that arises, after excluding hysteria, is to determine whether this inflammation of the right side—tube, ovary, and broad ligaments—has its origin in an ascending inflammation, brought there by way of the vagina, or in a descending inflammation originating in the appendix, it being assumed that inflammations having their origin in other abdominal parts can be excluded. Probably the most common cause of inflammation of the tubes and ovary is the gonococcus, and the question of the existence of gonorrhœa must be settled before other causes can be considered. When it is found, as in the cases cited, that the patient shows no evidence of an earlier urethritis, no redness surrounding the region of the outlet of the Bartholinian glands, no sign of catarrh of the vagina and cervix, and when the inflammation is limited to only one side of the pelvis—as it is well known that gonorrhœa is prone to be bilateral—then another cause may be taken into consideration. It has been shown in recent years that contraction of the right broad ligament in connection with inflammation of the right tube and ovary, sometimes with dextro-retroversion or flexion of the uterus, points to an appendicular origin of the trouble. The diagnosis may be rendered still more probable by the already-mentioned general disturbances of the abdomen, and confirmed when one is able to palpate alterations of the processus, and to recognize adhesions between it and the pelvic organs.

It has been shown by many observers that appendicitis is more common in males than in females (McBurney states in the "International Text-Book of Surgery," p. 399, that the ratio is about four to one), and one thinks the reason for that is that the appendix in the female receives additional blood supply from the artery appendiculo-ovarica running through the ligamentum appendiculo-ovaricum. For the same reason it is said that appendicitis gangræ-nosa occurs less often in females. Through the lymphatics of this ligament, bacteria, it is believed, may wander from the appendix to the broad ligament and tube, causing inflammation of the latter. The existence of this ligament has been demonstrated by Fowler and Waldeyer. Of late it has been the subject of a great deal of discussion, and among others Barnsby[1] has denied its presence and believes that the bacteria are transported through adhesions between the organs. This was, I believe, the fact in the cases above reported, in which the inflammation of the appendix had caused adhesions between it and the right tube and ovary.

Of course adhesions between these organs can be developed only in those cases in which the appendix is rather long, gravitating by its own weight into the small pelvis, or in which there is a long mesocæcum or even no mesocæcum, but instead of it a mesenterium ileocæcale commune. The latter condition allows for the greatest mobility and dislocation of the cæcum, together with the appendix, and makes the recognition of inflammation of such a dislocated organ sometimes not only difficult but impossible, because it can, when lying for example in the left iliac region, produce inflammation and adhesions with only the left adnexa, or in other cases with the gall bladder and liver. Von Manteuffel has shown[2] that this condition can be a cause of volvulus of the cæcum followed by peritonitis, and that has to be taken into consideration when the question arises whether or not there is a peritonitis following volvulus or a peritonitis which had its origin in the appendix.

Another question which I would like to propose at this point is: Can the bacteria which are usually found in inflammation of the appendix (streptococcus, staphylococcus, and bacterium coli), when transported by way of the lymphatics or adhesions to the tube, give rise to suppuration of the normal mucous membrane of the tube? This question arises in connection with my last case, in which there was a hydrosalpinx, and it is believed that hydrosalpinx may result from an earlier pyosalpinx. Other authors deny this possibility (*vide* Veit's "Handbuch der Gynäkologie," p. 702). But it has been shown that the patient had intermittent septic fever lasting six weeks, some six months before the operation, and I think this was due to an existing pyosalpinx originating from the appendix. This question arose also in a discussion of a paper by Fueth, "Ueber Erkrankung des Processus

[1] Revue de gynécol. et de chir. abdom., 1898.
[2] Sammlung klinischer Vorträge, No. 260.

vermiformis und der Adnexe," [1] when Zweifel of Leipsic objected to the possibility of streptococcus, staphylococcus, and bacterium coli being able to excite pyosalpinx in the presence of an uninjured mucous membrane of the tube. Fueth thought it possible, but whether or not this can be accepted remains for more exact demonstration. This condition has, of course, nothing to do with those cases in which an abscess, originating from the appendix, breaks through into a tube and causes pyosalpinx.

Concerning the treatment of appendicitis larvata, it must be recognized that only operative measures can be taken into consideration. They are indicated because (1) there is no other means of correcting the existing pathological conditions, and (2) the patient is in constant danger of an attack of appendicitis followed by peritonitis. Barnsby, already mentioned, says that when the tip of the appendix is adherent to some abdominal organ with or without vascularization of its peritoneal serosa, there is absolute indication for operations. Furthermore, in young female patients one has to deal with the possibility of a subsequent pregnancy, and, as we all know that appendicitis in combination with pregnancy gives the most serious prognosis both for the fœtus (abortion is practically inevitable) and for the mother,[2] it is the physician's duty to explain to the patient the above-mentioned complication and to resort to radical treatment, that is, to operation.

Eleventh and Wells Streets.

Lupus Treated by Excision.—E. Lang gives the results of eighty-five cases of this disease, in which the affected portions of skin were excised and the defect covered by a plastic operation. Of this number thirty-nine are for various reasons not available for statistics, but the forty-six remaining have been free from recurrence for periods varying from one to seven years. Most of these had already for years been subjected to skilful medical treatment without permanent improvement, and in view of the absolutely positive results obtainable by surgical intervention the author strongly advises the measure in all cases in which a sufficiently radical operation can be done.—*Klinisch-therapeutische Wochenschrift*, August 19, 1900.

The Connection between Gastric and Uterine Disorders.—Ödön Tuszkai has made a careful study of the anatomical and other factors subtending the well-known reciprocal relationships of stomach and uterus. The connection between the two is intimate and far-reaching, but care is necessary to exclude disorders which simply chance to affect coincidentally both organs without being in any way interdependent. Three main channels of mutual influence lie open, through the nervous system, the circulation, and abnormal static relations. Of these the first is the most important, and the author differs from the usually accepted belief in placing the genital centre not in the brain or spinal cord but in the sympathetic system, its abdominal centre being not in the lumbar cord but in the solar ganglion. This, by means of the inferior hypogastric, the solar, and spermatic plexuses, establishes the reflex track between the uterus and the gastric branches of the vagus. Another more indirect route lies through the communications of the vagus with the sympathetic system through the utero-vaginal plexus and the para-uterine ganglia. In addition to the ligamentous and structural attachments of both organs intra-abdominal pressure plays a large part in maintaining their normal positions. Thus, under ordinary conditions this force strikes the uterus posteriorly near the fundus, keeping it normally anteflexed, but when the static equilibrium is disturbed or destroyed in consequence of gastric dilatation, gastroptosis, etc., the axis of pressure may run directly through the fundus and induce a downward displacement, or lie still farther forward and produce a retroversion. While chemical and endozymotic influences may travel through the blood current and so effect reciprocal gastric and uterine changes, this channel is of less importance than the other two.—*Monatsschrift für Geburtshülfe und Gynäkologie*, August, 1900.

Inflammation of the Middle Ear in Infants and Children.—A. O. Pfingst says middle-ear involvement is particularly noticeable in measles. Jobeitz believes it is affected in every case. The Eustachian tube in children is wider and gives a better passage to infections from the naso-pharynx. The benign course is characteristic of otitis in early life, and pain is not so pronounced a symptom as in the adult. Spontaneous rupture of the drum is also not so common. The tendency for the inflammation to spread to the mastoid cells is not so great, and operative intervention is less often called for. The suggestion of Barth to examine the ears of all sick children several times during their illness is a good one. At the first sign of retained pus or of extension of the inflammation to the mastoid cells paracentesis should be done. The incision should be kept open as long as acute symptoms are present. This is best done by applying a crystal of chromic acid to the cut edges. Whenever the symptoms of mastoid involvement are pronounced or persistent the mastoid must be opened. Fortunately, a small opening suffices in babies.—*The American Practitioner and News*, August 1, 1900.

Legal and Medical Insanity; Reflections upon the Recent Trial and Conviction of Bradford P. Knight at Augusta, Me.—C. P. Bancroft states that the judge in his charge to the jury acknowledged that the murderer might be insane, but that his mental disease might not have progressed to this particular point of destroying a knowledge of right and wrong with reference to the particular act. The author says that, in point of fact, insanity and irresponsibility, or at least modified responsibility, are nearly if not quite synonymous. The real test of responsibility is not a knowledge of right and wrong with reference to the particular act, but as Dr. C. F. Macdonald has expressed it, "knowing the right and knowing the wrong, has the man the power to choose the right and avoid the wrong?" It is not a question of knowledge, but of power to choose between two courses of action. If he has not such power, then his act is the product of his disease, and he is not responsible. Chief Justice Doe's ruling in a famous case was that there is no legal test of insanity, but that each case must be decided on its own merits; that insanity is a mental disease; the product of mental disease cannot be a crime; tests of mental disease are matters of fact, and whether the defendant has a mental disease, and whether his act is the product of that disease, are questions of fact for the jury to decide. This is good law and sound medicine.—*American Journal of Insanity*, July, 1900.

Further Laboratory Studies on Uric Acid in Neurasthenia, and on Auto-intoxication in Nervous Disease.—F. Savary Pearce concludes from experimentation and observation that we have sufficient data to say positively that neurasthenic conditions are associated with the circulation of such an irritant as uric acid in the blood. The physiological absorption of proteids is inhibited in an irregular fashion in the

[1] Centralblatt für Gynäkologie, 1899, p. 17.

[2] Hlawacek (Monatsschrift für Geburtshilfe und Gynäkologie, 1897, Bd. vi., Hft. 4) reports thirteen cases of pregnancy complicated with appendicitis, eleven of which resulted in death.

neurasthenic subject, or else the condition is due to want of proper vasomotor control of the capillary blood-vessels, thus permitting an irregular and improper elimination of uric acid, etc. It must needs be that in such central disease the central energizing influence (of the neuronic vitality *per se*) is greatly enfeebled, and is unable to carry this weakened vital action through the nerves to the organs of digestion and absorption. This vicious cycle of disturbed metabolism being established, we have secondary irritations continuously operating on the already devitalized nerve centres. The sympathetic also becomes over-excited, and in a condition of irritable weakness as manifested in the resultant symptomatology of neurasthenia.—*The American Journal of Insanity*, July, 1900.

The Effects of Migration from the Northern to the Southern Hemisphere.—R. Humphrey Martin, who has practised medicine in Australia for twelve years after a previous experience in England, gives an entertaining comparison of the people met with in the two latitudes. Concerning matters purely medical he notes in the southern hemisphere, Australia especially, the prevalence of hydatids, the absence of rickets, the relative infrequency of post-diphtheritic paralysis, the great mortality of typhoid, particularly that variety known as "gold-fields" fever, and the fact that pulmonary tuberculosis is only about one-half as frequent as in the northern hemisphere. Measles is about as severe, while scarlatina is much milder.—*Australasian Medical Gazette*, July 20, 1900.

The Pathogenesis of Flat-Foot in Cases of Varicose Veins.—Eriberto Aievoli holds that flat-foot is a result of the varicose condition, the cause being found in the nutritive disturbances induced by the perturbed circulation in the power and resistance of the plantar arch, and in the disturbed mechanism of the lower limb, flat-foot representing functional adaptation. The author gives in detail his reasons for this view, and also goes into the history of the subject.—*Gl'Incurabili*, July 1 and 15, 1900.

The Diagnosis of Neurasthenia.—After enumerating the more common symptoms of the affection and touching upon the chief points of distinction between organic and functional nervous diseases, Gustavus Eliot discusses the differential diagnosis between neurasthenia and hysteria, hypochondriasis, various mental aberrations, and lithæmia. Concerning the differentiation from hysteria he says that the sudden and violent convulsive attacks of hysteria do not belong to neurasthenia, although in the latter disease slight muscular twitching and subjective quivering and throbbing are not uncommon. The globus hystericus is common in and characteristic of the disease whose name the symptom bears, but is rare in neurasthenia. The symptoms of hysteria are characterized by violence and activity. Those of neurasthenia are of a less obtrusive character. They are more quiet and subdued. Hysteria is seen in individuals of emotional temperament, whose mental organization is not well balanced, while neurasthenia very commonly affects the intelligent and intellectual. Finally the symptoms of hysteria very frequently disappear early and completely, leaving the patient in usual health, while neurasthenics recover slowly and gradually.—*Yale Medical Journal*, September, 1900.

Bronchial Asthma; its Relation to Nasal Disease.—H. L. Swain discusses the various theories of the causation of asthma, believing it to be due to a spasm of the muscular fibres which encircle the point where the terminal bronchus ends and opens out into the atrium. When this narrow opening into the larger sac is suddenly contracted by a spasm the respiratory space beyond the terminal bronchus becomes more and more stretched. Hence the lobule corresponding to the space becomes distended, and this occurring all over the pulmonary structure, we have the familiar distention of the chest. The exciting cause of this spasm may come from the intra-nasal condition, but even here we must have an explosive nerve tendency, lack of vasomotor control, and thin-walled veins which are present in some individuals but absent in others. Given this combination of factors, a cause operating through any one of various organs may excite an asthmatic attack. The nasal condition is only one of the factors which may initiate the bronchial spasm.—*Yale Medical Journal*, August, 1900.

The Use of Diphtheria Antitoxic Globulins of the Blood Serum Instead of the Entire Serum in Diphtheria.—W. H. Park, in an attempt to isolate the globulins which are closely connected with the antitoxic substances in the blood, has carried out a series of experiments. The antitoxic globulin secured has been tried with a view of obviating the toxic manifestations, rashes, etc. The results are disappointing, and there seems no probability of separating the antitoxic properties from the globulin. This the author thinks probably true of other protective serums.—*Pediatrics*, August 15, 1900.

Critical Review of the So-Called Physiological Theory of Emotion.—Charles A. François-Franck combats the notion held by many modern psychologists, that the circulatory disorders accompanying mental emotions and disturbances are their cause; that the brain is in reality a mere servant or passive agent of arterial pressure and the general circulation. He adduces many reasons and experiments to prove that, on the contrary, emotional excitement, whether directly cerebral or generally sensory, produces the active congestion of the brain, which always precedes elevation of arterial pressure, and can therefore not be due to it.—*Bulletin de l'Académie de Médecine*, August 14, 1900.

Enlargements of the Spleen in Children.—Samuel West draws attention, in the splenic anæmia of infants, to its chronic course, to its very varying prognosis, and to the fact that syphilis is occasionally, and rickets frequently, associated with it. The association is in neither case constant, nor is either of these diseases the sole cause—probably not the cause at all except indirectly by means of the ill health to which either leads. As to relation between the splenic enlargement and the anæmia, it is very likely that both are due to a common cause. The treatment should be that of anæmia. In regard to other forms of splenic enlargement in children the author calls attention to the frequency in the very young of malaria, leucocythemia, and Hodgkin's disease.—*Medical Press and Circular*, August 22, 1900.

On Convulsive States in General.—A. Pierret says that the convulsive movements of cortical origin may be simply motor disturbances, as in Jacksonian epilepsy, or exclusively sensory, as in sensory epilepsy, but they may also involve the entire brain, in which case their dynamic state is such that consciousness is temporarily affected. This constitutes the epileptic coma with amnesia; at other times consciousness is but partially inhibited. The particular variety of the affection depends upon the state of impressionability of the cells, and on the conditions which, by forming an obstacle to the establishment of equilibrium of nervous tension, favor local hypertension. These two factors may be modified in thousands of ways. When the cortex is involved in the shock, phenomena make their appearance which the spinal cord, or even the

medulla oblongata, is incapable of determining. Cortical epilepsy, even when of the Jacksonian type, is invariably associated with some psychical element, the complete epileptic paroxysm being thus merely the result of blending together the spinal, medullary, subcortical, and cortical convulsive phenomena. The latter may also exist alone, and in this case various simple or complex acts, sensory aura, delirium, hallucinations, vertigo, perverted impulses, or even crimes become the morbid equivalents of the lacking motor convulsion.—*The Medical Press and Circular*, August 22, 1900.

The Functions of the Cerebellum.—R. Gatta from the results of physiological experiments concludes: (1) That clinically the cerebellar complex of symptoms is often rendered multiform by phenomena of compression and irritation of adjacent or peripheral organs (pons, bulb, cranial and cerebral nerves). (2) The cerebellar alterations or phenomena, whether clinical or experimental, are more marked on the side of the lesion. (3) Complete destruction of the cerebellum in animals determines phenomena of ataxia, asthenia, and atony, just as do lesions of the cerebellum in clinical practice. In the experimental cases these symptoms persist, although in attennated form. (4) In the absence of rapid infiltrating action and diffusible toxæmic powers, these experimental pathological processes may continue for months and years. (5) The results of the author's experimentation are in harmony with those already obtained experimentally in regard to the functions of the cerebellum and its relations to the locomotor apparatus.—*La Riforma Medica*, August 6 and 7, 1900.

Evil Results following Abdominal and Pelvic Surgery, and the Measures Requisite to Prevent or Counteract Them.—E. Stanmore Bishop directs attention to the perfection of small details in common surgical work. The utility of early operation in fibromyomata before secondary changes have occurred is discussed. Evil results are avoided by attention paid to the small points in technique. Bad results follow delay, delay is produced by knowledge of former bad results. Among bad results are death, ventral hernia, sinus, vaginal prolapse, intestinal adhesions, persistent pain, and prolonged invalidism. Operation should be done if pyosalpinx, or pressure on the ureters, great loss of blood, development into the broad ligament, or possibility of necrosis is threatened. The mortality will be low if operation is done to forestall these conditions. The bowels should be well cleared out before operation. The small intestines should be incited to action immediately after, not in order to empty itself but because we wish to produce and maintain intra-peritoneal currents which shall carry all stray micro-organisms rapidly away from points where they may develop, into the lymphatics and glands where they will be consumed by phagocytes. Gravity should be made to aid in this matter by elevation of the foot of the bed. Cases so treated are cited. Many of the evil results are avoidable. The causes of hernia production are discussed, and the rational suture to prevent its occurrence is given. A variety of evil results and the precautions necessary in order to avoid them are given.—*The Scalpel*, August, 1900.

A New Theory in Regard to Concussion of the Brain.—D. B. Roncali sums up his article as follows: (1) In grave cases of concussion speedily becoming fatal, the shock to the cells of the cerebro-spinal axis and of the bulb causes so great a molecular disturbance that the individual neurons become incapable of regulating the nutritive and dynamic exchanges, which results in a suspension of the nutritive and secretory functions, causing violent death of the neurons from lack of nourishment and from intoxication, and for this reason there is complete absence of any lesion in the nerve tissue. (2) In cases of concussion in which recovery occurs in a few hours or days, and in which the nerve cells show the lesions described by observers, there is a transitory suspension of the nutritive and dynamic exchanges with temporary suspension of nourishment, and a transitory intoxication. The neurons appear to be in lethargy; their cellular body is shrunken, and there is retraction of the prolongations and fusion of the chromatic substances. According to the author's theory, with retraction of the protoplasmic prolongations there comes absence of nerve-protoplasmic contact and contact between the individual neurons; conduction of impulses to or from the cells is prevented, and nerve waves are impossible, the result being a temporary suspension of the vital functions.—*Il Policlinico*, July 15, 1900.

Echinococcus Cysts of the Domed Surface of the Diaphragm; Removal; Cure.—Edmondo Berger reports the case of a man aged forty years, in whom a tumor as large as a fœtal head was found between the left hypochondrium and the epigastric region, non-continuous with any abdominal organ, sinking with inspiration, rising with expiration, and subject to rhythmic pulsations. Exploratory puncture brought out a fluid containing echinococci. Operation revealed a multiple cyst on the under surface of the diaphragm. The patient made a good recovery. The cause of the cyst was probably a heavy fall upon the nates, the shock being carried up to the diaphragm. The pulsation observed in the cyst was undoubtedly transmitted from the heart.—*Gl'Incurabili*, August 1 and 15, 1900.

The Therapy of Chorea.—W. v. Bechterew considers that the action of arsenic in this disease depends on its power of reducing reflex excitability, basing his views on experimental evidence which shows that the primary increase in irritability is succeeded by a secondary blunting of the centres. In accordance with this theory he combines sedatives with the arsenic, giving the latter in the form of Fowler's solution or as a solution of arsenious acid in doses which are rapidly raised to twice or even three times what is usually accepted as the maximum. At the same time sodium or potassium bromide and antipyrin are given in large doses, while the relationship between rheumatism, endocarditis, and chorea is a sufficient indication for the routine use of the salicylates in conjunction with the other remedies. When the heart lesion actually exists cardiacs are administered. Warm baths and rest in bed are also valuable adjuvants.—*Centralblatt für Nervenheilkunde und Psychiatrie*, August, 1900.

The Prophylactic Douche.—O. S. Chapman says that in regard to this measure there are two classes of observers whose results are absolutely contradictory, but the weight of testimony since the report of Krönig in 1894 seems to be in favor of discarding the douche. Doubtless the vaginal secretions may contain a great variety of bacteria, but they are non-pathogenic, or produce only a moderate rise of temperature. The secretions are more or less bactericidal in character; they provide nature's barrier against the entrance of deleterious germs into the circulation, and to remove them is held to be unwise. Severe puerperal fever and death are generally held to be due to infection from without, which is usually because of neglect of aseptic precautions on the part of the attendant. Free catharsis aids in the elimination of bacteria from the system. The author is of the opinion that the bacteria will meet with more timely neutralization without the preliminary douche than with it.—*Annals of Gynæcology and Pediatry*, September, 1900.

MEDICAL RECORD:

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THE NOMENCLATURE OF INFLAMMATION.

INFLAMMATION has always been a difficult condition to express in a word so distinctive as to convey to the mind of the scientific man a clear and accurate definition. Even in the days gone by, the term was vague to a certain degree. But since the marvellous advance made in pathology within recent years, the situation in this respect is so infinitely worse that, without much exaggeration, it might be described as almost a state of chaos. Any man who can point a path out of the difficulty will be deserving of the heartfelt thanks of the entire medical profession. However, it requires the possession of a large amount of courage and a firm conviction in one's own opinions, to take upon one's self the part of reformer, be the projected change medical or otherwise.

Most people, including the members of the medical profession, who after all are but human, when once settled in a groove and accustomed by the force of habit to a certain routine, are by no means thankful to the earnest and well-meaning person who is wishful to lead them into the right way, and are apt to regard him as a decidedly officious and troublesome individual. With regard to the term inflammation, there has been for some time more than a suspicion, which is gradually changing to a certainty, that it is not the right word in the right place, and one or two eminent scientists have thrown out strong hints to this effect in order, probably, to feel the pulse of medical opinion on the matter.

A wonderful change has passed and is passing over the science of medicine as regards the etiology of disease. Maladies of all kinds are year by year being referred to specific causes. Those which were formerly regarded as simple inflammations, in order to distinguish them from general diseases, are now placed in their correct category. Pneumonia but a short time since was esteemed one of the most typically local diseases, although it has now been demonstrated to be due to streptococcic origin. Erysipelas again, though still looked upon by some as a simple inflammation, is held by the larger number of investigators to be owing to a distinct microbe. The term meningitis includes a whole class of varying forms of the malady, none of which can be called simple; and the list can be lengthened almost indefinitely. Dr. Payne, in his address on pathology before the British Medical Association in 1898, touched on all these points, and remarked pertinently that it was becoming a question whether every organ of the body had its inflammation denoted by a name ending in itis. This being the case, it is contended by many that the time has come to alter the appellation of inflammation, and to bestow upon conditions of disease names truly expressive of their real nature. But, as said before, it takes a man of courage even to recommend a change in the established order of things. A few have done so with regard to the term inflammation, although in most instances somewhat timorously; and by none has the present position of affairs and the need for revision been put so boldly and clearly as by Dr. Andrew H. Smith, of this city.

Dr. Smith contributed a paper, published in the Transactions of the Association of American Physicians, on this subject, which is full of good points. After giving a lucid explanation of the phenomena of inflammation as now conceived and indeed established, he urges that the terminal itis be dropped. He shows that, speaking of what is known as the inflammatory process in injuries as a matter of fact, the most recent American authorities are by no means agreed as to what manifestations are to be included in the inflammatory process, and what are to be left without the pale. Thus in Park's "Surgery," by American authors, the term inflammation is restricted to those disturbances which are produced by bacteria themselves or by their toxins, and which tend to pus formation. Nancrede holds a similar view and entitles one of his lectures "Inflammation a True Microbic Process." Dr. Smith suggests that as most of the phenomena heretofore included under the term "inflammation" are manifestations of the local action excited by a micro-organism or by a poison circulating in the blood, such action be expressed by a termination to be affixed to the name of the organism or poison if the same can be determined, or to the organ or part affected in case the particular infecting organism or poison is not identified. He aptly cites as a precedent for the first-named use the case of tuberculosis. Dr. Smith contends that no word ought to be made to include all the heterogeneous unrelated precursors and conditions which have been comprised under the term "inflammation," and that the phenomena ascribed to the inflammatory process should be assigned to new relations in accord with recent advances in pathology, and especially in bacteriology.

He further would have us adopt traumosis in place of inflammations from wounds and injuries, toxosis in lieu of inflammations from poisons, and bacteriosis to denote inflammations from the action of micro-organisms. We are thus presented not only with bold etymological innovations, but the whole trend of Dr. Smith's argument is of an iconoclastic strain, which a less courageous man would have hesitated to advance. If the medical profession should accept these views with half the enthusiasm and earnestness with which its author is imbued in putting them forth, the gain would be considerable. For so long as inflammation is treated as a disease with the chief object of combating its more conspicuous manifestations, heat, red-

ness, and pain, which are now not even regarded as essential to its conception, the physician is too much given to lose sight of the true etiological factor. Dr. Smith points to the greater success in the management of appendicitis since the bacterial origin has been recognized and the antiphlogistic treatment has been abandoned, as an apropos illustration of this proposition.

Although physicians are ever becoming more and more pervaded by the enlightened spirit of the times, yet the shadow of antiquated pathology still obscures the clearer conception of inflammation reached by modern research. Dr. Smith's courageous arraignment of the inappositeness of the term inflammation as used now is a valuable contribution to latter-day scientific literature, which should embolden those less fearless to follow his sagacious lead into this interesting field of inquiry. The most valuable outcome from the propagation of the view that inflammation is in no proper sense a new force projected into the arena, a disturbing influence, an enemy to be dreaded, a disease to be "treated," will be that its treatment will be abandoned. The cause of the true malady will be sought out, and when found attacked. The direction of modern therapeutics, too, tends toward the method of not treating the disease so much as the patient in acute infectious diseases. Attention was drawn to this truth in a paper recently published in the MEDICAL RECORD. If Dr. Smith's conclusions, and the conclusions of those who have written to the same end but have not stated the case so strongly, are accepted, their papers will serve a most beneficial purpose, and should pave the way to a more enlightened therapy. Since the latter is the very essence of the physician's life work, the importance of the theme cannot be overestimated.

A VERIFICATION OF THE MOSQUITO-MALARIA THEORY.

WE have referred several times to the interesting experiments which some English observers had undertaken during this summer in the hope of definitely verifying or disproving the mosquito theory of the spread of malaria. These experiments were to be conducted both in Italy and in England. That in Italy, which is still going on, consists in the residence of several men in one of the most malarious parts of the Roman Campagna, near Ostia, drinking the water and exposed to the night air, taking no quinine, and protected only from the bites of Anopheles, the malarial mosquitos. We learn from the *British Medical Journal* of September 22d, that it is highly probable this experiment will be successful. A telegram to Dr. Manson from Professor Grassi, dated September 13th, stated that the health of the experimenters had, up to that time, remained perfect. Certainly, if these men (Drs. Sambon and Low, and Signor Terzi, with their servants) escape malaria, we shall have negative evidence of much value to the effect that malaria is not conveyed by the water or the air.

The other experiment, which has just been concluded in England, has furnished us with very positive and conclusive evidence of the part played by mosquitos in the transmission of this disease from the sick to the well. In a leaflet inserted in the *Journal of Tropical Medicine* for September, 1900, it is stated that the experiment of inoculating malaria in England by mosquitos fed on malaria patients in Rome has succeeded. "At Dr. Manson's request, three batches of Anopheles were fed in Rome by Dr. Bastianelli on three separate malarials (tertians) and forwarded in cages to the London School of Tropical Medicine. Dr. Manson's son, P. Thurburn Manson, was bitten every second day by the insects until they died—usually about ten days after their arrival in London. The first batch was fed in London on the first and second week of July, the second at the end of August, and the last during the second week of this month. The subject of this experiment remained in perfect health till the morning of September 13th, when headache, bone-ache, lassitude, and anorexia, with rise of temperature to 102°, set in. On the 15th there was a distinct intermission during the forenoon. High fever, 104°, set in about 4 P.M., with delirium, relieved during the night by profuse diaphoresis. The same series of events recurred on the 16th. On the morning of the 17th, tertian parasites were found in the blood."

The editor of the journal from which we have quoted adds to this account that he has himself seen the parasites, and that Dr. Manson has been careful to have the observation verified by several competent observers. This is unquestionably the most conclusive of the inoculative experiments yet made, for the possibility of infection by other channels, which was present in the Roman experiments, and to a less degree in a similar one which we understand was carried out in New York this summer, was here eliminated. Dr. Manson's son could not get tertian fever in London in any ordinary way, and he had not been in a malarious country since his childhood, therefore there can be little room for doubt as to the agency of the imported mosquitos in the causation of his illness.

THE CHICAGO DRAINAGE CANAL.

IN the *Review of Reviews* for January is an article by Professor Edwin O. Jordan, bacteriologist in the University of Chicago, upon the Chicago drainage canal. The article in question is moderate in tone and conservative in views, the author expressing his belief that the dilution with so large a body of water and the great distance (above three hundred miles) in which the stream will have time to clear itself will render it harmless before reaching St. Louis, but the admission is made that a "thoroughgoing chemical and bacteriological examination, both before and after, is the only way by which the questions relating to the public health can be satisfactorily and conclusively answered. If it should be found on impartial inquiry, after the canal has been put into operation, that danger, inconvenience, and loss are resulting to other communities, ways must be found to remedy these difficulties." This is the ordinary attitude nowadays with regard to pollution of water supplies—pollute

first and inquire afterward, probably when it is too late to alter to any great extent the existing insalubrious conditions. The wholesale and careless contamination of streams and water supplies generally is an ever-growing evil, and the time has come when the public must insist in self-defence that very much more stringent laws than those relating to the matter now in force must be introduced and strictly carried out. It may be in the case of the Chicago canal that at such a distance purification by natural means may take place, and that when St. Louis is reached the canal may at least not be a menace to the health of the inhabitants of that city. So far, however, as the properties of streams or rivers purifying themselves is concerned, it has been proved on many occasions that at all times a much longer distance than was formerly held to be needful is necessary. Also this is a matter in which the character and amount of contamination and the flow of water must be taken into account.

The fact is incontrovertible that the hurtful and alarming conditions which have been brought about by a stupid and careless disposition of sewage and wastes of mines and mills is so evident that examples of the baneful results abound on every side. Mr. Henry Talbot, in a pamphlet recently published by him on the pollution of water supplies, makes use of the following strong but justifiable language: "The streams have been made sewers through selfishness, and it is through selfishness alone they can be redeemed and purified." The people of St. Louis are undoubtedly well within their rights in objecting to the health of their city being menaced by the Chicago canal. The suggestion of Professor Jordan should be promptly acted upon, and steps taken to test its reputed unsavory waters.

News of the Week.

Philadelphia County Medical Society.—At a stated meeting held September 26th, Dr. M. J. Karpeles presented a communication entitled "Imperforate Hymen with an Interesting History," and Dr. Joseph Price read a paper on "Delayed Operations in Appendicitis."

The Pathological Society of Philadelphia.—At a stated meeting held September 27th, Dr. Joseph McFarland presented a communication entitled "Experimental Tuberculosis in Cats," detailing the results of injections of "avian," "bovine," and "human" tubercle bacilli. Dr. W. Wayne Babcock presented a specimen of multiple pregnancy in association with fibromyoma of the uterus, and also sections from a case of retroperitoneal (?) endothelioma.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee.—The twelfth annual meeting of this society will be held in Chattanooga on Thursday, Friday, and Saturday, October 11, 12, and 13, 1900, during the reunion of the Army of the Cumberland and the Spanish-American war veterans. A rate of one fare for the round trip will doubtless be given the latter from all parts of the country. The Southeastern Passenger Association has already given this rate, and the other associations will take up the matter shortly. A large attendance is expected and a good programme is in prospect. All desiring to present papers should send the title to the secretary, Dr. Frank Trester Smith, of Chattanooga.

A Death from Anthracene.—A woman died in this city recently in violent convulsions. Investigation showed that she had committed suicide probably by taking a mixture of morphine and anthracene, a prescription calling for which was found in her room. Anthracene is a coal-tar product occurring under the form of colorless fluorescent crystals. It is the base from which alizarin dyes are made.

Cremation in Spain.—A new sanitary law which is now under consideration in the Cortes, having already passed the upper house, removes the ban of illegality which has hitherto, through the influence of the church, rested upon the practice of cremation in Spain. In anticipation of the passage of this law a cremation society has recently been established in that country.

By the Will of the Late Dr. J. M. Da Costa, formerly professor of the practice of medicine and of clinical medicine in Jefferson Medical College, the sum of $5,000 is devised to the Pennsylvania Hospital for the endowment of a free bed, an equal sum to the Children's Hospital, likewise for the endowment of a free bed, in memory of his son, John M. Da Costa; $5,000 to the College of Physicians of Philadelphia, for the endowment of a publication fund; $5,000 to the University of Pennsylvania for the professors' retiring fund. His valuable and extensive medical museum, including charts, models, medical pictures, and drawings, is bequeathed to Jefferson Medical College. His medical library, containing many good books, is bequeathed to the College of Physicians of Philadelphia.

Prognosis of Yellow Fever in Havana.—A telegram from Havana to *The Sun* says that the statement was made recently in a local paper that forty-five per cent. of the Americans attacked by yellow fever died. In reply to this Dr. Gorgas, who came here under direction of the Marine-Hospital service, has written a letter to the journal referred to, in which he says that during the year 1900 up to and including the 12th of September, out of a total of one hundred and nine American cases there were nineteen deaths. Sixty-six of these American cases were treated at the Las Animas Hospital, and there were only six deaths. Dr. Gorgas says that his object in correcting the statement is to relieve Americans from the feeling that forty-five per cent. of them are bound to die if attacked by this disease. Under favorable circumstances ninety-one out of every one hundred attacked recover. This is not guesswork, but is shown by actual statistics.

Infectiousness of Tuberculosis.—The supreme court of Michigan has recently decided that physicians must obey the injunction of the State board of health to report all cases of tuberculosis coming under their

cognizance. A medical man of prominence had disregarded this requirement, insisting upon his right to do so because tuberculosis was not expressly mentioned in the statute. The lower court excused him on this ground, but the supreme court has reversed this decision, holding that the State board has the discretionary power to classify pulmonary consumption among contagious or communicable maladies.

Professor Th. Escherich of the chair of pediatrics has been elected dean of the medical faculty of the University of Graz for the academic year 1900–1901.

Dr. James Musgrove has been appointed the first professor to the new chair of anatomy established and endowed by the Marquis of Bute at St. Andrews University by a gift of £20,000 for the purpose.

The Famine in India.—Some idea of the great calamity which has visited India in the failure of the crops through lack of rain is to be had from a report of the viceroy of India, according to which the number of persons receiving relief at the beginning of September was 4,891,000.

Satisfactory Health Conditions in Santiago.—Although yellow fever has been rather more than usually troublesome in Havana this summer, no case of the disease has been reported in Santiago since December. This good showing is attributed to efficient sanitary administration inaugurated by General (Dr.) Leonard Wood and maintained by Col. Samuel M. Whiteside, commander of the department of Santiago and Puerto Principe. One hundred miles of streets are swept daily and previously infected houses have been three times disinfected. A house-to-house inspection is made by the surgeons, and thousands of gallons of carbolic acid and tons of chloride of lime have been used.

A Vaccinator Charged with Assault.—A physician in New Bedford, in the course of his duties as vaccinator of the board of health, visited a house in which he found a six-year-old boy who had not been vaccinated. He thereupon vaccinated the lad without any objection on the part of the mother, who, however, remarked to him at the time: "You won't have to vaccinate my baby, will you?" The doctor answered that he thought he would, and in response to further objections by the mother told her that she would have to settle them with the board of health. He then proceeded to vaccinate the baby, a child five months old. Some time later he was more surprised than pleased to be dragged into court on a charge of assault and battery. It was proved without contradiction that the mother, notwithstanding her remonstrances, bared the infant's arm for the operation; and the court acquitted the defendant on this ground, holding that it was convincing evidence that the complainant, although undoubtedly reluctant, had finally consented that the child should be vaccinated.

A Course of Hospital Economics at the Teachers' College.—At the request of the American Society of Superintendents of Training-Schools for Nurses, the authorities of Columbia University will establish this fall a special course in "Hospital Economics," to be given at Teachers' College. The aim of the course is to fit persons who are already trained nurses for the responsible duties of superintendents of hospitals and principals of training-schools for nurses. It is intended to present the practical problems of hospital administration and to give students systematic instruction in the organization and management of training-schools. The prescribed course of study will include general psychology and its application in teaching; methods, practice, organization, and supervision of hospitals and training-schools, biology, physiology, hygiene, the production and manufacture of foods, home sanitation and management, bacteriology, and household chemistry. Special researches will also be made on the subjoined topics: Laboratory preparation of culture media, isolation and culture of bacteria, preparation of antitoxins; milk laboratories, modified milk, sterilized milk, pasteurized milk, dairies, source of bacteria in milk, effects of bacteria in milk; general hospitals, private hospitals, special hospitals, training-schools, small general hospitals, insane asylums, dietary on a scientific basis in an insane asylum, operating-theatre, sterilizing-plant, preparation for operation, detail work of clinic, philanthropic organizations, relations of the nursing-professor.

American Public Health Association.—The twenty-eighth annual meeting of this society will be held at Indianapolis on October 22, 23, 24, 25, and 26, 1900, under the presidency of Dr. Peter H. Bryce, of Toronto. The following subjects will be discussed: The Pollution of Public Water Supplies, The Disposal of Refuse Material, Animal Diseases and Animal Food, Car Sanitation, Etiology of Yellow Fever, Steamship and Steamboat Sanitation, Relation of Forestry to the Public Health, Demography and Statistics in their Sanitary Relation, Cause and Prevention of Infectious Diseases, Public Health Legislation, The Duration of Infectious Diseases, Cause and Prevention of Infant Mortality, Disinfectants, Municipal Sanitary Administration, To Define What Constitutes an Epidemic, A National Leper Home, Dangers to the Public Health from Illuminating and Fuel Gas, Revision of Bertillon Classification of Causes of Death, Transportation of Diseased Tissue by Mail, The Teaching of Hygiene and Granting of Degrees of Doctor of Public Health, and Sewerage and Water Supply. Special attention will be given to the engineering phase of the last-named subject.

Examination for Acting Assistant Surgeon in the Marine-Hospital Service.—The United States Civil Service Commission announces that on October 23 and 24, 1900, an examination will be held in any city in the United States where it has a local board of examiners, for the position of acting assistant surgeon in the Marine-Hospital service. The examination will consist of the subjects mentioned below, which will be weighted as follows: Letter writing, 5; anatomy and physiology, 15; surgery and surgical pathology, 20; chemistry, materia medica, and therapeutics, 10; bacteriology and hygiene, 10; theory and practice of medicine and general pathology, 25; obstetrics and

gynæcology, 15; total, 100. The examination will be divided into two days of seven hours each. Applicants for this examination must be competent physicians and surgeons, graduates of reputable medical colleges, and must furnish satisfactory certificates relative to their moral character and ability. From the eligibles resulting from this examination it is expected that certification will be made to the position of acting assistant surgeon, United States Marine-Hospital service, at Juneau, Alaska, and for similar vacancies as they shall occur. This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply, and applicants will be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination. It is the practice of the department, however, whenever practicable, to appoint a regularly practising physician residing at the place where the vacancy exists. Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and promptly forwarded to the commission.

Decreasing Infant Mortality in New York City.—Although the summer just passed was one marked by excessive heat and humidity, almost without a break for three months, the infant death rate was less than for any year in the past decade. The following table is made up from the statistics of the board of health:

Deaths and Death Rates of Children Under Five Years of Age, for the Months of June, July, and August.

	Population.	Deaths.	Death Rate.
1891	188,703	5,945	126.0
1892	194,214	6,612	136.1
1893	199,886	5,892	117.9
1894	205,723	5,789	112.6
1895	212,983	6,183	116.1
1896	216,728	5,671	104.7
1897	220,641	5,401	91.3
1898	224,736	5,047	89.8
1899	229,029	4,689	81.8
1900	233,537	4,562	78.1

It is claimed by those who are interested in the Nathan Straus booths for the distribution of pasteurized milk that this good showing is largely due to this establishment. The first sterilized-milk booths were opened in 1893, and the infant death rate has almost steadily declined since then. No doubt this is one of the causes, but we are inclined to the belief that to the late Colonel Waring belongs much of the credit for this saving of life, for the progressive decrease in the infant mortality really began with the cleaning of the streets effected by that noble citizen.

A Testator Objects to Chaplains.—It is stated in the *National Hospital Record* that a recent bequest of $50,000 to the Geneva, N. Y., City Hospital contains a peculiar clause, stipulating that the hospital "shall not have an officer known as a chaplain or have any person in its service at any time any part of whose duties it shall be to perform such services as are usually performed by a chaplain." The will provides that in case the request is not complied with such bequest shall revert to the estate of the testator and then be given to the Rochester City Hospital. Not more than $10,000 of the sum is to be expended for buildings.

Medical Fraternities for Women.—We are requested by a member of "Zeta Phi" to state that this society is not the first and only woman's medical fraternity, there being one and possibly more in western medical colleges.

Trinity Infirmary, which has been closed since last spring, will be reopened about the middle of this month. The hospital was formerly under the charge of the Episcopal Sisters of St. Mary, but will in future be under the management of a woman superintendent and a staff of lay nurses.

The Plague still lingers in Glasgow. There were two deaths on September 29th, one of them being of an infant born of a woman suffering at the time from the disease. Up to the first of this month there had been seven deaths, and twenty-one cases were still under treatment.

Insanity of a Christian Science Convert.—A young woman physician, formerly practising in Concord, is confined at the New Hampshire Asylum for the Insane under treatment for melancholia, which began to show itself shortly after she embraced the teachings of Christian Science and relinquished the practice of her profession.

Ptomain Poisoning at a Dental Dinner.—Twenty-four dentists, members of the Delta Sigma Delta fraternity in Chicago, attended a banquet of the society on September 28th, and more than half of them presented serious symptoms of ptomain poisoning during the night. The poison is believed to have been contained in some canned salmon.

A Collective Investigation of Cancer in Prussia.—The Prussian government has sent a circular to all practising physicians in the kingdom calling for answers to a series of questions bearing upon the etiology of cancer. The principal points are whether cancer is hereditary and contagious, whether it is connected with a particular habit such as indulgence in alcohol, tobacco, etc., and whether it is more prevalent in one town or province than in another.

Scarlet Fever at a Health Resort.—It is reported from Quebec that many members of the large American colony at Murray Bay, the watering-place of the lower St. Lawrence, have been placed in quarantine on account of the outbreak of scarlatina in their families, and they are unable to leave for home. The family in which the first case of scarlatina occurred had made purchases of homemade Canadian rugs, homespun cloths, etc., manufactured by the local French-Canadian housewives, and these are believed to have carried the infection. The rapid spread of the disease is attributed in part to the promiscuous use by

visitors of the calashes, or peculiar two-wheeled public conveyances. All these are now being disinfected.

Evidences of the Coal-Miners' Strike have darkened the sky of this city during the past two weeks, for many establishments have begun to use bituminous coal and their chimneys have sent forth great clouds of black smoke. No doubt it would have been even worse but for the action of the health department in causing the arrest of many of the offenders. There is no law, we believe, against the burning of soft coal, but only against permitting the smoke thus formed to escape.

A Valued Diploma.—A physician in Brooklyn nearly lost his life a few days ago while attempting to save his diploma of the College of Physicians and Surgeons from his burning residence. A few minutes after the doctor had been aroused and had reached the street he rushed back into the burning building for his diploma, which was in a room on the second floor. He succeeded in finding it, but while groping about the lower vestibule was overcome by smoke. He was found unconscious on the floor and dragged to the open air, where he was revived. The diploma was recovered, after the fire had been extinguished, near the spot where the doctor had fallen unconscious.

Insanity at the Elmira Reformatory.—It is reported that in the past six months sixty-five inmates of the State Reformatory at Elmira have been transferred to the Matteawan State Hospital for the Insane. Some of the young criminals at the reformatory develop symptoms of insanity and are transferred to the asylum every month, but this is greatly in excess of the usual number. It is noteworthy that this increase is for the period following the resignation of the former superintendent, concerning the alleged brutality of whose administration there was such an outcry in the sensational newspapers.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 29, 1900. September 21st.—Assistant Surgeon M. K. Elmer detached from Boston navy yard, ordered to accompany battalion of marines to Mare Island, then to duty on *Ranger*. Assistant Surgeon J. C. Thompson detached from *Newark* on reporting of relief, to proceed home and wait orders. Assistant Surgeon W. B. Grove ordered to duty on *Vermont*. Assistant Surgeon H. E. Odell detached from *Ranger* on reporting of relief, and ordered to Asiatic station with battalion of marines for duty as relief of Assistant Surgeon J. C. Thompson. September 24th.—Surgeon B. F. Stephenson detached from the *Baltimore* when out of commission, ordered to examination for promotion at Washington navy yard, October 1st, thence home and wait orders. Assistant Surgeon W. H. Bell relieved from additional duty at Norfolk Hospital, and ordered to continue duty on the *Vixen*. September 25th.—Assistant Surgeon H. A. Dunn, order of September 22d modified, ordered to report for duty on *Dorothea* October 1st, instead of proceeding home. September 26th.—Assistant Surgeon K. Ohnesorg detached from the Naval Academy and ordered to the *Vicksburg*. Assistant Surgeon A Stuart detached from the *Fortune* and ordered to resume duties on the *Yankton*. Assistant Surgeon E. V. Armstrong ordered to report to commandant of New York navy yard for duty on *Vermont*. September 27th.—Medical Director C. U. Gravatt commissioned medical director from August 24th. Surgeon G. B. Wilson commissioned surgeon from February 7th. September 22d.—Pharmacist R. Waggener ordered to duty at naval proving-grounds, Indian Head, Md.

Obituary.

SAMUEL SMITH PURPLE, M.D.,

NEW YORK.

Dr. S. S. Purple, whose death occurred on Saturday night, after a brief illness, was one of the last of the generation of New York physicians which included Sayre, Willard Parker, Fordyce Barker, Post, Clark, and others. He was born in Lebanon, Madison County, N. Y., June 24, 1822, and was graduated at the medical department of the University of the City of New York in 1844. In 1846–48 he was physician at the New York City Dispensary, and was ward physician under the board of health during the cholera epidemic of 1849. He was vice-president of the New York Academy of Medicine from 1870 to 1875, and its president from 1876 to 1880. The profession of this city owes to Dr. Purple's generosity the library of the Academy of Medicine, for it was his presentation of four thousand volumes that formed the nucleus of the library which has now grown to such proportions. He is said, notwithstanding this gift, to have owned at the time of his death one of the largest private libraries in New York. Dr. Purple was a prominent member of the New York Genealogical and Biographical Society, and was elected a vice-president of the society in 1888. For a number of years he was senior editor of the *New York Journal of Medicine* until it was merged into the *American Medical Times* in 1860. He followed the active practice of his profession until fifteen years ago, when he retired to enjoy the ease to which he was entitled after his long and busy career.

ALFRED STILLÉ, M.D.,

PHILADELPHIA.

Dr. Alfred Stillé died at Philadelphia on September 24th in the eighty-seventh year of his age. He was graduated from the University of Pennsylvania in 1832, and from its medical department in 1836, when he became a resident physician in the Philadelphia Hospital. After post-graduate study abroad for two years, he became, in 1839, a resident physician in the Pennsylvania Hospital. From 1845 to 1859 he was lecturer on general pathology and the practice of medicine in the Philadelphia Association for Medical Improvement, and from 1854 until 1859 he occupied the chair of the theory and practice of medicine in the Pennsylvania Medical College. In 1864 he was elected professor of the theory and practice of medicine in the University of Pennsylvania, and upon his resignation many years ago he was elected emeritus professor. He became a visiting physician to St. Joseph's Hospital in 1840, resigning this position in 1877. During the Civil

War he was one of the visiting physicians to the United States Satterlee Hospital. He was from 1865 to 1871 one of the physicians to the Philadelphia Hospital. He was one of the founders of the American Medical Association and a member of many scientific bodies, in several of which he at times held important offices. He was a prolific writer, being among other things co-editor of the United States Dispensatory, co-translator of Andral's "Pathological Hæmatology," and author of "Elements of General Pathology" and of "Materia Medica and Therapeutics."

Obituary Notes.—Dr. S. Potts Eagleton, formerly of Philadelphia, died at Ocala, Fla., on September 18th, at the age of thirty-three years. He was graduated from the University of Pennsylvania in 1890.

Dr. Jesse W. Lazear, acting assistant surgeon in the United States army, died of yellow fever in Cuba on September 25th. He formerly practised in Baltimore, and was a graduate of the College of Physicians and Surgeons in New York City in the class of 1892.

Progress of Medical Science.

Journal of the American Medical Ass'n, Sept. 29, 1900.

Etiology of Scarlatina.—William J. Class considers the evidence in favor of the view that the diplococcus scarlatinæ is the cause of scarlet fever. This organism is a new germ. Its presence in cases of the disease has been well proved. Gradwohl found it in seven consecutive cases and Jaques in every one of a large number of cases examined. The writer in 1899 had found it in three hundred successive cases of scarlet fever and scarlatinous sore throat. It is pathogenic for mice, swine, and guinea-pigs. Scarlet fever can be reproduced in animals by the diplococcus scarlatinæ, and the pathological changes resemble those of scarlet fever. The disease produced by this organism is of a contagious nature. Scarlet-fever blood has an inhibitory action on the growth of this organism. This germ is found in throat secretions of patients with scarlatinous sore throat. The growth of the organism in milk does not affect that medium. The germ is found in cases of surgical scarlet fever.

Gauze Carrier.—Clinton T. Cooke describes this new instrument designed to introduce gauze into cavities in, or orifices of, the body for drainage purposes or for controlling hemorrhage. It will rapidly and often painlessly pack gauze into cavities, wounds, fistulæ, or sinuses. Only one introduction is necessary at one dressing. The gauze is transferred directly from container to cavity, and is not touched by human hands.

Technique of Vaginal Extirpation for Cancer of the Cervix by Ligature Only.—By Rufus B. Hall.

Abdominal vs. Vaginal Hysterectomy for Uterine Carcinoma.—By John B. Deaver.

Importance of Early Recognition of Cancer of the Uterus.—By William H. Humiston.

Operative Treatment of Cancer of the Uterus.—By William R. Pryor.

Philadelphia Medical Journal September 29, 1900.

Inhibition of the Heart as an Aid in Diagnosis.—Albert Abrams sums up the following conclusions. 1. The inhibition manœuvre will cause organic cardiac murmurs to become faint, and in exceptional cases inaudible. 2. Transmitted murmurs are more amenable to the manœuvre. 3. The fainter the murmur, the more easily is it suppressed by the manœuvre. 4. When a transmitted murmur can be inhibited, the tone which it masks can be auscultated. 5. Heart tones are less amenable than are heart murmurs to inhibition. 6. Hæmic murmurs are more readily inhibited than are the organic murmurs. 7. As a rule, the murmurs of anæmia may be suppressed and their evanescence is marked by the reappearance of tones. 8. Exocardial murmurs are easily influenced by the inhibition manœuvre. 9. When the inhibition manœuvre is incorrectly executed, the result is to increase the intensity of the murmurs owing to increased exertion which intensifies the force of the heart's action. 10. The manœuvre often repeated gives no results, owing to overstimulation of the vagi. 11. In irregular action of the heart or in delirium cordis, the inhibition manœuvre is valuable in determining the time of a murmur. 12. This manœuvre enables us to determine the condition of the vagi as inhibitors of the heart and is a guide in the administration of cardio-tonics. For clinical purposes, inhibition of the heart, according to the writer's experience, is best attained by voluntary contraction of the muscles of the neck, which, however, must needs be forcible. The manœuvre is readily learned.

On Some Cases of Pleural Exudate, with the Physical Signs of Pneumonia. Herman B. Allyn recounts a case of empyema in a young woman who had been perfectly well till nine days before admission to the hospital. Four days before admission she had been taken with a severe chill, and since had been in bed with fever, cough, pain in the side, and expectoration. The physical signs on admission consisted of flatness on percussion over the left lung, increased vocal fremitus, bronchophony and pectoriloquy, tubular breathing, and some subcrepitant râles at the left base. At the autopsy was found a thickened pleura, with about 250 c.c. of pus, a fibroid lung, with bronchiectasis and old tuberculous foci in both lungs. There was probably just enough air-space above the small layer of pus to act as a resonator for the voice and breath-sounds transmitted through the dilated bronchus. There is evidently no pathognomonic sign of a pleural exudate. The most important test of the presence of fluid in the pleural cavity is puncture with an aspirating-needle. The *x*-rays are of great service in the diagnosis of pleural effusion and of the amount of fluid present.

Pylorectomy for Adenocarcinoma, with Report of a Case.—By Joseph H. Branham.

Hemorrhoids: Etiology, Pathology, and Treatment.—By J. William J. Doyle.

Some Clinical Effects of Ammonio-Formaldehyde.—By Edward L. Keyes.

A Digest of Two Hundred Cases of Pneumonia.—By C. Z. Weber.

Appendicitis.—By Samuel Lloyd.

Medical News, September 29, 1900.

Some Studies in Metabolism in Chronic Nutritional Disease.—G. W. McCaskey says that in the study of chronic nutritional disease of various sorts, they can be divided into three groups: one with diminished, another with excessive, and a third with normal urea excretion. Out of forty cases of neurasthenia with marked hypoazoturia, the lowest quantity found was 2 gm. in one case, ten cases had 5 to 6 gm., and the remainder ranged from 6 to 19. In cases of hyperazoturia we find numerous chronic morbid states, among which diabetes mellitus occupies a conspicuous position, in which tissue metabolism is excessive, and the output of urea greatly in excess of what it ought to be. In the case of a young girl weighing ninety-five pounds, the quantity of urea was 48 gm. In cases of ortho-azoturia we find the urea excretion strictly within the normal range, and yet have to deal with obvious, chronic, morbid nutritional states; here we commonly have to deal with toxic conditions resulting from functional disturbances of some one or more of the principal organs of the body. In studying the urea excretion a series of analyses of measured twenty-four-hour collections is advisable in all cases in which unusual conditions are met with.

The Art of Keeping Cool, with Special Reference to the Proper Use of Water. Ralph Wait Parsons says that by introducing water in small and frequent quantities either into the stomach or rectum, we can obtain a reduction in the bodily temperature, due to the direct effects of the cooling properties of the water, to reflex action, and to stimulation of the function of the sweat glands. In hot weather, he advocates a dip in water at 60 to 70 F. lasting from one-half to one minute, and followed by a vigorous rub with a coarse bath towel. A shower bath is even better. This cold bath stimulates the heart and nervous system, gives a sense of well-being, gives a healthy glow to the skin, improves the appetite, and rejuvenates the whole organism, giving energy to resist the depressing effects of heat and sultriness. At the close of a hot day, a bath at 103 to 105 F., lasting from three to seven minutes, is cleansing and stimulating; it should be followed by cold water, and after a brisk rub the bather can go to rest, and in the majority of cases enjoy a good night's sleep, although the temperature be very high.

The Dose of Potassium Iodide with Reference to its Untoward Effects upon the Upper Respiratory Tract. Lewis S. Somers calls attention to the frequent production of iodism from small doses, and, in contrast, the comparative immunity which attends the administration of large quantities. In some instances, should congestion of the upper respiratory tract be developed after the administration of small initial doses, the symptoms will disappear if the

drug be vigorously pushed. To avoid unpleasant phenomena, when the drug is given in ascending doses for long periods, it is sometimes useful to administer also other drugs, such as arsenic and belladonna. The chances of unpleasant symptoms are decreased by dilution with water or milk. If potassium iodide is taken in large amounts with little fluid, it is retained much longer in the body than otherwise, whereas if liquids in copious amounts are freely exhibited elimination is facilitated, and at the same time favorable results are obtained.

A Rare Case of Injury to the Membrana Tympani.—Thoman D. Tuttle reports the case of a young girl who had gone to bed with her hair done up with hairpins. She was wakened in the night by a sudden, severe pain in the left ear, and a hairpin was found protruding from the canal and removed with some difficulty. The pin had entered open end first, and had punctured the tympanic membrane. The latter appeared almost black, and bulged slightly. The case was treated on antiseptic principles, and at the end of eight days there was no evidence of injury except a slight congestion of the membrane about the point of puncture, which had healed.

Medicine and Superstition.—By G. W. Guthrie.

New York Medical Journal, September 29, 1900.

Hypertrophy of the Turbinated Bodies and their Relations to Inflammations of the Middle Ear; with Report of Fifteen Hundred Operations.—C. R. Holmes covers in this article familiar ground, saying that his experience has led him to prefer the saw and scissors to the cautery and cold wire snare. He aims to remove as little of the edge of the inferior turbinate as is consistent with the restoration of sufficient breathing-space, and save as much of the anterior end of the bone as possible, inclining the direction of the line of cut upward and backward from the lower edge of the anterior, and so as to include as much as possible of the posterior hypertrophy, the saw having been pushed backward till its blunt point is in the pharynx.

A Case of Ozæna, Probably of Sphenoidal Origin.—The patient of J. W. Farlow showed ozænatous changes in only one nostril. While probing he happened to pass the instrument into what was evidently the sphenoidal sinus. Special attention to the cleansing of this cavity was followed by great improvement of all symptoms.

The Treatment of Umbilical Hernia in Children and Adults; Some Points in Technique; A New Method of Radical Cure.—By J. C. Stinson.

Some Observations upon Syphilitic Manifestations in the Optic Nerve and Retina; Inflammatory Manifestations.—By P. T. Vaughan.

The Use of Piperazin in Nephrolithiasis.—By C. J. Aldrich.

A Chinese Physician.—By W. E. S. Fales.

Boston Medical and Surgical Journal, Sept 27, 1900

A Critical Review of Thirty Cases of Pyosalpinx.—G. S. Whiteside and W. J. Walton report these cases, some of which were operated on in the Massachusetts General Hospital, others being taken from the records of private cases of Dr. M. H. Richardson, while two of them are the writer's cases. They believe that the gonococcus cannot be proved to be the cause either directly or remotely in as large a number of instances as is generally supposed. Among other organism which they have demonstrated to be the only living microbe present in a considerable number of cases, are the bacillus mesentericus, pneumococcus lanceolatus, bacillus tetragenus, colon bacillus, and streptococcus pyogenes. From this series of cases they draw the following conclusions: The mortality of the operation taken as a whole is sixteen per cent. The greatest dangers to be apprehended are in streptococcus infections from peritonitis, in all drained cases from fecal fistula, in tuberculous cases from extension of the disease to other organs. The authors have inserted tables which help in determining the cause of pyosalpinx and defining the symptom complex of the condition.

Traumatic Joints.—Homer Gage concludes his paper on this subject as follows: (1) All injuries to joints accompanied by loss of function are always attended by more or less laceration of the tissues in or about the joint. (2) The delays in the restoration of function are due in most instances not to any complicating diathesis, but to the changes incident to the repair of these lacerations and their effects. (3) Such delays are best avoided by an early resort to massage and active or passive motions, and are favored by too long a continuance of rest and fixation. (4) When such delays have occurred, they are best overcome by more vigorous and persistent manipulation, supplemented by the application of heat or such other agents as may best stimulate the local circulation and favor the elasticity of the tissues.

Post-Operative Hæmatemesis.—Kenelm Winslow says that this condition occurring without any visible lesion and without any apparent cause is very rare. He believes the etiology to be yet unsolved. Others have suggested ligature of the omentum, also twisting of the same, sepsis, and the use of cocaine as causative factors. He then recounts the history of a case of this nature.

A Study of the X-Ray Plates of One Hundred and Forty Cases of Fracture of the Lower End of the Radius.—By E. A. Codman.

The Lancet, September 22, 1900

Beri-Beri.—C. Bullmore does not believe that beri-beri as it appears in England is either infectious or contagious and regards it as a different malady from that seen in foreign countries. He puts forward the theory that the disease that reaches us is due to an alkaloidal poison fanned into flame by the disarranged digestion of sailors who are kept on improper diet, and in that case by properly dieting the vessels and supplying the captains with iron and digitalis tabloids the disease in all probability would be reduced to a considerable extent if not stamped out.

Some Points about Post-Diphtheritic Paralyses.—B. E. Myers presents a statistical table of thirteen hundred and sixteen cases of diphtheria seen in the Park Hospital Hither Green, during the year 1899. Of this number two hundred and seventy-five showed various paralyses. Four tables are given relating to occurrence as to age, months in which the cases occurred, to cardiac paralysis, etc. Nothing new is presented as regards etiology, course or treatment.

Multiple Warts Cured by Revaccination.—J. D. Staple revaccinated a girl whose hands were covered with warts, there being ninety-four on one hand. The operation was successful, but no effect on the warts followed until seven weeks later, when they began to disappear, leaving temporary white spots. In three months the hands were entirely clean.

Treatment of Some Common Diseases of the Skin.—Address before the British Medical Association by P. S. Abraham.

Some Notes on the Use of Mercurol; a New Remedy in Urethritis.—By R. Guiteras.

A Fatal Case of Poisoning by Paraldehyde.—By L. Drage.

The Etiology of Rheumatic Fever.—By F. J. Poynton.

A Case of Phosphorus Poisoning.—By W. E. Newey.

British Medical Journal, September 22, 1900.

Insanity in Lead Workers; Acute Delirious Mania.—Robert Jones concludes: (1) That lead poisoning is a contributory factor in the causation of insanity, and that in lead workers there is a higher average number of general paralytics than in others of the population; (2) that there is a tendency in these cases to cardiac, renal, and arterial degeneration with complications due to syncopal or epileptiform fits; (3) that most cases present marked signs of anæmia and ill-health, with unsteadiness of gait and general impairment of muscular strength and very frequently a history of temporary failing vision; (4) that the mental symptoms may be grouped among one or other of the following varieties: (*a*) those in the nature of toxæmia and with sensory disturbances, and which tend rapidly to get well; (*b*) those with hallucinations of sight and hearing more chronic in their nature, and which may be irrecoverable. The delusions in this class are almost invariably those of being poisoned or followed about, and are in the main persecutory; (*c*) those resembling general paralysis with tremors, increased knee jerks, inco-ordination, and accompanied with listlessness amounting to profound dementia, but which tend to get well; (5) and that in most lead cases presenting mental symptoms the tendency is to recovery unless the patient dies early.

Some Cardio-Psychical Associations.—J. R. Whitwell states that we may, perhaps, with some reserve for further observations accept a certain series of cases of imbecility as due to disproportion between the development of brain and cardiovascular system; here, the mental symptoms, as a result of this imperfect evolution, are entirely on the lower plane of psychical reactions. Another class is one in which congenital or early infantile heart disease of serious type is present the proportionate cardiac development being normal, and compensation being more or less properly carried out. Certain cases of mitral disease present symptoms of gloom and depression, as well as self-absorption, suspicion, and irritability. In conclusion, the writer notes the condition of pathological eupathy in which the heart at last, refusing to respond to ordinary cardiac stimulants, gradually fails beyond recovery. Yet the patient is convinced that he is better and stronger daily.

Acute Delirious Mania.—John Turner believes that all forms of acute delirious mania are of toxic origin, some being caused by the introduction of a poison from without, others by the absorption of septic material, while a third class is due to auto-intoxication. As regards the action of a possible poison on the nerve cell and its functions the subject is too speculative for any advantage to be derived from discussing it. In cases with high delirium and a rapidly fatal termination there is generally a condition present in which all the giant cells are profoundly altered, and probably the inspection of a section in such cases would furnish a tolerably accurate diagnosis of the mental state preceding death.

The Effects of Inhalation of Certain Anæsthetics on the Kidneys.—Dudley Buxton and A. G. Levy quote cases which show that the quantity of urine, after the administration of ether, was reduced in amount. However, the routine preparatory treatment may have had considerable influence in bringing about this result. This reduction is in the urinary water only. There is little evidence to show that ether exerts directly any deleterious influence on the kidney parenchyma. The administration of this anæsthetic, however, should be performed with care, and an undue quantity should not be given.

The Condition of the Cells in the Spinal Cord after Various Nervous Lesions.—By W. B. Warrington.

On Some Changes in Volume of the Submaxillary Gland Accompanying Secretion.—By J. L. Bunch.

Observations on the Temperature of Man after So-Called "Heat-Stroke."—By M. S. Pembrey.

The Correlation between Sexual Function, Insanity, and Crime.—By H. MacNaughton-Jones.

The Relation of the Lunacy Laws to Neuro-Psychological Diseases.—By J. M. MacCormac.

Muscular Tonus in Relation to Diseases of the Nervous System.—By F. W. Mott.

The Structure of the Mucous Membrane of the Œsophagus.—By Denis J. Coffey.

The Metabolisms of the Nucleins in Birds.—By T. H. Milroy.

Organo-Therapeutics in Mental Diseases.—By C. C. Easterbrook.

The Treatment of Epileptics in Colonies.—By W. Aldren Turner.

Anæsthetics and Urinary Secretion.—By W. H. Thompson.

The Retinal Response to Light.—By Augustus D. Waller.

On Blood Pressure in the Insane.—By Maurice Craig.

Peripheral Neuritis and Insanity.—By R. P. Smith.

A Digital Sphygmograph.—By A. D. Waller.

A Note on Respiration.—By R. J. Anderson.

Epileptic Insanity.—By E. S. Pasmore.

Deutsche medicinische Wochenschrift, Sept. 13, 1900.

Death following Psychical Trauma, with Observations on the Delirium Nervosum of Dupuytren and Operative Psychoses.—Pagenstecher describes an interesting case of litigation against an accident insurance company. The patient, a man aged fifty-one years, who was somewhat neurasthenic but otherwise in good health, was heavily insured in a number of accident companies. While sharpening a pencil he slightly cut the ball of his thumb, his pen at the same time falling from behind his ear and covering the little wound with ink. The patient became greatly alarmed lest blood poisoning set in, and consulted several physicians with the idea of having the arm amputated. Simple antiseptic treatment was applied, but the patient insisted on the idea of infection, complained of pains ascending the arm as the process progressed, and went into syncope, followed by a restless night and severe delirium, with agitation and convulsive symptoms the next day. There was no fever or rise in pulse rate, and the patient came to himself when addressed, but suddenly, without any change in the symptoms he went into collapse, and died thirty-two hours after receiving the injury. On autopsy nothing explaining the fatal ending could be found; ptomain or other poisoning was excluded by proper investigation of the internal organs. The case is one of traumatic delirium, such as is observed after accidents and surgical operations which are often comparatively trifling and out of all proportion to the resulting mental derangement, the gravity of the condition depending not on the extent of the injury but on the state of psychical shock. In the case in question death was probably due to an acutely supervening attack of cardiac insufficiency. The decision of the courts has not yet been rendered.

First Aid by the Laity in Lime or Mortar Injuries to the Eye.—H. G. Stutzer considers irrigation with water as the best and most easily applicable remedy to be entrusted to lay hands in injuries of this sort. Sugar solution has been recommended, but though lime is slightly more soluble in this medium than in pure water, it forms a pasty mass with it which is hard to remove. Oil or milk lessens the pain but does not check the destructive action of the foreign substance; glycerin gives good results but is not adapted for a first-aid remedy, as it is not always quickly obtainable, and in these cases speed is the first consideration. The following directions with suitable illustrations should be printed on placards and posted about all buildings in course of construction. The patient is at once to be laid on the ground, and any convenient vessel quickly rinsed and filled with clean water. A fellow-workman kneels at his side, and opens the injured eye by applying the thumbs to the two eyelids and forcibly separating them. At the same time some one else pours the water into the eye in as fine a stream as possible, holding the vessel at the height of one and one-half feet and continuing as long as any particles are still to be seen in the eye. Then the patient should be brought under medical care as soon as possible.

Cured Peritoneal Tuberculosis in Children.—Cassel says that while it is now universally recognized that operative treatment is the proper measure in this disease in adults, the same conclusion is not so unreservedly applied when the patients are children. In his experience, however, no distinction should be made on the ground of age, and he presents three case histories in which a cure effected in this way has persisted for several years. Whenever in patients of this class, in spite of a suitable general and hygienic regimen, including the application of the proper external and internal remedies, a febrile movement continues during several weeks, the abdominal swelling does not diminish but increase, and the emaciation continues to progress, the case is a suitable one for operation, no matter what form of peritoneal tuberculosis it may be.

The Examination of the Thorax with the Roentgen Rays and Some Results.—By Levy Dorn.

The Pathogenicity of the Staphylococcus Quadrigeminus Czaplewski.—By G. Kieseritzky.

The Prophylactic and Curative Action of Urotropin.—By Zaudy.

Berliner klinische Wochenschrift, September 3, 1900.

Eye Injuries from Lime.—H. Schmidt-Rimpler analyzes fifty-six cases seen during the last ten years. The immediate procedure in these cases should be the careful removal of all particles of lime from the cornea and pupil. This is best done with a piece of clean linen dipped in oil, or, if no oil is at hand, with a piece of linen alone. The accidental abrasion of the epithelium is of less danger than the continuance in the eye of the offending body. Next the eye should be thoroughly syringed with some bland oil, care being taken that the oil penetrates thoroughly under the upper lid and in the conjunctival sac of the lower. The writer advocates the use of spectacles by those whose occupations render them liable to this class of injuries.

Treatment of Lepra.—W. Donitz advises the subcutaneous injection of the familiar chaulmoogra oil. The injections should be repeated every ten to fourteen days, using for dosage 0.1 to 0.2 gm. A reaction similar to that of injections of cantharidin has been observed. Some subsidence of the affected areas was observed.

The Permeability of the Intestinal Wall by Bacteria.—A series of experiments on animals by C. Posner and J. Cohn.

Pathogenesis of Malignant Tumors of the Upper Nasal Chambers.—By J. Herzfeld.

Angina Pectoris.—A study of five cases by Max Soloman.

Münchener medicinische Wochenschrift, Sept. 11, 1900.

A New and Simple Method for the Observation of Injury to Living Cells and Organisms (Bioscopy).—Neisser and Wechsberg, in conducting an investigation on staphylococcus toxin, had occasion to study the action of leukocidin on leucocytes. In doing this advantage was taken of the reducing power of the cells to avoid the necessity for the time-consuming direct inspection with the oil-immersion lens. If to a fluid containing numbers of living leucocytes a small amount of methylene-blue solution be added in a test tube sealed with paraffin, and the mixture be placed in the thermostat, in a short time decolorization of the fluid will take place. If, however, the leucocytes be killed by the addition of leukocidin, quinine, or overheating, the solution retains its color, showing the absence of vitality in the cells. The reaction succeeds with all cells capable of surviving, such as kidney and pancreas cells, as well as the motile leucocytes, spermatozoa, and ciliated epithelium. Under similar conditions many forms of bacteria give the same reaction, which is especially strong for tubercle and typhoid bacilli, cholera vibrios, and staphylococci.

A Method for the Demonstration of a Capsule in Bacteria Grown in Non-Liquid Media.—Icilio Boni concluded that

the reason that the capsule of the pneumococcus was visible in stained specimens that had been grown on bouillon, but not in those cultivated on agar, was that the capsule being colorless depended for its differentiation on the contrast afforded by the staining of the slight film of bouillon; bacteria taken from solid cultures are spread in a drop of water which affords no background on drying. Better than bouillon for mounting bacteria to be stained with the object of showing the capsule is a solution of the yolk of one egg in 50 gm. of glycerin, with the addition of two drops of formalin. By using this fluid it is possible regularly to identify the capsule of bacteria which under the older methods do not always show it, and it is probable that by its means capsules will be detected about bacteria now not supposed to have them.

The Prevenion of Puerperal Fever.—Hofmeier enters a strong plea for greater thoroughness in the sterilization of the operative field in obstetrical work. While the necessity for asepsis is great at all times, whenever any operative interference is proposed, such as manual extraction of the placenta, it is absolutely essential that a thorough sterilization of the vagina itself as well as the vulva be carried out.

New Regulations for Bavarian Midwives Concerning the Prevention of Ophthalmia Neonatorum.—By S. Neuburger.

A Journey through Switzerland Performed in the Epileptic Subconscious State.—By George Burgl.

Clinical Contributions to the Diagnosis of Typhoid Fever.—By Berliner and Cohn.

Cavernous Angioma of the Cerebrum.—By Struppler.

French Journals.

Thyroid Cancer.—A. Carrel at the close of an interesting paper on this subject states that death is the fatal termination of the evolutiou of cancer of the thyroid body. It may be due to the progressive cachexia, or to respiratory, vascular, or infectious complications. In the majority of cases the local conditions assume the chief importance, but now and then, especially if the tumor be very malignant, cachexia holds the first place. Most frequently, however, tracheal compression causes death, and often suddenly, by asphyxia. Death from vascular complications is rare, although certain examples of extreme hemorrhage from ulceration of the carotid artery are quoted. The various infections find a fertile soil in the respiratory apparatus of the victim of this malady.—*Gazette des Hôpitaux*, September 18, 1900.

Indications and Operative Technique of Gastrostomy for Œsophageal Neoplasm.—M. Mauclaire states that the prognosis of œsophageal neoplasm is most grave, and as the removal of the growth is not practicable, palliative treatment only is left to the surgeon. The writer then briefly reviews the history and chief methods of gastrostomy. The results of this operation are not so brilliant as one could wish, but nevertheless the lesion improves so much that sometimes food can again be taken by the mouth. Life is prolonged for weeks or months, pain is diminished, and the patient is greatly relieved.—*Le Bulletin Médical*, September 12, 1900.

Sternal Adenitis.—Maurice Patel, after discussing this subject, concludes that sternal adenitis falls into three groups due to the anatomical position, whose principal symptoms are as follows: (1) Deep adenitis, phenomena of constriction, extension to the mediastinum and the axilla; (2) medium adenitis, no phenomena of constriction, position substernal, deep cicatrix, retrosternal; (3) superficial adenitis, position presternal, cicatrix presternal, superficial.—*Gazette Hebdomadaire*, September 16, 1900.

Subconjunctival Injections.—M. Étiévant shows that by subconjunctival injections of mercurial solutions, the antiseptic substance by means of the lymphatics penetrates to the infected parts and exercises its action directly there. The writer believes that the results of this method are most successful, and that accidents do not attend it.—*Gazette des Hôpitaux*, September 15, 1900.

The Journal of Tropical Medicine, September, 1900.

The Use of Quinine in Malarious Fevers.—Rai Kailas Chunder Bose Bahadur, of Calcutta, relies absolutely upon quinine in the treatment of malarious fevers, always obtaining satisfactory results. He considers it simply a waste of time to wait for a remission or perfect intermission, for one cannot be positive about the prognosis, however mild the case may appear at the onset, apparently uncomplicated cases sometimes assuming a pernicious form and killing the patient. The use of quinine during the hot stage of fever has often been followed by hopeful results. In remittent fever it should be given in small repeated doses, as big doses are apt to cause sickness, insomnia, and depression of spirits. Failure of the heart's action may be prevented by the judicious administration of quinine from a very early stage of the disease. Intermittent fevers yield rapidly to the remedy: one dose of gr. xv. shortly followed by another similar dose rarely fails to cut short the fever and prevent its return. The author reports several cases.

Malignant Malaria, with Urticarial and Petechial Eruptions.—Charles Todd reports the only one of seven hundred cases of malaria seen by him in Mashonaland in which urticaria was observed. The rash appeared first, and the case was regarded as one of ptomain poisoning, probably due to tinned food; but other persons who had partaken of the same dishes did not suffer. The successive crops of urticaria, coupled with the fact that the patient's condition was gradually becoming worse, suggested that the poison producing these symptoms was still being formed in the body, and the appearance of coma and a petechial eruption pointed to malaria as the cause. Malarial parasites were found in the blood. Hypodermic injections of the acid hydrochloride of quinine caused an improvement in the patient's condition, but on the next day death occurred from heart failure, the temperature reaching 104° F. immediately before death.

On the Action of Light upon the Human Body in Relation to Dress.—By Joseph Ritter von Schmaedel. Communicated and translated by R. W. Felkin.

On Plague and its Dissemination.—By Frank Tidswell.

Zeitschrift für klin. Medicin vol. xl., Nos. 5 and 6 1900.

The Influence of Morphine on Gastric Secretion.—F. Riegel in view of extensive experiments on men and animals believes that the universally accepted belief that the secretion of gastric juice is inhibited by the administration of morphine rests on errors of observation, and that the therapeutic use of this agent in conditions in which the object is to diminish the secretory activity of the stomach is ill advised. On the contrary, morphine given either when the patient is fasting or with the food causes an increased pouring out of gastric juice, though—and this perhaps explains the former idea—there is a considerable latent period before this result makes itself manifest. This conclusion applies only to cases in which the drug has been given for a short time; whether it would still hold true after its habitual use for a considerable length of time is not certain. But even if this question remains an open one, still the advice that, owing to its property of checking secretion, morphine be administered in cases in which even the normal hydrochloric acid is injurious, especially in gastric ulcer, is certainly to be condemned. On the contrary, reflecting on the results of these experiments, it would seem that caution should be exercised in selecting morphine as an anodyne in gastric affections, and it should be administered only in cases in which an increased secretion cannot do harm. The results of further experimentation have shown the author that atropine and belladonna preparations do have to a high degree the faculty of reducing the amount of gastric juice, and this fact explains the clinical observation that the addition of a small amount of atropine often gives relief when the injection of morphine alone is powerless to control gastric pain.

The Mechanics of Memory.—Adamkiewicz regards memory as a purely physical function underlying and in some sense forming the basis of the psychical life, but still in its nature as separate and distinct from it as any other of the purely vegetative processes. Judged by a standard of efficiency memory is most developed in childhood, decreases during adult life, and is least active in old age, while hand-in-hand with these functional alterations go organic changes in the brain substance. In infancy and early life the brain tissue is extremely tender and vascular, but with increasing years its blood supply diminishes and it grows coarser in texture. The ability of young children to acquire large numbers of disconnected and irrelevant facts with an ease and accuracy quite out of the power of their elders is well known but no one would maintain that they are therefore on a higher psychical plane, and it is a matter of every-day experience that after a few years the same individual, though undoubtedly much farther advanced intellectually, is unable to perform the same feats he formerly accomplished without effort.

The Study of the Cerebrospinal Fluid.—M. Lewandowsky says that in view of the increasing interest attaching to the subdural injection of drugs, and especially the cocaine anæsthesia of Bier, and the direct injection of tetanus antitoxin, it is of importance to recognize fully the nature of the cerebrospinal fluid. In general it may be said that this partakes of the nature of the lymph, receiving only a small portion of transuded matter and this after modification through the specific action of the cerebral capillaries. On the whole it is to be regarded as a specific product of the brain, and represents that part of the lymph originating through organic action. Experiments with strychnine and ferrocyanate of sodium showed

that when thrown into the subdural space these substances penetrated directly into the nerve substance through its lymph channels and without the intervention of the circulation.

The Behavior of the Bone Marrow in Disease and its Relation to Blood Formation.—By Schur and Löwy.

The Excretion of the Products of Intestinal Decomposition in the Urine.—By Stranss and Philippsohn.

The Nucleoproteid of the Pancreas.—By Amber.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PLAGUE AT GLASGOW—WAR HOSPITALS—SIR R. BULLER AND LORD ROBERTS DEFEND THE MEDICAL SERVICE—ALLEGED CRUELTY TO A LUNATIC—THE NATIONAL HOSPITAL SCANDAL—PROFESSIONAL PHILANTHROPISTS—SOME BOOKS—COMING SESSION.

London September 14, 1900.

Glasgow has had a trying week but has not given way to panic. Her sanitary authorities are wide awake and active, but the name of plague naturally causes fear, and in addition to the direct danger from disease there is the serious injury to commerce. On Monday and Tuesday the cases of plague numbered sixteen; there were two doubtful and one hundred and thirteen persons under observation. These numbers have not increased. It was announced that one of Monday's admissions was a case that had existed undetected for many days in the infected district. This gives rise to misgivings lest during that time the infection may have spread from it. Further accommodation is being provided for doubtful cases, and no precautions will be omitted. In this respect I may remark that for months past the medical officers of health have adopted precautions against the arrival of infection, such, for instance, as scheduling the arrival of ships from infected places at any of our own ports. Inquiry has been made as to the condition of such ships, the water supply on the voyage, the nature of their cargo, whether any dead rats have been found, and the health of the crew and passengers. By intercommunication among the health officers of our several ports the most important information is circulated.

The sensational press has done its level best to get up "a scare" about plague, but fortunately with little success, although a statement was made that cases had appeared in the London docks—a statement for which there was no foundation. It would not be at all surprising should cases find their way to this port, but the port sanitary authorities are confident that they will be able to deal with such a case and prevent it spreading. Should a case ever pass their lines it would almost certainly reach the Seaman's Hospital, where the staff are well prepared for such a contingency, and the Tropical School would second them. Mr. Canthe, F.R.C.S., who had experience of the disease at Hong Kong, has visited Glasgow and published his conclusion as to the outbreak in the local journals. Dr. Colvin, who saw the first cases, has recorded their clinical features in *The Lancet*. Dr. Chalmers, the medical officer of health, has invited the local profession to a series of clinical demonstrations on plague to be given by the physician-superintendent of the Belvedere Fever Hospital, which is being utilized for the plague cases. This is a specially commendable step, considering that early diagnosis is so essential to prevent the spread of the disease, and scarcely any practitioner has had an opportunity of studying it. All those who have experience of the disease and have seen the cases at Glasgow agree that they are very mild, but this, of course, does not make the infectiveness any less. A large supply of plague serum has been sent by the Pasteur Institute, and any amount can be obtained. It is asserted that the institute has stock enough to inoculate the population of the continent; but it seems improbable that such a quantity should have been accumulated, for its keeping qualities are not to be trusted. Probably the report is due to a statement that the institute could obtain a supply to meet an epidemic extending over all Europe.

The Royal Army Medical Corps must await the verdict of the commission as to the way in which it met the demands made upon it. The corps can wait patiently. Not so the "plague of women" or the sensational M.P. Lady Sykes, who wrote some "sidelights on the war," has repeated in *The Daily News* the unsupported charges in which she indulged, and in the repetition has "gone one better." Mr. Murray Guthrie, M.P., not satisfied with giving evidence before the commission, has added to it an article in the *Nineteenth Century* magazine, where, of course, he cannot be cross-examined. He imputes the blame of any defects to the Royal Army Medical Corps, and casts out his charges and insinuations as confidently as if he possessed a knowledge of what he is writing about—a qualification which he evidently lacks.

Mr. Lees Knowles, M.P., has brought upon himself a crushing rebuke from Sir Redvers Buller, who in reference to his charges asks, "Was ever a more shameful accusation more shamelessly published?" Mr. Knowles was challenged by Sir Redvers to substantiate his slanders or withdraw them, and has accordingly climbed down. His bid for popularity will therefore prove of little avail, and other M.P.'s may well take warning. But it seems a sad indication of public veracity when members of parliament and spiteful women disseminate slanders for the sake of getting temporary notoriety. It is not every slander that is so easily scotched, and it is not every general who can be expected on every occasion to speak out. All honor to the man who does!

Lord Roberts has given evidence to the commission and told how he ordered the transport to be cut down as an imperative necessity. That was of course understood, but it is more to the point to have his lordship's testimony as to the medical care of the sick and wounded. He told the commission they were sent down from the front with the least possible delay; that he frequently visited the hospitals, and was satisfied that both the army and civil doctors did their duty well. Perhaps after this the newspapers will be ashamed to circulate one-sided assertions libelling a body of men who cannot reply, but whose defence must await the report of the commission.

A painful case of alleged cruelty to a lunatic has excited much attention. The patient was a congenital idiot and resided with his brother, who is a medical man, a sum of £80 to £90 being allowed for his maintenance. When his habits became unbearable in the house, a harness-room at the end of the stable yard was furnished as a bedroom, and an enclosure also fenced off and partly roofed over for a day-room. The only attendant seems to have been the defendant's coachman, who was fined £5 for cruelty. The defendant himself escaped, as the magistrate who inspected the place thought that reasonable care had been taken by him, and that the allegations of cruelty against him were without foundation. It was admitted that a cane had been used to frighten the patient and to chastise him lightly. The defendant may be thankful that he has been acquitted. He will probably suffer much in costs and regret. Though the patient was taken charge of at the wish of the family for a nominal sum, he was surely entitled to more consideration. Obviously he ought to have been in an institution where he would have been properly attended to. It was not a fit case for private care. It is an object lesson, too, on the necessity of communicating to the lunacy commissioners all cases of boarding lunacies.

Sir J. Crichton-Browne has engaged the "secretary-director" of the National Hospital for Paralysis in a correspondence which illustrates the sort of tactics resorted to by the board. It comes out that the special meeting was intended to be at an inconvenient time to the staff and others; that the statement of facts admitted at the meeting to be incorrect is still being circulated; that the meeting was packed, though the packing secured the presence of only sixteen voters. Even proxies were sent out—not to all governors, however, for the secretary-director says, "Naturally the board did not send proxy papers in support of their policy where it was known they would be unwelcome." In another letter he even says it would have been "an impertinence to solicit the support of friends of the staff." Sir J. Crichton-Browne then asked how these were discriminated in the distribution of proxy papers? This is the way the board carry on their campaign against the staff.

You will not be surprised to hear that the true inwardness of the situation relates to the question of paying patients at hospitals, as well as to the rights of the staff to a voice in the government. The latter is the better position to fight, but the former is the one that most interests the mass of the profession. The professional philanthropists are sure to be generous at the expense of the practitioners, and generally are very wroth if their views are questioned. They want to speak with authority, and when they have no case abuse the other side. Even the Hon. Sidney Holland, who tries to pose as a friend of the profession as well as a philanthropist, when he finds a letter in the *Medical Press* from an indignant practitioner to which he can give no adequate reply flies off at a tangent, accuses the writer of being "exceedingly discourteous," and by way of teaching him by example, hopes "he is not as ill-mannered in his consulting-room as he is in his correspondence." Now, why should this hospital question excite the anger of those who profess so much charity and good-will?

Major G. M. Giles, I.M.S., M.B. London, has published a work which at the present time must attract attention. It is entitled "A Handbook of the Gnats or Mosquitos, Giving the Anatomy and Life History of the Culicidæ." It is a volume of nearly four hundred pages, and the descriptions are clear, though as much can hardly be said of the illustrations. These the publishers should improve in a second edition, which will probably be called for. Another timely publication is "Besieged by the Boers: a Diary of Life and Events in Kimberley during the Siege," by E. Oliver Ashe, M.D. London, F.R.C.S. Sir Joseph Fayrer's "Recollections of My Life" is a much larger production, and one which every medical man who has the opportunity will be pleased to peruse. Professor Montenegro's work on "Bubonic Plague" has been translated by Dr. Munro. It contains notes on the cases in Oporto, and the author has written an appendix expressly for the English translation.

The coming season is casting its shadow before it, and many teachers are back from their holidays and thinking about the dinners or introductory lectures, or more probably the entries of new students.

And with this shadow comes a foretaste of winter—after our heat and sunshine. There is a nip of frost in the mornings and evenings—almost an October weather.

STERILIZATION OF RUBBER GLOVES.

To the Editor of the Medical Record.

Sir: In the Medical Record of September 15th, under the head of "Surgical Suggestions," Dr. Richardson's method of sterilizing gloves is described. While I was an interne at Bellevue Hospital rubber gloves were used extensively in the wards of Dr. J. R. Hayden, and the following simple and thorough method of sterilizing them was adopted: The gloves were filled with gauze, each finger being carefully packed so that two layers of rubber were nowhere in contact. They were wrapped separately in several layers of gauze and were boiled in plain water for twenty minutes. From this they were transferred to cold bichloride solution 1:2,000, where they were left until ready to use. The difficulty experienced in putting on wet gloves was easily overcome by filling them with solution, allowing the hand to force it out as the gloves were drawn on.

E. L. Kellogg, M.D.

New York, September 20, 1900.

THE WEARING OF EYEGLASSES.

To the Editor of the Medical Record.

Sir: Observing that Dr. Jenkins seems to have misconstrued my criticism, in which I differ with him as to the "continued" or the "interrupted" wearing of lenses when ametropia or anomalies exist, I beg your forbearance in permitting space for the following propositions, which I present as the gist of my opinion upon the question under controversy:

(1) The entire solution depends upon the question whether an eye has been corrected right or wrong, *i.e.*, making the eye normal or abnormal. That an improper correction should be worn "as little as possible" is self-evident; again, if you can make an abnormal eye normal, why limit the time as to the keeping of that eye normal?

(2) Ametropia, like other structural defects and abnormalities, is followed by functional disturbances and sequences such as scowling, frowning, squinting, nictitation, eye strain, asthenopia, neurasthenia, heterophoria, strabismus, anisometropia, amblyopia, mental disturbances, etc. Why the cause of these disturbances should be removed only "as little as possible" is a matter of sufficient gravity to warrant either a thorough confirmation or denunciation.

(3) A myope of a fair degree of myopia has, beyond reading distance, defective vision, and when the myopia exceeds two or three diopters his vision is exceedingly bad, excluding him from various vocations. He can do considerable near work without glasses, but he cannot completely avoid muscular unbalance and its resulting discomfort. This person's vision can be made practically perfect and his annoyance relieved if properly corrected for both near and far vision, and why in the name of common sense this person's comfort should be interrupted merely to foil the "caricaturist" is a strange demand. Why should he not see well all the time?

(4) An hyperope of about three or four diopters defect in youth can overcome by extra exertion this defect so that he can see practically normally. But as the near point recedes his power and scope of exertion "diminish," so that in time when his accommodation = o he will need a plus lens as badly as the myope needs the minus lens, and without this lens his vision for distance is as poor as the myope's vision with an equal degree of myopia. He may develop hypertrophy of the accommodation muscle (as strabismus and what not), but in time his presbyopia will extend to infinity, and he will need lenses as badly to tell his friend across the street as he does to read the type before his nose, only less in degree. All ordinarily informed ophthalmologists know that such degrees of hyperopia left uncorrected are prolific factors in the causation of muscular unbalance, amblyopia, etc. But why should not this hyperope see well all the time as well as part of the time? The answer lies in the proper correction.

(5) The individual with even an ordinary amount of astigmatism has bad sight, while only a few diopters of this defect give him miserable sight. That this is a fertile etiological factor in amblyopia is little disputed. Why such individuals should go about guessing at objects part of the time, carrying their lenses in pocket or hand, holding them before the eyes "as little as possible" (*sic*), encouraging the bad, inevitable sequels as much as possible, is not in harmony with either modern or "antiquated tables" of refraction. To encourage this, to me seems analogous to encouraging grape-seeds to remain in the appendix.

(6) Let me emphasize that when we deal with muscular and refraction anomalies we are facing a structural condition *per se*, with but rare exceptions. A "functional" refraction error I do not consider a refraction error proper, but look upon it as a symptom or sequel of some other trouble. If this is confusing "function with structure," I prefer confusion. No qualified oculist corrects insignificant and harmless errors.

T. T. Blaise, M.D.

Mason City, Iowa.

THE LATE DR. FRANK C. MERRIAM.

To the Editor of the Medical Record.

Sir: Frank C. Merriam, whose death is recorded in this week's Medical Record, deserves particular mention because of certain traits which characterized him. His intellectual honesty was uncommon, and he took pains to think for himself. He was not aggressive. He did not strain to force his opinions on others. He sought to be on the right side with facts as they are. He took no pride in differing from others for the mere sake of appearing to be an independent thinker. He was a studious as well as an active practitioner.

In many of the jubilee and holiday addresses of medical presidents the medical practitioner has become a good deal lost behind the glorification of the progress of scientific medicine. Our era is one of Sturm-und-Drang therapie. Now and then, however, a medical orator will be bold enough to say that the general practitioner has become "too reverent for authorities and scarcely believes the evidence of his own senses, if it conflict with what the books say." Dr. Merriam did not disregard authority. Not even the cutest and wisest practitioner can afford to do that. But Dr. Merriam held his authorities accountable to proper logical divisions, and definitions controlled by facts and historical data. He was a large-hearted and sympathetic man, but he did not fail to distinguish between the results he wished and hoped for and those which nature grudgingly allowed. He looked for the fact, and strove to avoid the factitious. And in this way, like many a practitioner who remains known only to his friends and associates, he did his share in the advancement of medicine.

At the meetings of the Charity Hospital Alumni he participated in the discussions and always told us what he saw and heard and felt. He was a man of one opinion, not having one opinion for public statement and another for private uses. He was never in a hurry to speak, and when he did speak he spoke to the point, sensibly and modestly. He was a true disciple of Socrates, for he admitted his ignorance when he did not know. He was a truly self-respecting man, and, taken all in all, a good fellow in the best sense of the word; and not only are his Charity Hospital colleagues losers by his early death, but the public is too, in as far as he was in touch with it as a medical practitioner and a man.

A Charity Hospital Alumnus.

September 23, 1900.

A Too Common Neglect in antiseptic operating-room procedure is the use of instrument trays, irrigators, and tubes which have not been boiled. Boiled instruments in unboiled trays is doubtful antisepsis.—R. N. Joyce.

Society Reports.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

Proceedings of the Thirteenth Annual Meeting, Held in Louisville, Ky., September 18, 19, and 20, 1900.

First Day—Morning Session.

The association met at the Galt House under the presidency of Dr. Rufus B. Hall, of Cincinnati, Ohio.

Dr. Lewis S. McMurtry, of Louisville, welcomed the association on behalf of the local medical profession.

The address of welcome was responded to by President Hall.

After the election of Fellows, reading of telegrams and letters from absentees, etc., the reading of the papers was begun.

Erroneous Objections to Bilateral Inguinal Cœliotomy and Shortening of the Round Ligaments via the Dilated Internal Inguinal Rings, and its Superior Ultimate Results in Simple and Complicated Aseptic Retroversions of the Uterus.—Dr. A. Goldspohn, of Chicago, read a paper with this title. For a description of the technique of his operation, the writer referred to his previous articles on this subject. He laid stress upon cutting only through the skin and fat, and making the required opening through the aponeurosis, the canal, and the internal ring bluntly. The ring was very readily dilated, sufficiently to admit one, or, if needed, two fingers, and to admit of drawing out the tube and ovary for the exercise of the highest degree of delicate and exact conservative surgery upon them without doing violence to their supports. The wound was closed in four layers à la Bassini. In the second layer the round ligament became placed as in a sandwich between the posterior surface of Poupart's ligament and a good bundle of elastic muscle at each stitch, which made hernia impossible and saved the ligament from strangulation, while it held it firmly enough against Poupart's ligament to secure a broad union. Thus hernia had not followed the writer's operation in fully one hundred and twenty-five cases that he had examined or had reports from. An impending hernia in one case was due to a severe accident. As the internal inguinal ring was just in front of the normal lateral location of the ovary and ampulla of the tube, these organs and the posterior surface of the uterus could be reached by one finger in a one-inch opening here, as well as by two fingers in a two-inch opening in the linea alba midway between the symphysis and the umbilicus, and for the necessary access to the pelvic wall to shorten the proper suspensory ligament of the ovary and tube this small opening served well; while a large median ventral incision and much traumatism of viscera by that route would be needed, and by the vagina it could not be done at all. The round ligaments were always present if the uterus was. In fully one hundred and ninety cases, including seventy-five simple Alexander operations, he had found both ligaments in each case, after his pupilage on about one dozen dead women. But in four patients he traced one from within the pelvis outward. He had never had a death from the operation. But one patient died from a serious renal complication that was not previously discovered, owing to an exchange of samples of urine by a nurse. Thorough shortening of the round ligaments via their natural channels and anchoring forward (not laterally) was the only operation that had been proven, or was likely to be proven, to stand what the writer demanded as the normal standard for all operations of this kind, and had called the "double test of pregnancy," *i.e.*, that it did not embarrass gestation and complicate labor, which was the single test, but also did not permit a recurrence of retroversion of the uterus after one or more subsequent labors. The difficulties in diagnosis as to the presence of pus were no more than proficient gynæcologists would meet successfully, and doubtful cases could be cleared up by ten to fourteen days in bed with warm douches and extensive fomentations. The scars being in the groins, and covered mostly by hair, were not seen like regular laparotomy scars.

The writer published a table of twenty-two cases, fourteen of which were actually adherent cases, and the adnexæ in all cases required exsection of diseased particles from one or both sides. The present position and condition of the patients' organs and their general health was stated after an average observation of fifteen months. He had eight patients that had borne children normally after his operation, and he cited fifty-one cases from other Alexander operators, in all of which, except two, the same was true. Aside from Burrage, the advocates of the more harmless abdominal and vaginal operations for retroversion have not officially adduced one case to offset this collection. They applied only the single test of pregnancy. Their operations did not hold the uterus in normal position after subsequent labor, as a rule, and therefore they were merely temporary or auxiliary relief measures, but not curative procedures.

In the discussion, Dr. Charles G. Cumston, of Boston, said that from his experience in operating both by the abdomen and vagina, as well as from a pathological standpoint, it had always seemed to him that serious lesions of the adnexa, such as the essayist had treated through a bilateral inguinal incision, were usually out of reach, and that these lesions could be dealt with more easily and satisfactorily through a median, a posterior, or anterior vaginal incision. Simple, uncomplicated cases of retroversion were rare. The Alexander operation in the so-called simple cases of retroversion could be greatly improved by an additional operation through the posterior cul-de-sac.

Dr. Edward J. Ill, of Newark, N. J., called attention to the modified operation which was proposed by Dr. H. W. Longyear, of Detroit, at the meeting of the association last year.

Dr. J. Henry Carstens, of Detroit, rarely saw cases of plain, uncomplicated, non-adherent retroverted uteri that required the Alexander operation. The complicated cases of retroversion required some other operative procedure.

Dr. W. E. B. Davis, of Birmingham, Ala., referred to the indications for performing the Alexander operation, and called attention to the class of cases in which it should be performed.

Dr. Frederick Coggeshall, of Boston (by invitation), had performed over a hundred Alexander operations in combination with some other operative procedure. In simple, uncomplicated cases of retroversion of the uterus, the organ could be easily replaced.

Dr. Rufus B. Hall, of Cincinnati, thought that the old operation of anterior fixation or ventro-suspension of the uterus was not so popular as it was a few years since. Soon it would be done only in rare instances. He believed, however, that a modified operation, such as that advocated by the essayist, was based on rational surgical principles, and thought that the author was working in the right direction.

Round Ligament Ventro-Suspension of the Uterus.—Dr. D. Tod Gilliam, of Columbus, Ohio, read a paper with this title. Various devices had been resorted to for restoring and holding in place the retrodisplaced uterus. All of these had been faulty and many absolutely prejudicial. The need of the hour was an operation that would utilize the natural supports of the uterus, that would insure a fair amount of

mobility, that would adapt itself to the various functions of the uterus—pregnancy and parturition—and that would be lasting in its results and withal easy of execution. Profiting by the work of Ferguson along this same line, he had devised an operation which he thought fulfilled all these indications, and, as he believed, solved the problem most satisfactorily.

The steps of the operation were as follows: 1. A median abdominal section was made three or four inches in length and at the usual site between the umbilicus and pubis. 2. The adhesions were broken up and the fundus was brought forward, after which the patient was placed in the Trendelenburg position. 3. The round ligament was seized on one side and brought to the opening. This might be done either by the fingers or by the aid of forceps. 4. A thread was carried under the ligament at a distance of about one and a half inches from the uterus. The free ends of the thread were brought out of the abdomen and secured by clamp forceps. 5. The other round ligament was secured in the same way. 6. The rectus muscle was exposed near the lower end of the incision by retracting its sheath and by rolling it out of its sheath on the tips of two fingers applied to the peritoneal surface under it. 7. A point was selected one inch external to the margin of the incision and something over an inch above the pubis, through which the perforating forceps specially devised for this purpose was thrust into the peritoneal cavity. The two fingers already in the cavity guarded the instrument in its passage and placed the thread which surrounded the ligament within its jaws. 8. The perforating forceps was now withdrawn, after removal of the clamp forceps from the thread, and both thread and ligament were brought up through the perforated wound in the abdomen. 9. While the ligament was held taut, it was fastened into the wound by a to-and-fro catgut suture passed deeply through the ligament and including the tissues on either side. 10. The opposite side was treated in the same manner and the median abdominal incision closed. Rigid observance of all the rules of aseptic surgery was essential to prevent suppuration, and only a small loop of the ligament should be drawn up through the wound.

First Day—Afternoon Session.

A Case of Composite Teratoma of the Ovary.—This was the title of a brief paper by Dr. W. E. B. Davis, of Birmingham, Ala. The author was in doubt as to the nature of the tumor which he presented, notwithstanding the above diagnosis was made by pathologists of high standing

Mrs. N——, aged thirty-four, married, was referred to him by Dr. E. G. Givhan, of Montevallo, May 3d. She was the mother of three children, and had always menstruated regularly, except when pregnant or nursing. The patient noticed a growth in the abdomen two years ago. She had menstruated in January before the growth was noticed, and then missed her periods until March, at which time she menstruated or bled very freely for two weeks. She then missed periods until the following October, with no untoward symptoms except an attack of colic in August. The movements were noticed before August. After October she menstruated regularly until the following January, missing her periods then until October 24, 1899, when a child was born. She had not menstruated since. After the birth of the child at term, the tumor developed quite rapidly, and on May 7, 1900, she was operated upon. The patient was discharged as cured June 9th. The tumor was quite large and had a pedicle nearly two inches in breadth, quite thick, which was attached to the uterus. The fœtus was so large and so well formed that the essayist was of the opinion that there had been an ectopic gestation, with rupture of the gestation sac and the expulsion of its contents into the cavity of a pre-existing ovarian cystoma. From the history of the case, the diagnosis of an old ectopic pregnancy had been made. He was still inclined to that opinion.

Pathological Description: Examination revealed a large, rounded, ovoid mass about the size of an adult head, covered by a moderately thin fibrous capsule. The capsule was continuous on one side with the tumor mass. The weight of the whole tumor was 2,850 gm. Within the capsule were observed numerous sacs of variable size, which were rounded in contour, and were filled with a semi-fluid, gelatino-albuminoid tissue. Lying in one side of the tumor was part of a fœtus. There were numerous bones of a fœtus lying in the capsule. The upper part of the fœtus was embedded in the solid portion of the tumor. This portion of the fœtus was so intimately combined with the tumor that no sharp line of demarcation could be determined, one tissue gradually passing over into the other. There were numerous nodular and teat-like elevations, in some places covered by smooth skin (?), in others by skin (?) provided with fine, brownish, silky hair. Incision of these frequently revealed a whitish, cheesy substance resembling sebaceous secretion. The soft parts of the fœtus were macerated and quite soft. The bones, such as the vertebræ, ribs, tibiæ, and metatarsals, were exposed in many places There were two well-developed scapulæ (right and left), and to the left was attached some slight semblance of an extremity. Lying in a mass of muscular tissue to the left of the vertebral column was a long piece of bone resembling somewhat a humerus. Attached to the lower end and left side of the vertebral column by means of a flattened piece of bone, was an almost perfect lower extremity. The femur was entirely covered by muscle, but the tibia was exposed at its lower end. Some of the phalanges were missing, but the foot was fairly well formed. Careful dissection of the upper part of the fœtus failed to reveal any cranial bones attached to the vertebral column. There were two pieces of jaw-bone (inferior maxillæ) lying in the mass of tissue at this place. They were well shaped, and a dissection of the right one showed rudimentary tooth sacs and a piece of nerve. The laminæ of the vertebræ had not united, so that the spinal canal was not complete, and the spinal cord was seen lying in this position, with nerves arising regularly from each side. The bones lying free within the capsule were two parietal, an occipital, two pieces of frontal abnormally united, several well-formed ribs, and five or six long bones of extremities. Parts of the lungs, liver, stomach, and about 60 cm. of intestine were preserved.

Microscopical Examination: Microscopical examination of sections of tissue selected from all portions of the tumor showed a very complex histological structure. Some portions of the tissue were composed of simple, fully developed adipose tissue, enclosing occasional bands of unstriped muscular tissue, the whole surrounded by fully developed and practically perfect skin. The skin contained sebaceous and sweat glands in considerable quantities, and hair follicles with hairs in position. The sebaceous glands were larger than those found in normal skin. Other portions showed true myxomatous tissue, still others cartilage, and the early stages of osseous development. Sections from the walls of cysts showed the inner surface of them to be lined by almost true skin; the epithelial layers lay internally, lining the cyst, the papillary portion lying externally. Sebaceous and sweat glands occurred in these sections, and frequently they might be seen opening into the cysts. Other cysts were lined by a simple layer of low cubical epithelium, either in uniform arrangement or thrown into folds or villi, sim-

ilar to the formations found in uncomplicated cystic papillomatous adenoma of the ovary. The lining of other cysts was made up in some parts of flat or squamous epithelium, in other parts of columnar or cubical epithelium of the glandular type, and frequently one kind of epithelium passed over into the other. Anatomical diagnosis: Composite teratoma, combined with cystic adenoma of ovary.

The Treatment of Chronic Cystitis in the Female by Curettage of the Bladder and Instillations of Corrosive Sublimate.—Dr. Charles Greene Cumston, of Boston, read a paper with this title. He drew the following conclusions: 1. Sublimate instillations would often produce a very great improvement in the distressing symptoms met with in both tuberculous and non-tuberculous cystitis, such as a diminution in the frequency of micturition, a decrease of the pain, an increase in the capacity of the bladder, and an improvement in the condition of the urine. In some cases a complete cure might be had. 2. When the instillations failed to produce the desired effect, curettage of the bladder was indicated in both tuberculous and non-tuberculous cystitis. 3. In gonorrhœal cystitis instillations of sublimate were very efficacious and rapidly subdued pain. 4. Under favorable circumstances a radical cure of primary tuberculous cystitis might be obtained by curettage when the vesical lesions were localized and the kidneys free from the disease. Curettage per urethram would not allow the surgeon to reach the entire surface of the bladder, so that when the lesions were extensive they should be directly treated by suprapubic cystotomy. 5. Much relief might be afforded to a large number of patients suffering from tuberculosis of the bladder, but who on account of the advanced stage of generalized infection were in no condition to undergo a more radical operation. 6. When cystitis was due to a prolapsus of the genital organs, and when hysteropexy, combined with anterior and posterior colporrhaphy, did not relieve the bladder symptoms, curettage of the bladder, followed by sublimate instillations, was the proper treatment.

Dr. A. Goldspohn did not believe that infiltrations, etc., of the bladder could be recognized by the curette at an early stage of the disease process. With this instrument the operator could not detect beginning ulcerations or papillomatous growths in this organ. The bladder being a membranous organ, curettage of it was entirely different from that of the uterus, in that the operator did not receive the tactile information or intelligence from this instrument in the bladder that he obtained from it in curetting the uterus. Scraping the bladder, therefore, was done largely at random, without any touch sensation to govern the operator as to how little or how much surface he should curette. Under such circumstances it was not rational to assume that the mucous lining of the bladder would be evenly and uniformly curetted. Uneven surfaces or small areas would be left untouched. In the treatment of infectious cystitis, not tuberculous, he had obtained good results from a solution of from one-half to one per cent. of oil of cloves in water.

Dr. J. Henry Carstens agreed with the last speaker that there were certain points in the bladder in the class of cases under consideration that could not be reached by the curette. He had had cases of tuberculous, gonorrhœal, and septic infections of the bladder which had yielded to the judicious application of permanganate of potassium.

Dr. Edwin Ricketts had never tried this method of treating cystitis in the female, but it seemed to him plausible, and he was inclined to try it.

Dr. Rufus B. Hall directed attention to the danger of over-distention of the bladder with injections. Distention of the organ up to the point of causing discomfort to the patient should be the limit of safety.

Dr. James T. Jelks concurred in the statement of Dr. Carstens that permanganate of potassium was an invaluable remedy for infective disease of the bladder, particularly of the gonorrhœal variety. A solution of 1:6,000 was strong enough to begin with, the strength being increased in accordance with the indications of the particular case.

Dr. T. J. Crofford, of Memphis, had performed curettage of the bladder several times. If the inflammatory process was confined to the neck or thereabouts, there was very little difficulty attending the curettage of that area of surface. No inflammatory zones would be left to cause further trouble.

Dr. Goldspohn did not wish to be understood as opposing curettage of the bladder *in toto*, but believed it ought to be done under the guidance of the eye or tactile sense. He called attention to a new urethroscope with an electric-lamp attachment, the latter illuminating the bladder nicely without generating heat.

Dr. Cumston, in closing, referred to the pathology of bladder lesions, and said they were almost always situated in the trigonum: consequently this was the portion of the viscus which the operator should strive to reach. If the whole bladder surface was involved, suprapubic cystotomy was the operation of choice, and curettage in such a case would do very little, if any good. He used the cystoscope in the treatment of this class of cases.

Four Cases of Perforated Gastric Ulcer, with Remarks.—Dr. Henry Howitt, of Guelph, Ontario, read this paper. The first two cases occurred years ago before the operative procedures were commonly known, and had the usual termination, one patient dying within twenty-four hours from the commencement of the illness without having had a single symptom indicating the existence of the trouble. The other two reported by him were of recent date, and the patients were saved by timely operations. In one the operation was devoid of any serious difficulty, but in the other the abdomen contained gas and a large amount of pus; the colon was enormously distended, requiring to be opened and collapsed before the stomach could be reached. There existed also the remains of a ruptured abscess cavity below the transverse portion of larger bowel, the walls of which were formed by it together with the coils of small intestine and omentum. This had its origin probably in a slight leakage which occurred days before the final rupture. The orifice of the ulcer was of sufficient calibre to admit his little finger, and was situated in front close to the pyloric valve. The surrounding parts were so thickened, dense, and nodular as to resemble exactly carcinoma of the pylorus and adjacent part of the stomach. A section nearly two inches in length had to be removed before the ulcer could be closed. The intestines were previously eviscerated to gain the room necessary to reach the part and to expose the pools of pus in the pelvic flanks and other places difficult to reach. The upper portion of the jejunum was anastomosed by means of a Murphy button to the anterior wall of the stomach. Before this was done care was taken to allow for every possible movement without causing tension of the proximal arm of gut. After the anastomosis was completed, the arm of intestine above was stitched to the wall of the stomach an inch or more to the right and a little above the line of the button. This procedure in his opinion overcame the acute angle and its ill-effects. Drainage tubes were inserted through perforations made in the flanks well to the back, and in the lower abdomen close to the pelvis to the outer side of the right rectus muscle. The sutures were all removed, except two in the middle of the wound opposite the umbilicus, on the seventh day. Three hours later the patient had a sneezing-fit, and the wound tore open from the upper angle

to the umbilicus, exposing the situation of the anastomosis, and coils of bowel protruded. It was restitched an hour later without anæsthesia, and no ill-effects followed. The patient made an uneventful recovery, and was now for the first time in eighteen years free from gastric distress.

In the remarks, which were confined chiefly to points which had appeared to him as important when certain conditions were present, he called attention to the danger, in the early stage after the occurrence of perforation, of the medical man being misled by the state of the pulse and temperature until the opportune time had passed, and narrated three instances; two after perforation of the stomach, in which both were to all indications normal, and one after rupture of the spleen, in which the pulse was normal and the temperature subnormal. Attention was drawn to the admissibility of temporary enterotomy and evisceration when the part on which the operation was required lay deep, or when the abdomen contained much septic material. The former was advised by him in all cases in which the intestines were distended with gas or liquid fecal matter. In one patient four separate openings were made without ill-effects. The puncture became minute when the bowel contracted, and was readily closed by a suture or two. He pointed out that the patients were frequently reduced by starvation to a very low ebb before perforation occurred, owing to the irritable condition of the stomach and rectum, the latter from the effects of oft-repeated nutritive enemata, and for obvious reasons constipation was the rule. In order to nourish the patient after operation he advised the introduction, by means of an apparatus similar to that used for decinormal saline injections, of a pint of peptonized milk into the jejunum during the operation, and also, if constipation was a factor, of a suitable saline cathartic into the ascending colon.

Dr. Richard Douglas, of Nashville, Tenn., had had two cases of perforating ulcer of the stomach in which he urged operation, and while preparations were being made to operate on one of them, the patient died. In the other operation was refused. Death ensued some time later. Post-mortem examination in this case revealed a perforating ulcer on the posterior wall of the stomach; while in the other case the ulcer was confined to the lesser curvature.

Dr. James F. W. Ross, of Toronto, called attention to the difficulty attending the diagnosis of gastric ulcer in some cases. He had operated successfully on one case of perforating gastric ulcer. The patient did not know that she had anything seriously the matter with her.

Dr. Charles Greene Cumston mentioned a case in which there was an ulcer of the stomach and one in the vagina, of embolic origin, associated with arteriosclerosis.

Dr. W. E. B. Davis had never operated for ulceration of the stomach attended by perforation. He had encountered two cases which he should have operated upon had the symptoms been sufficiently marked to warrant operative procedure, but they were not, and he did not feel therefore emboldened to undertake it.

Dr. Edwin Ricketts narrated the case of a woman forty-eight years of age, who had had a gastric ulcer for three years. Under rectal alimentation she gained sixty pounds in flesh. Subsequently she committed some indiscretion in diet, was again taken sick, and consulted another physician, who made a diagnosis of cancer of the pylorus. She went from bad to worse, and finally died. Post-mortem examination revealed a perforating gastric ulcer the size of a lead pencil, situated on the anterior surface near the pylorus.

Dr. F. W. McRae, of Atlanta, said that the work of Mayo, of Rochester, Minn., and other surgeons was sufficiently encouraging to justify surgeons in operating on this class of cases.

Dr. A. Vander Veer, of Albany, spoke of two cases of gastric ulcer which ultimately resulted in carcinoma of the pyloric end of the stomach. From the number of cases in which he had done gastro-intestinal anastomosis, he was satisfied that he had had to deal with the cicatrices resulting from gastric ulcers in many instances.

Dr. D. Tod Gilliam believed that whenever an accurate diagnosis of ulcer of the stomach was made, an exploratory operation at least should be made.

First Day—Evening Session.

Some Points Regarding the Surgery of the Gall Bladder.—Dr. A. Vander Veer, of Albany, read a paper with this title. No great reliance was now placed upon jaundice as a positive symptom. Four interesting and instructive cases were reported, and the following conclusions drawn: 1. An early diagnosis of cases was necessary. 2. In suppuration of the bladder with adhesions, a most thorough examination should be made from within by digital exploration and use of the probe for any possible deep-seated calculi. 3. In prolonged operations upon the common duct or hepatic ducts, when adhesions were present and it was difficult to close the incision, after removal of the calculus, drainage through the peritoneal pouch by means of the lumbar stab was advisable. 4. When the patient was suffering seriously from cholæmia, with marked ecchymotic spots over the body, intense itching, and the blood on examination was found in a septic condition, an operation was not to be encouraged. It was too late in the vast majority of cases for the patients to recover. 5. General practitioners as well as the surgeon should place more earnestly before the patient and friends the dangers of repeated attacks of gall-stone irritation resulting in cancer of the ducts, stomach, or liver.

Second Day—Morning Session.

Diagnosis of Ectopic Gestation before Rupture, Based on Eleven Cases.—Dr. James F. Baldwin, of Columbus, Ohio, read a paper on this subject, which consisted of a brief report of six cases of tubal pregnancy which, added to five similar cases previously reported by him, made eleven cases in which he had made a diagnosis of tubal pregnancy and had operated before the occurrence of rupture, his experience having been in direct contradiction to the dictum of Lawson Tait that such an early diagnosis was not possible. His argument was that in a large number of cases such an early diagnosis was entirely feasible and would be made as a routine when the attention of intelligent general practitioners was sufficiently directed to the subject. He said that while there were no pathognomonic symptoms of tubal pregnancy, the following points would usually be found in these cases: The patient gave a history of several years of sterility (many exceptions); she had missed a menstrual period, perhaps two of them (numerous exceptions); she had noticed some unusual pains in the pelvis, which she would probably describe as boring, griping, or colicky in character, these pains being situated usually in the region of an ovary. She had perhaps within a few days of the time of consulting her physician had a more or less irregular hemorrhage; perhaps had discharged pieces of membrane which she supposed indicated an abortion, and consulted her physician with the idea that such was the case, owing to the hemorrhage and the pain and the suspicion of an existing pregnancy. Possibly, however, there had been no suspicion of a pregnancy, as the woman had ac-

cepted her sterility as incurable and had dismissed from her mind such a possibility. On making a vaginal examination, if the conditions were at all favorable, the examiner would find upon one side or the other of the uterus, or back of it, a fusiform, quite well-defined cystic tumor, about the size of a pullet's egg or a little larger. This tumor would probably be quite tender on pressure, quite symmetrical in outline, and usually distinctly pulsating. When such a tumor was found in a woman in whom there was reasonable grounds to suspect a pregnancy; when the uterus at the same time was found somewhat enlarged, and having the feel of pregnancy, but not enlarged so much as one would expect in a pregnancy of so long continuance as the history indicated, a presumptive diagnosis of tubal pregnancy was warranted, and the matter of an operation should be carefully and without delay considered. To render the early diagnosis of ectopic pregnancy possible, it was necessary for physicians to learn to suspect it, and to examine patients with that suspicion in mind. The physician who, without making any examination, told all middle-aged women who came to him complaining of irregular hemorrhages that they were merely having the change of life, would not be likely to make an early diagnosis of cancer of the uterus, and he would probably tell patients who came to him with symptoms of ectopic pregnancy that they were merely threatened with a miscarriage. He would make no further investigations, and would hence uniformly fail to make a diagnosis. The physician, however, who, having in mind the possibility of an ectopic pregnancy, throughly examined all patients whose history and symptoms pointed to this condition, would in a large proportion of cases make a correct diagnosis, and by prompt intervention would achieve a signal triumph for himself and his profession.

Dr. Edward J. Ill asked as to the nature of the contents of the tube, to which Dr. Baldwin replied that in nearly all of the cases there were some blood clots pure and simple.

Dr. Charles A. L. Reed said that to make a diagnosis of tubal pregnancy before the time of rupture, it was necessary to have the patient under observation constantly for a considerable length of time. He had encountered such a case about seven years ago, the details of which were narrated.

Dr. L. H. Laidley said the only diagnosis of ectopic pregnancy he had ever made was in a case of cancer of the uterus when there was no rupture. He did not suspect the existence of it until he had removed the tubes and had found indications of a developing fœtus within the tubes.

Dr. Zinke, of Cincinnati, thought the diagnosis of ectopic gestation was easy in some cases if the gynæcologist had certain symptoms to guide him, namely, loss of blood, either scanty or profuse, attended with pain, and a tumor, pulsating in character, found on one or the other side of the uterus. In other instances, however, the diagnosis was very obscure, particularly in those cases in which the ectopic gestation was complicated with a normal pregnancy. Such a case was narrated.

Dr. D. Tod Gilliam said that if the gynæcologist could diagnosticate most cases of ectopic gestation before rupture had taken place, it would prove a great boon to womankind. A distinction between tubal pregnancy and inflammatory conditions should always be borne in mind

Dr. A. Goldspohn said he had made a diagnosis of extra-uterine pregnancy in five cases.

Dr. J. Henry Carstens did not think cases of extra-uterine pregnancy were as common as the profession generally supposed. The average general practitioner with a good practice observed but very few such cases in a lifetime. He spoke of the difficulty in diagnosis, and said that when this condition was expected and operated for, something else was found.

The Surgical Treatment of Uterine Displacements was the title of a paper read by Dr. Charles A. L. Reed, of Cincinnati, Ohio. Attention was called to a couple of modifications of technique in the management of a class of cases that was happily becoming less and less perplexing. It was not the author's purpose to discuss the relative merits of Alexander's and Mann's operations, or to consider the ingenious technique of Ferguson. In a majority of all cases of retrodisplacements that demanded operation at all, the author believed that the intraperitoneal shortening of the round ligaments was the operation of choice. It had been his habit during a number of years to effect this by making a letter-of-S fold in the ligaments and stitching them thus folded to the parietal peritoneum along the line of Poupart's ligament. This method had yielded him better results than any which he had previously tried. He had, however, become convinced that the parietal fixation of the folded ligament was not necessary for the purpose of holding the uterus in its normal position, and that the technique devised by Mann was all that was required to accomplish this object. His application of this technique differed a little from that originally adopted by Mann, the modifications being those of convenience rather than of necessity. These modifications are here given in the language of the author: "In seizing the round ligament with hæmostatic forceps for the purpose of folding it upon itself, the tissues are frequently wounded. While the accident is not a serious one, it is certainly not desirable. The use of two hæmostatic forceps for the purpose of effecting the fold makes the services of two hands of an assistant necessary. To obviate these objections, which though of minor importance are still objections, I have devised a forceps with four flat approximating prongs, the whole being an inch across. The prongs of the opposing blades approximate with sufficient force to hold the ligament, but not enough to induce tissue necrosis; while, when approximated, they are far enough apart to permit the passage of a medium-sized needle between them. The ligament, brought up into the field of operation on the finger, is seized in its middle third by this instrument, which is then turned one-half around, thus effecting by a simple twist of the wrist the desired shortening of the ligament. It is then held in this position until all of the sutures are applied. These are inserted as follows: one interrupted, one fixing the loop of ligament to the cornua of the uterus; a similar suture is utilized to fix the outer fold of the ligament; a continuous suture is then passed between the prongs of the fixation forceps, its ends being obliquely tied after the instrument is withdrawn. A pathological condition that often exists in cases of long-standing flexions and the persistence of which militates against the success of any fixation operation, consists in an atrophy of the concave wall and an hypertrophy of the convex wall at the point of flexure. In many cases, particularly when associated with diffuse fibrosis, the elongated and hypertrophied wall offers a persistent resistance to the maintenance of the normal axis of the organ. To overcome this I have, for some time, removed a cuneiform segment from the hypertrophied wall, an operation which Thiriar calls cuneo-hysterectomy, and which is applicable in either anterior or posterior flexions. To do this the patient is placed in the Trendelenburg position. All adhesions between the uterus and bladder, or between the uterus and other organs, are carefully broken up, the rents in the serosa that may be induced thereby being carefully stitched. The uterus is then brought toward the incision by gentle but firm traction, and an ellipse

of tissue about 1 cm. wide and having a length corresponding to the breadth of the organ is removed from the convex side at the site of flexure. Care must be taken not to carry this dissection into the cavity of the uterus nor to wound either the circular artery or the anastomosing branches of the uterine artery. Should the latter accident occur, it is best controlled by ligatures *en masse* passed deeply into the uterine tissue at either end of the yet gaping ellipse. Retraction of the vessels generally prevents their isolation and closure by direct ligature, which, when practicable, is always the preferable method. After all hemorrhage, except mere capillary oozing, is controlled, the margins of the ellipse should be carefully approximated and closed by a continuous animal suture passed deep into the matrix. It may be well to fortify the continuous suture with two or three interrupted ones of the same material. The uterus is then dropped back, and after pausing a moment to make sure of complete hæmostasis, the abdomen is closed without drainage. A further modification of this operation, that I have practised with satisfaction in anteflexion, consists in stitching a reef of the posterior folds of the broad ligament to either side of the posterior surface of the uterus. I have been able by these combined methods to relieve the most distressing and persistent symptoms, vesical, uterine, ovarian, and neurotic, due to otherwise intractable anteflexion of the womb."

Fibroma of the Ovary, and Exhibited Specimens.—Dr. L. H. Laidley, of St. Louis, Mo., read this paper. After giving the pathology of fibromata of this organ, the author reported the following case:

Mrs. H——, aged twenty-nine years, married, usually enjoyed good health, with the exception of almost complete deafness due to a specific disease, for which she was treated some fifteen years ago. She became pregnant, and was delivered of a healthy child about two months before the removal of the tumor. She had noticed a tumor in the region of the left ovary about two years ago; it was hard and slightly movable, and continued to grow to the size of two fists. In the development of pregnancy it was pressed upward on a line with the umbilicus and could readily be felt in her left side. There was no pain or discomfort with its presence up to the tenth day after her delivery. She had a favorable "getting-up," when on the fifteenth day she had fever with pains, causing her again to take to her bed. These continued until he saw her two months later. Upon examination he found the lungs, heart, and abdominal viscera in normal condition. There could be readily felt and seen a hard, immovable tumor in the left umbilical region, with considerable ascitic fluid in the cavity. On January 20th an abdominal section was made, revealing a solid tumor adherent to the anterior wall of the abdomen, which was detached. Posteriorly the folds of the bowel were adherent to that portion, which were also dissected off and the tumor was freed. It was kidney-shaped, hard, with short pedicle, one inch in diameter by two inches in length; this was ligated and the tumor removed. When the ligature was tied it readily cut through its peritoneal covering, but secured the stump from hemorrhage. On examination of the remaining organs, the stump of the pedicle occupied the location of the ovary; the tube remained distinct and separate from the tumor; the opposite side showed a healthy tube and ovary; there was considerable loss of blood from the surface hemorrhage following the operation, but with that exception there was no difficulty encountered. The patient made an uninterrupted recovery. The tumor weighed thirty-two ounces, and measured six by five by three inches. A histological report accompanied the recital of the case.

Dr. Laidley also reported an interesting case of hernia or diverticulum of the chorion.

Diffuse Non-Malignant Papilloma of the Vulva.—Dr. Edward J. Ill, of Newark, N. J., read this paper and showed a specimen which he had removed from a patient sixty-eight years of age. The growth had been of over three years' standing. The inner surfaces of the vulva were thickened, at some places appearing horn-like, white, and smooth; at other places there were heavy papillæ which rose considerably above the surrounding tissue and were from 3 mm. to 15 mm. in diameter at their base. The disease extended from the beginning of the vulva above down to the posterior commissure. It covered the whole vestibule except the tissue immediately surrounding the external meatus of the urethra, and was well defined, but stopped at the vaginal mucous membrane. The vulva as a whole stood out far beyond its normal elevation. The whole vulva was excised. The structure of the tumor corresponded with that usually found in papillomata of the skin. A second case was spoken of by the writer. These two cases comprised all the experience he had had.

President's Address.—This was delivered by Dr. Rufus B. Hall, of Cincinnati, who selected for his subject "The Education of the Laity upon Sexual Matters; When Shall They be Taught and to What Extent? The family physician should be the educator of the people in sexual matters, and when he got the indorsement, and was sustained in his position by the specialist, his influence would be greatly strengthened and widened. The author advised that during the last year in High School, in every school in the land, a text-book be employed embracing embryology, hygiene, anatomy, and physiology, including sexual physiology, and that these subjects be taught to every student, both male and female. He believed that this could be accomplished without shocking the morals of the most fastidious individual, by dividing the classes so as to separate the sexes. A female teacher should instruct the girls, and a male teacher the boys. This was the very time in life when individuals should be taught to know the functions with which Providence had endowed them, and how to care for their bodies as well as their minds. It would be a revelation to them to know that the sexual organs in animals as well as the human race were among the first centres to be formed, and could be recognized as such early in intrauterine life. When the laity became educated upon this subject as they should be, and understood the meaning of pelvic inflammation in young wives as gynæcologists understood it, the parents and guardians of young girls would realize that they owed them a duty before consenting to their marriage.

Second Day—Afternoon Session.

Private Hospitals and their Management.—This was the title of a paper by Dr. Joseph Price, of Philadelphia. The well-organized private hospital, managed by such distinguished men as Marion Sims, T. G. Thomas, Thomas Addis Emmet, William Goodell, Stone, of New Orleans, and a few institutions of the present time doing the best work, offered advantages that were not given by the schools or the political hospitals. The political hospital was not the only corrupt institution; a few of the well-endowed general hospitals, managed and handed down in families to the third, fourth, and even the fifth generations, were the most dangerous institutions in the medical profession. It was always a misfortune to an endowed charity or public hospital for a family to be in full possession of the funds or endowments, in that this resulted in impairing or destroying its usefulness. No one had ever to the speaker's personal knowledge made money and accumulated wealth out of a private sanatorium. He might do so out of the fees, but never out

of the board, care, and nursing of patients. The board of patients rarely paid five per cent. on the money invested. A good number of these institutions had been financial failures and had closed. Private hospitals gave the operator the best opportunity for doing good work. In well-managed private institutions the patient had one or more attendants with well-regulated relays. In public institutions the speaker rarely found a nurse in large wards, the only attendants about the patients being a convalescent patient or an old pelican of an attendant. Professional care, one or many visits daily, favored a speedy convalescence. The early and late assurance that a patient was doing nicely did a world of good. Fresh beds, and the numerous little attentions from young, intelligent nurses, favored comfort and confidence. It was surprising how much more cheerful patients were in private hospitals than in general, public, or school institutions. The surroundings of general hospitals were generally depressing. Patients were eager or impatient to get home prematurely. In a well-managed private institution they were easily controlled and were willing to remain until they were fully convalescent. Hurrying patients out of general hospitals, one, two, or three weeks after serious operations, resulted in accidents and complications, post-operative sequelæ, difficult to correct. In private institutions there was added a well-directed rest-cure treatment, which gave pleasing results.

Post-Rectal or Pre-Sacral Growths.—Dr. James F. W. Ross, of Toronto, presented this paper, in which he reported four cases of post-rectal tumors, excepting the osteomata. He discussed benign and malignant growths in this region; also their etiology, symptomatology, diagnosis, prognosis, and treatment. No novice should undertake the removal of a post-rectal growth. It could be done only by one who had become familiar with pelvic surgery, and who was fully master of the situation. The operator must be full of resource and should be rapid in his movements. In making his incision into the abdominal wall, he should always remember that it should be made high up and enlarged downward after the position of the bladder had been ascertained. The author had had no experience with the removal of such post-rectal growths by enucleation from above. He was well aware that many thoughtful, prudent, and daring surgeons did not hesitate to close the abdomen when this condition was met with. What should the technique of such an operation be? Should the meso-rectum be incised close to or far away from the bowel? Should not the incision always be parallel to the vessels and not across them? How was the surgeon accurately to determine the situation of the ureter, and, when discovered, how could he avoid it? How could he best guard against injury to the large vessels? In dealing with branchial cysts in the neck the speaker had followed them almost to the spine, but had then left the deep portion of the cyst wall, if it could be called a wall. It seemed to him that he would have been forced to deal with the last case he reported of pre-sacral cyst in exactly the same manner, because the periosteum and so-called cyst wall were so intimately connected. It would not be wise to drain such a cavity into the peritoneal cavity, but would be more prudent to attack such cysts through the post-anal tissues, perhaps with the removal of the coccyx. The solid tumors should always be attacked from the front.

Third Day—Morning Session.

The Ligature and the Value of Dry Sterilized Catgut.—By Dr. J. Henry Carstens, of Detroit, Mich. The author described a modification of the Boeckman method of preparing catgut. The ligatures were prepared in the following manner: Catgut was put in ether for a few days or a week until the fat was all removed, and then cut in strips eighteen or twenty inches long. Three of these were wrapped in fine tissue paper, then placed in a small envelope. The latter was closed, placed in a Boeckman sterilizer, and subjected to dry heat for three hours. A thermometer was kept in the apparatus, so that the heat was at least 300°. At the expiration of that time the heat was shut off, and the ligatures remained in the sterilizer without disturbance for twelve to eighteen hours, which gave any spores that might be present an opportunity to develop. Then heat was again used, and the ligatures were subjected to another 300°. They were now sterile. They were put in an envelope and could be carried that way in a satchel. When ready for use the end of the envelope could be torn off and the ligature, with the tissue paper, dropped into alcohol, the tissue paper removed, and the ligature could be threaded and used. These ligatures were not slippery or greasy, as was the catgut prepared with different oils. The following points were emphasized: All buried sutures ought to be absorbable, and absolutely sterile. Chemicalized sutures were no more sterile than plain sutures. A chemicalized suture was harder and remained longer in the tissues. This latter was a disadvantage. If in a special case it was desirable that a suture should remain longer, dry sterilized kangaroo tendon could be used.

Some Contraindications to the Intraperitoneal Use of Decinormal Salt Solution after Abdominal Section.—Dr. Frank F. Simpson, of Pittsburg, Pa., read a paper dealing with this subject.

Simple Methods in Pelvic Surgery was the title of a paper read by Dr. John B. Deaver, of Philadelphia. Simplicity was the *sine qua non* of good surgery. It meant safety, surety, confidence, neatness, and great saving of time, which was an essential factor in the success of many operations. The abdominal route was by far the more rational, and therefore the best method of approaching an operation on the pelvic organs in the majority of cases, and offered several advantages that rendered it preferable to the vaginal. It was simpler of performance. It was safer, as the surgeon could avoid distributing infection when infected areas were present. It reduced the danger of general peritonitis by the use of gauze packing. It rendered injuries to the bowel, ureters, important blood-vessels, etc., less likely. It minimized the danger of hemorrhage. It aided generally by the facility offered for inspection. Through the abdominal incision the surgeon was able to open the belly to the proximal side of the infected area, when, by the proper disposition of sterile gauze sheets practically all risk of peritoneal contamination was done away with. It enabled the surgeon to operate with a very few instruments. Radical operations per vaginam were, with few exceptions, the author thought, to be discountenanced, for several good and sound reasons: (1) The limited area for manipulation; (2) the impossibility of inspection without destruction and removal of the uterus, which should not be removed except for good and sufficient disease of that organ itself; (3) the marked increased liability to hemorrhage, both primary and secondary; (4) increased danger of injuring ureters, bowel, bladder, and large blood-vessels; (5) danger of doing incomplete surgery; (6) inability to repair satisfactorily injuries to bowel or bladder, etc.; (7) inability to deal safely with an inflammatory mass which involved the vermiform appendix.

The Treatment of Fibroids in the Non-Pregnant Uterus.—A paper on this subject was read by Dr. E. F. Fish, of Milwaukee, Wis. The author discussed the advisability of operating in all cases of fibroids of the uterus as soon as discovered, and left it an open question. He emphasized the necessity of radical interference whenever the tumor or tumors were pro-

ductive of symptoms—pain, hemorrhage, pressure, constitutional impairment, unless there be existing disease, such as nephritis, diabetes, tuberculosis, etc. Of radical treatment, he thought that myomectomy was the operation of choice, whether subserous, interstitial, or subcutaneous, if the tumor was single and could be enucleated without loss of tissue and the cavity closed and covered with peritoneum. When several tumors existed, the judgment of the operator came into play. Many nodules meant many foci, and the author opposed myomectomy on the ground that some of these might not be discovered, and later might develop and demand another operation. He thought, too, that under such circumstances the condition was a general one extending to the tubes and ovaries, and this condition might, and likely would, call for future operation. The vaginal route was favored for small tumors, the abdominal for large ones. Hysterectomy was favored when the tumor involved so much uterine tissue that a proper closing of the tumor cavity was not possible, when the organ was studded with small tumors or nodes, when coexisting pelvic disease was present, when the growth was degenerating, when there were adhesions, when the tubes and ovaries were involved to such an extent that they must be sacrified, when the disease was no longer local, or when the change of life had occurred. He favored supravaginal amputation, leaving the cervix when sound, and panhysterectomy when the cervix was lacerated or diseased. He left the ovaries if sound, or if only one was sound he left that, or if only part of one he left that. He believed in ignipuncture for small pea-like cysts, and left the ovary. He was convinced that this plan modified the nervous symptoms which usually followed complete removal.

Palliative treatment was discussed, the author paying most attention to curettage and electricity, and he briefly touched on salpingo-oöphorectomy, ligation of the uterine artery, organotherapy, medical treatment, and natural cures. He concluded that myomectomy was the operation of choice (1) when the tumor was pedunculated; (2) when single, whether subserous, interstitial, or subcutaneous, and could be enucleated without loss of uterine tissue, and the tumor cavity closed and covered with peritoneum; (3) when the desire for an heir outweighed all other considerations. Hysterectomy was indicated (1) when the tumor involved so much of the uterus that a cavity too large to be properly closed and covered with peritoneum would follow its removal; (2) when several tumors existed, especially little nodules; (3) when the adnexæ were diseased to such an extent that they must be sacrificed; (4) when the disease had ceased to be local; (5) when hemorrhage, pressure, or pain was a persistent symptom; (6) whenever malignancy was suspected, or the tumor was of rapid growth; (7) after the change of life. Palliative treatment was indicated when the patient was much reduced from loss of blood, as a prelude to rational cure; when the existence of chronic nephritis, diabetes, tuberculosis, or other constitutional disease forbade rational cure; and when the patient was past forty years of age, the tumor small, the main annoyance hemorrhage, and she was desirous of awaiting the effect of the menopause.

Acute Senile Endometritis.—Dr. L. H. Dunning, of Indianapolis, Ind., read a paper with this title, it being the second written by him upon this subject, and in which he reaffirmed his belief that it was a distinct lesion that had not heretofore been adequately described. Since his previous paper he had encountered three more cases, two of which were attended by sanguino-purulent discharges from the uterus, and one in which there was a large pelvic abscess. The inflammation tended to spread beyond the endometrium into the Fallopian tubes, ovaries, and pelvic peritoneum, resulting in much suffering and ill health, and not infrequently leading to so serious involvement of these structures as to demand operative procedures, such as extirpation of the uterus and appendages, or vaginal incision and drainage of a pelvic abscess. The chief cause of the lesion was infection. It was not definitely self-limited, but tended to become chronic and to lead to marked degenerative changes within the uterus. The treatment recommended was, in cases in which the appendages were not involved, dilatation, curettage, the application of a mild caustic, and prolonged drainage. When the uterine appendages were involved in the inflammatory process, extirpation of the uterus and appendages was advocated.

Tubo-Ovarian Abscess and How to Deal with It.—A paper on this subject was read by Dr. Edwin Ricketts, of Cincinnati, Ohio. Tubo-ovarian abscess was frequently caused by the proximity of the ovary to an infected Fallopian tube. The disease might be complicated by normal or ectopic pregnancy, intestinal, vaginal, or vesical fistulæ, and by appendicitis. In the dormant stage the author operated by the abdominal route; in the acute stage he explored by the abdominal route, and then decided between completing the operation in one or two sittings. Following abortion or delivery at full term, vaginal drainage in his opinion often put the patient in better shape for an abdominal section later on.

Observations Respecting Malignant Disease of the Pelvic Organs.—By Dr. Augustus P. Clarke, of Cambridge, Mass. Cancer may have its starting-point in a lacerated cervix uteri; but its seat of development was usually in the epithelium. Its occurrence not infrequently took place after the patient had become a multipara and before she had become of advanced age. The exposure of the mucous membrane to continued or repeated irritation hastened its onset. Cancer of the uterine body had had its origin from endometritis and from its allied conditions. The disease might be induced or intensified by inflammation of the utricular glands of the uterus and by the effects of external pressure. A sarcomatous condition might result from the same cause. Cancer of the broad ligament, as also that of the ureter, had been observed as the result of extension from the uterine cervix. The meatus urinarius had been noticed as an original seat of cancer. In such cases vesical and urethral disturbances had been known to antedate the appearance of the malignant change. Cancer of the ovary, or of other portions of the adnexæ, might occur as secondary to a primary point of invasion. The route of transmission was usually along the course of neighboring lymphatics, or along the epithelial cells of the ducts of such open channels of communication. The fact that cancer cells might so readily invade the epithelium of newly formed growths containing endothelium showed the importance of taking measures for their early removal before degenerative changes had extensively occurred. The morbid development undoubtedly arose at times by abnormal proliferation of the epithelium from its basic point of origin to the deeper structures within. The majority of cases of cancer occurring in the bladder were secondary to involvement of the cervical portion of the uterus. The cases which called for special consideration were those of the villous type. Curettage and the employment of the galvano-cautery afforded the best means of relief. In those cases of rectal cancer in which the sphincter ani was not invaded, excision of a portion of the rectum and the removal of the coccyx and the lower section of the sacrum could sometimes be advantageously done. The use of the Murphy button in such cases was of service. The only effectual radical method of treatment was by excision. Partial removal of the uterus on account of extensive invasion by malignant

disease would not suffice. The fact that uterine or pelvic fibroids and fibromyomata might take on malignant transformation was coming more and more to be recognized. The necessity of watching closely for changes that might be assumed became obvious. Both the round and the spindle-shaped cell sarcomata might originate in benign fibroids. The total excision of such neoplasms in their earliest stages would afford the most satisfactory results.

Difficult and Obscure Pus Cases in Pelvic Surgery in Women.—By Dr. Walter B. Chase, of Brooklyn, N. Y. The author first considered the etiology of these cases, classing gonorrhœa as the most frequent cause, closely followed by miscarriage and labor at full term, these usually following some infection from without. Among the causes from within were considered those following the rupture of an ectopic tube, hæmatoma, malignant or tuberculous disease, and others less frequent in occurrence. The question of time should be considered in the diagnosis, but the great mainstay was thorough and systematic bimanual and rectal examination. The author called attention to the fact that fluctuation might be due to cystic growths, recent hæmatomas, amyloid degeneration, etc., as well as to pus. Pain and fever, or their absence, went far to clear up diagnosis in many a case, but the fever due to malignancy must not be confused with that due to septic causes. Appendicitis and pus tubes might cause difficulty in differentiation. The rule that pus in the pelvic cavity must be evacuated was general, though not universal. The manner and route of its evacuation were thoroughly discussed. Drainage was next considered, the author taking up the direction and the material, usually preferring plain or iodoform gauze, and at the same time considering irrigation, for which he generally used decinormal salt solution. Multiple abscesses were considered next with their management. The serious cases in which pus existed free in the pelvic cavity were taken up, and among other things he stated that sentiment should be allowed no weight in their treatment. Another embarrassment to the operator was the failure of the public to discriminate as to the cause of fatality, in many of which cases the operator had nothing to do with the mortality. In closing, he cited several pertinent cases, in one of which two abscesses were caused by the escape of the bacillus coli communis, evidently from a denuded spot on the serous covering of the bowel.

The following officers were elected for the ensuing year: *President*, Dr. W. E. B. Davis, of Birmingham, Ala.; *First Vice-President*, Dr. Edwin Walker, of Evansville, Ind.; *Second Vice-President*, Dr. A. Goldspohn, of Chicago, Ill.; *Secretary*, Dr. William Warren Potter, of Buffalo, N. Y., re-elected; *Treasurer*, Dr. X. O. Werder, of Pittsburg, Pa., re-elected.

Cleveland, Ohio, was selected as the place for holding the next annual meeting; time, the second Tuesday in September, 1901.

No Danger of Overcrowding.—Mr. M. G. Mulhall, the well-known British statistician, says that there will be plenty of room on the earth to support human life comfortably for many centuries to come. The area of the United States, excluding Alaska, is just three million square miles; the average density of the New England States is seventy-one inhabitants to the square mile, so that judging from these figures it may be said that this country could easily support two hundred and ten million, or three times its present population. In the mean time other vast fields are opening. Canada, Brazil, Spanish America, Africa, and Australia can each find room for hordes of immigrants.

Medical Items.

Chronic Constipation.—Cheadle says that the treatment of chronic constipation is a subject of considerable importance and deserves more attention than it usually receives. It lies for the most part outside hospital practice. It is a frequent source of trouble to the practitioner and sometimes of discredit to him. In the first place, if treatment is to be successful it must comprise something more scientific and comprehensive than the mere administration of occasional aperients. It is not enough to open the canal when blocked or sweep it clear of accumulations which have lodged there. The essential point is to establish, if possible, such a habit of daily evacuation that accumulation of noxious waste and its evil consequences may not recur, to modify the condition permanently if the age and condition of the patient render such a consummation possible. In order to do this the causes which give rise to it must be thoroughly understood, removed, neutralized, or compensated.

Some of the Properties of Oysters.—Oysters have for centuries been much esteemed by medical men as being very nutritious and easy of digestion, but both these properties are much diminished when not taken in their raw state. It may not be generally known that the fluid which surrounds the oyster bears a closer analogy to the gastric secretion than anything else in nature. In addition to the solvent properties of this fluid it is not without its nutritive properties. We have of late devoted considerable attention both to the substance and secretion therefrom, and find that in a given weight of the latter and the same of the oyster the fluid yields only forty per cent. less of animal gluten or jelly than the fish. Consequently all persons who are accustomed to eat oysters should be ever mindful that as little as possible of the juice should be lost. When oysters are eaten stewed or scalloped, the two properties, as before stated, are much diminished; consequently they ought never to be taken by invalids except in their raw state.—*Sanitary Record.*

Mushrooms.—There are more than six thousand varieties of mushrooms, of which three hundred are edible. Many of the noxious species produce intoxication. The convicts of Siberia use for this purpose a mushroom termed the fly-agaric, which is rolled into a ball and swallowed whole. Its effects are not unlike those produced by opium. Taken in light doses the person is affected as by the inhalation of laughing gas. There are six families of fungi, to the first or highest of which belong mushrooms and toadstools. The minutest forms of fungus have been found in places where no one would expect to find them—for example in the interior of apparently perfectly sound hazelnuts, in the cavities in tomatoes with unbroken skins, in the inside of polished Bonduc nuts, which are almost as hard as metal, and even in the bubbles within pieces of amber. They are independent of light even for growth. In some cases, offering a decided contrast to the usual plant requirements, light appears positively harmful to the fungus.—*Answers.*

Plague in Glasgow.—The British journals, as was perhaps only natural, endeavored first to throw doubt on the truth of the announcement that the Oriental pest had broken out in Glasgow, and then, when it had been clearly proved that unfortunately such was the case, took pains to show that there was little or no cause for alarm. A prominent weekly paper discusses the question as follows: "There are two great allies of the fell disease, without which it never makes and never can make much progress. Those are dirt and

funk. Modern sanitary science is quite capable of dealing with the plague, and secure in the knowledge of this central fact we may cheerfully defy the enemy's other chief supporter—the abject terror which predisposes its victims to catch any infectious disease which may be going about, and which is really responsible for half the mortality in most epidemics. When indeed one remembers that the plague must be seaborne, and that the greater portion of the world's carrying trade is in English hands, the wonder is not that the infection should have reached us at last, but that it did not effect a landing at one or more of our ports many months ago. The fact that it should not have done so should suffice to convince the most nervous among us that we are in no danger of an epidemic of the 'Black Death' of the Middle Ages or the pestilence whose ravages in seventeenth-century London were so graphically described by Daniel Defoe. Let us only keep clean and cool, and the doctors may call the new malady by any name they please." This is very good reasoning so far as it goes, and especially with regard to the evil effects of panic, but at the same time it should be borne in mind that parts of Glasgow are woefully overcrowded and distressingly dirty. If the health authorities of Sydney did not succeed in stamping out the plague in that city for many months and until many lives had been lost, then the argument may be made that in all probability the health authorities of Glasgow, which is no cleaner than Sydney, will have quite as much difficulty in abolishing the disease from its borders.

Women Longer-Lived than Men.—An English weekly magazine says that statistics show that women live longer than men. For instance, in Germany only 413 out of 1,000 males reach the age of fifty years, while more than 500 out of 1,000 females reach that age. In the United States there are 2,583 female to 1,398 male centenarians. In France, of 10 centenarians 7 are women and only 3 men. In the rest of Europe, of 21 centenarians 16 are women.

Yawning is Healthy.—A German scientist has discovered that yawning is a healthy pastime. It is wholesome like oatmeal and brown bread. Yawning, it is said, stretches the muscles, maybe, or the tendons of the head, sends the blood to the jaws, and sharpens appetite and intellect. It is a cheap remedy, accessible to young and old, rich and poor, and if it is as efficacious as our Teuton says, health is surely within the reach of every one.—*The London People.*

The Origin of the Glasgow Plague.—Surgeon-General Wyman has received a report from Assistant Surgeon Thomas of the Marine-Hospital service, in charge of the plague inspection work at Glasgow, detailing the history of the outbreak there. The report states that all the cases now under surveillance are to be traced to a wake held over a woman who died about August 21st. She lived in a crowded tenement quarter, some distance from the shipping, and no connection can be traced between her sickness and any infected ship except that her husband was at work on the docks. The disease in the early cases was of the pneumonic form, and the death of this woman was certified as pneumonia, and there were a number of other cases of supposed pneumonia among those who had attended the wake or had been thrown into contact with the woman. On August 25th a child died, and on the 27th his mother and two brothers were taken to the hospital. One of the brothers died, and his death was certified as bubonic plague. Cultures of the plague bacillus were made from his organs, but the inoculation experiments are not yet complete. As soon as a suspicion of plague arose all persons known to have been in contact with the cases mentioned were removed to new quarters, were bathed, and their clothing was disinfected. A few cases have been sent to the hospital from this contingent, which at present amounts to something over fifty. All the cases in the hospital at the time of Dr. Thomas' report were of the bubonic form. Careful inquiry does not show that there has been any unusual mortality among the rats in Glasgow, but war has nevertheless been declared against them, and rat-catchers are busy capturing and killing them.

The Right of a Hospital to Discriminate in the Reception of Patients.—It is stated in *The Sun* that a medical controversy, growing out of the custom of club practice, is about to be carried into the courts of Massachusetts at Springfield. The Hampden County Medical Association has expressed its disapproval of this practice, insisting that no special arrangements for charging less than the ordinary fees should be made with medical clubs, lodges, and other benevolent organizations, but the societies have found no difficulty in securing the services of physicians who agreed to treat their members for a stipulated sum per annum. A patient who was sent by one of these contract physicians to the Mercy Hospital in Springfield was refused admission to that institution unless the doctor in attendance withdrew from the case, which he finally consented to do for the sake of the patient, who required treatment which could be afforded only at a hospital. A suit will now be brought to ascertain whether the hospital staff could lawfully take this action under its charter, which provides that all patients shall be treated there who are brought to the institution by reputable physicians.

The Fatal Bloom on the Fruit.—Schnirer reports the results of an examination showing the danger of eating fruit without first washing it. While at work one day in Weichselbaum's laboratory he sent for some grapes to eat. The fruit had been kept for some time in a basket outside the laboratory, and was covered with dust, so that the water in which it was washed was black. On examining this, Schnirer reflected that, inasmuch as the neighboring street was traversed by consumptive patients going to the clinic, the dust might contain tubercle bacilli, and to settle this he injected into three guinea-pigs 10 c.c. of the water in which the grapes had been washed. One animal died in two days, the two others died on the forty-eighth and fifty-eighth days respectively, the latter presenting marked tuberculous lesions, especially at the place of injection. The water in which the grapes had been washed was taken from the faucet, and the glass containing it had been sterilized; neither the boy who had brought the grapes, nor the merchant who had sold them, was consumptive. The cause of infection was beyond doubt the dust on the grapes. This danger was recognized long ago by Pasteur. One day at a large family dinner he called the attention of those present to the danger of imbibing germs while eating fruit, and to impress the necessity of caution upon his hearers washed his bunch of grapes in a glass of water. After he had finished the grapes and had forgotten his little speech, being thirsty, he drank from the glass in which the grapes had been washed, thereby arousing much merriment among the irreverent youngsters present.

Mosquitos.—The Department of Agriculture is about to issue a bulletin prepared by Entomologist L. O. Howard on the mosquitos of the United States. It discusses their structure and biology and indicates the difference in all stages of existence between the kind of mosquitos that transmit malaria (Anopheles) and those that do not (Culex), and also discusses the subject of remedies. Among other things the bulletin

says that since the opening up of the gold-fields in Alaska and the great influx of miners and traders, knowledge of the abundance and ferocity of the Alaskan mosquito has become widespread, and government surveying parties in starting for Alaska for their summer's work are in the habit of consulting the department for mosquito-bite remedies. The bulletin says there is a constant carriage inland from the marshy coast of very many mosquitos, the railway trains seeming to be the most important mode of conveyance. Many of the cars contain mosquitos by the hundreds. In this way even mountain resorts will get their supply of mosquitos, and with the improvement of railway service and the increase in the number of through cars the danger is constantly increasing. Only about thirty of the two hundred and fifty known varieties of mosquitos have been found in the United States. Of the remedies in use in houses the burning of pyrethrum powder and the catching of mosquitos on the walls in kerosene cups are probably the best, next to a thorough screening of doors and windows and the use of mosquito bars about the beds. The remedies mentioned for bites are glycerin, a lump of indigo, and household ammonia.

Care of the Feeble-Minded.—Dr. A. W. Wilmarth, in a paper read before the recent meeting of the American Medical Association, made a difference in the classification of the lower grades of mental deficiency, idiocy and imbecility, and the higher types of feeble-minded and backward children. He said that at an early stage of mental development a child begins to notice objects, lights, persons, sounds, etc.: if these manifestations of intelligence be long delayed, it may be inferred that the child is deficient in sight or hearing. As delay in walking indicates backwardness in physical development or the presence of paralysis, so will delay in the development of speech be a sign of mental deficiency. If speech be wanting at four years, one may suspect permanent mental defect: if it does not develop at six years the suspicion becomes a certainty. At seven years the child emerges from the inquisitive stage when it asks all sorts of questions, answerable and unanswerable, about everything imaginable, and begins to analyze the facts gathered during that stage, putting them together into ideas. It is then that systematic teaching should begin. With feeble-minded children it is not a question of judgment or morals, but the question is whether a child learns as much as a normal child does at the same age. After fifteen the diagnosis is comparatively easy. The treatment of feeble-minded children of the higher types should consist, in addition to the necessary medication for whatever physical ills be present, of systematic training of the mind in properly conducted institutions. The author believes that the only way to stimulate the minds of these children is to arouse their imitative tendency, and this can take place only in the presence of the rivalry and companionship of an institution. In the family, no matter how wealthy, this system cannot be maintained, and the discipline is the more lax because the backward child is regarded with special indulgence.—*The Nursery.*

Ptomain Poisoning.—Regarding the symptoms of meat poisoning, Dr. Thompson, Professor Osler, and other well-known authorities appear to agree that the symptoms are substantially the same in each case. These symptoms may follow almost immediately or after an interval of several days. The former is much the better for the patient, because the sooner the alimentary canal is relieved from the poisonous material by vomiting and diarrhœa, the greater the chance of recovery. In the majority of cases there is a latent period of from twelve to thirty-six hours between the taking of the tainted food and the development of the symptoms. Ballard found that in observing fifty-one cases of meat poisoning, a period of twelve hours elapsed in five of the cases before the symptoms developed. In thirty-four cases between twelve and thirty-six hours elapsed, and in eight cases between thirty-six and forty-eight hours elapsed. There were only four of these fifty-one cases in which it took a longer period than forty-eight hours for the symptoms to develop. According to Dr. Thompson, the symptoms usually develop suddenly and with violence, but occasionally the development is preceded by an indefinite uneasiness on the part of the patient, nausea, lassitude, and abdominal cramps. When the symptoms develop suddenly, they are preceded by rigor with vertigo, or faintness, or a violent headache. Sometimes there is great difficulty in breathing, and there may be cold perspiration and sudden severe pains in the upper abdomen or in the thorax, and especially between the shoulders. Intense thirst has also been observed. Soon after one or more of these symptoms have appeared there is violent colicky pain in the bowels accompanied by nausea, retching, and vomiting. There is an extreme degree of muscular prostration, which comes on suddenly and prevents the patient from standing. This may be due to the abdominal pain, but it also occurs independently. The tongue is dry and coated with a thick, brownish-yellow fur in the middle, but the margins are of a bright red with distinct, minute, nipple-like projections. Fever is usually present, and the temperature may rise to 103.5° or 104° F., although the skin may feel cold and moist. The pulse is somewhat accelerated, and the rate may reach 130 or 140. Occasional symptoms which have been noted by Ballard, according to Dr. Thompson, are severe cramps in the legs and arms, convulsive twitchings of the muscles of the face and hands, stiffness in the joints, and various abnormal sensations such as numbness, tingling, and flashes of cold and heat in the extremities. There may also be drowsiness, intolerance of either natural or artificial light, and in the worst cases unsound nervous excitement or mild delirium. If the poison results fatally, the prostration increases, the pulse grows rapid and feeble, and rapid emaciation follows. The patient becomes extremely blue about the lips, and passes into a state of collapse resembling that of the last stages of cholera. In the more severe cases, if convalescence follows the attack it is prolonged, and the weakness of the patient may be fully as great as after some infectious fevers, such as cholera or yellow fever. Dr. Thompson says that the diagnosis is almost always obtainable from the history of the case in connection with the symptoms already described. When the cause of the poisoning is ptomains from canned food, the only difficulty consists in determining whether the poisoning is the result of eating the tainted meat or of acute metallic poisoning from chloride of zinc, tin, or lead used in the process of soldering the can.—*The Sun.*

Fat Food as a Preventive of Consumption.—Dr. Bell says that fat as an article of diet furnishes the potential force necessary for the conversion of other food material into organic tissue and to maintain the bodily functions. Prof. W. O. Atwater, in one of his most recent contributions on the nutritive value of foods, in comparing nutrients in respect to their fuel values, their capacities for yielding heat and mechanical power, states that "one pound of protein, lean meat or albumen of egg is just about equivalent to a pound of sugar or starch, and a little over two pounds of either would be required to equal one pound of the fat of

meat or butter." The mistake commonly made with reference to the use of fat food is that it is only or especially applicable in cold climates, an erroneous inference, the same as that cold is preventive of consumption. That fat is the almost exclusive food in Arctic regions is because other food is not obtainable, not because of the frigid climate. It is necessary food, though not in such excess at all times and everywhere, to supply the potential energy required by the organism to construct the tissues and maintain the body, the temperature of the body being about the same in all climates. Fat does not stand alone in this regard except under such extraordinary circumstances as those referred to. Carbohydrates of various kinds contribute to the same functions as fat under ordinary conditions, but they do not suffice to maintain the stamina of the organism to the highest degree anywhere without the assistance of or being supplemented by some kind of fat.—*The Sanitarian.*

Sweat Shops as a Means of Spreading Disease.—Dr. Roche recently delivered a lecture on the above subject at Dublin. He said it was not necessary for him to show that clothes as clothes carried infection. In the case of whooping-cough a person might carry infection in his clothes, and it might be retained in them for an indefinite period. It was therefore absolutely necessary that the making of clothes should be carried on under circumstances that should put them beyond all suspicion of infection. Consumption was an infectious communicable disease, and some time ago he had suggested that infection was carried in clothes. *The Lancet* had remarked that suggestion, and as a result experiments were made in America and elsewhere which proved that the germs of consumption would live in clothing for an indefinite period and would spread infection. It was no exaggeration to say that sweating opened the door for the spread of consumption in the families of those who bought, used, or wore clothes manufactured under the existing sweating-system.—*Sanitary Record.*

Infectious Diseases on Board Ship. — Staff Surgeon W. J. Colborne of the British navy read a paper on the above subject at the recent meeting of the British Medical Association. In brief, he said that the space alloted to sick on board ships of war was limited. Though limited it was sufficient for all ordinary purposes; yet provision should be made for infectious diseases, for observation, and for isolation. On visiting a port the medical officer should make inquiries as to the prevalence or absence of infectious diseases, the extent and the district infected, in order to warn the men against visiting that district. The ship should remain in that port only according to circumstances, and no longer. Persons visiting the ship, as washerwomen, etc., should be carefully supervised. All minor ailments in that port occurring on board ship should be carefully watched, and isolation practised when a case was doubtful; messmates as well as the sick man should be watched. A proper place for isolation must be found either below or above decks. The ventilation was important, as it should lead directly out above decks and not lend itself to the dissemination of infection between decks. All such ventilators should be stopped up. The patient and the attendant should not leave the apartment. When no apartment could be found a portion of the deck should be totally screened off from deck to deck, and the screen kept moist with perchloride of mercury solution, 1 : 1,000. No intercourse of any sort should be allowed with the outside, not even for food. If the patient were landed to hospital the attendants, the boat, and the crew should be disinfected by appropriate means. In smallpox every man should be revaccinated. If feasible every infectious case or even cases under observation should be landed. By the above means epidemics on board ship could be easily limited and stamped out.

Death Rate of Chicago.—The bureau report of the department of health of the city of Chicago gives the death rate for the year ending April 30, 1900, at 14.82; for 1899 at 14.38; for 1898 at 13.99; for 1897 at 13.98; for 1896 at 14.82. These figures are based upon a population of 1,750,000.

Decreasing Birth Rate in Europe.—New statistics demonstrate the fact that in all the countries of Europe, with the exception of Russia, the percentage of increase by births has been diminishing since 1891, the average decline being 3 per cent. The greatest difference is shown by England, where births have receded from 34 per cent. to 29.1 per cent., and the smallest by Norway, namely, 0.1 per cent. From 1871 to 1875 the increase by birth in Germany was 39.9 per cent., but in 1891–95 this had sunk to 36.3 per cent., and in the year 1897 it went down to 36 per cent. The general average from 1881 to 1885 was 36.8 per cent., but is now 36 per cent. More noteworthy is the decrease in Austria, where in the course of twenty-five years it has dropped from 39.5 per cent. to 37.4. In Belgium the percentage in 1871 was still 32.1, but in 1897 only 29; and in France the shrinkage in the same period was from 25.5 to 22.4. Next to Norway the most favorable data are reported from Switzerland.—*Medical News.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 29, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Port Safety	August 25th	Reported.	
Colorado, Arapahoe Co	August 9th to September 11th	3*	
El Paso Co.	August 9th to September 11th	2	
Fremont Co	August 9th to September 11th	3	
Garfield Co.	August 9th to September 11th	3	
Glenwood Springs.	August 9th to September 11th	2	
Huerfano Co	August 9th to September 11th	3	
Las Animas Co.	August 9th to September 11th	4	
Pueblo Co.	August 9th to September 11th	21	
Louisiana, New Orleans	September 15th to 22d	6	2
Michigan, Houghton	September 8th to 15th	2	
Torch Lake	September 8th to 15th	2	
Ohio, Cleveland	September 15th to 22d	6	
Utah, Salt Lake City	September 15th to 22d	3	
Wisconsin, Ashfield Co	September 18th	Present.	
Bayfield Co.	September 18th	"	
Dane Co	September 18th	"	
Eauclaire Co.	September 18th	"	
*At Denver.			
Smallpox—Foreign.			
Austria, Prague	September 1st to 8th	1	
Belgium, Ghent	September 8th to 15th	..	1
Egypt, Alexandria	August 28th to September 3d	1	
Cairo.	August 18th to 26th	..	3
England, Liverpool	September 1st to 8th	3	
France, Lyons	August 25th to September 1st	..	2
Paris	September 1st to 8th	..	5
India, Bombay	August 21st to 28th	..	2
Calcutta	August 11th to 26th	..	18
Madras	August 11th to 24th	..	2
Mexico, Vera Cruz	September 8th to 15th	..	4
Russia, Moscow	August 25th to September 1st	..	1
Odessa	August 25th to September 8th	7	1
Warsaw	August 25th to September 1st	..	5
Scotland, Dundee	August 25th to September 1st	2	
Glasgow	September 7th to 14th	31	
Spain, Madrid	August 11th to September 1st	..	111
Yellow Fever.			
Cuba, Cienfuegos	September 22d	1	
Havana.	September 8th to 15th	..	9
Mexico, Vera Cruz	September 8th to 15th	..	15
Plague.			
India, Bombay	August 21st to 28th	..	64
Calcutta	August 11th to 25th	..	136
Scotland, Glasgow	August 31st to September 14th	16	1
Cholera.			
India, Bombay	August 21st to 28th	..	408
Calcutta	August 11th to 25th	..	29
Karachi	August 19th to 29th	..	13
Madras	August 18th to 24th	..	37
Japan, Yokohama	August 25th to September 1st	1	

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MEDULLARY NARCOSIS (CORNING'S METHOD): ITS HISTORY AND DEVELOPMENT.

BY L. MARCUS, M.D.,

NEW YORK.

THIS method of anæsthesia, which is engrossing the attention of the entire profession, appears to me to have taken a permanent place as a valuable therapeutic agent. It seems but proper at this time to view it from its historical side. While not wishing to bring about a controversy similar to that caused by the introduction of ether as an anæsthetic, credit should be given to the one who not alone was the first to use this method, but took the pains to let it be known to all in several monographs published in our representative journals.

J. Leonard Corning,[1] of New York, in 1885, is the first gentleman to record spinal anæsthesia; he reports his experiments tried on a dog and the human subject. In this his first report he claims that it is unnecessary to inject the medication into the spinal canal, stating "that in the human subject numerous small veins (venæ spinosæ) run down between the spinous processes of the vertebræ, and, entering the spinal canal, join the more considerable vessels of the plexus spinalis interna"; that by this arrangement of the circulation the cocainization of the cord would be obtained.

The record of his experiments is as follows: (I.) He injected twenty minims of a two-per-cent. solution of cocaine into the space situated between the spinous processes of two of the inferior dorsal vertebræ. Five minutes after the dog had been injected he noticed inco-ordination of the lower extremities. A short time after, on testing with the faradic current he noticed anæsthesia of the region supplied by the cord below his point of injection. Four hours later the animal had entirely recovered. In Experiment II. he injected in a human subject, between the spinous processes of the eleventh and twelfth dorsal vertebræ, thirty minims of a three-per-cent. solution of cocaine. After the lapse of six or eight minutes, having obtained no results, he injected a similar quantity into the same place. Ten minutes later the subject complained that his legs "felt sleepy." Sensibility was impaired when tested by the electrical current. The impairment "was principally limited to the lower extremities—the lumbar regions, the penis, and the scrotum." When standing the subject complained of dizziness; the ability of distinguishing differences in pressure seemed to be well preserved. He was able to pass a sound almost unnoticed, though this was usually accompanied by considerable pain. The pupils were slightly dilated. The constitutional symptoms noted were headache, slight vertigo, but no nausea. The subject experienced tingling sensations and numbness of his lower extremities until night, also dryness of the throat and mouth accompanied with mental exhilaration, probably due to the amount of cocaine injected, over gr. iss. The motor functions were not disturbed, as the patient was able to walk an hour after the injection, though sensibility was still impaired to a marked degree. He closes this report of his first experiments with the following remark: "Whether the method will ever find an application in genito-urinary or other branches of surgery, further experience alone can show."

The utility of this method so impressed Corning that he continued his experiments and widened its field of application in neurology, reporting his results in 1888.[1] In this article he describes his technique and gives illustrations of a trocar and needle for this special method. It appears, though he was not aware of it, that all of his injections which were followed by a favorable result must have been made into the spinal canal; as Marx[2] has shown that when the cocaine solution is injected around the cord, the phenomena of anæsthesia or the symptoms of post-operative insults are not obtained.

It is in his work on "Pain."[3] that he records the definite results, for which I believe he should receive the credit of being the first to try medullary narcosis for therapeutic purposes; and by his results of anæsthesia opened up the field for the possibilities of operating in or upon the analgesic areas.

In the chapter headed "Local Medication of the Spinal Cord," he carefully weighs the possibility of danger following lumbar puncture, stating: "As to the question of possible injury arising from pricking the filaments of the cauda with the needle, it must be borne in mind, in the first place, that serious disturbances of sensation and motility, having their origin in the cauda, are always due to gross lesions and not to insignificant circumscribed causes." The very fact that the cauda is composed of a great number of filaments, that these fill out the entire canal and are widely distributed, would *a priori* lead us inevitably to this conclusion did we not know inductively from clinical histories and subsequent post-mortem investigation that such is the case.[4] Secondly, we must remember that the wounding of a nerve stem (and the cauda is nothing more than an aggregation of nerve stems) with a fine, sharp needle is practically without significance. There is an interesting observation bearing on this point in Weir Mitchell's well-known book on nerve injuries, which we may here apply with perfect legitimacy. "The passage of a needle into the nerve of an animal causes," he says, "usually a little bleeding, which passes away without grave results.[5] Such a statement applies to simple puncture with a fine needle. Wounds made with an awl or other coarse instrument may, of course, set up the symptoms of circumscribed neuritis." This removes all possible immediate or remote injuries referable to a puncture made below the limits of the true spinal cord.

His *modus operandi* was as follows: "A small trocar, half an inch long and of the diameter of a wax match,

[1] New York Medical Journal, 1885, vol. 42, page 483. Corning: "Local Anæsthesia," Appleton, 1886.

[1] MEDICAL RECORD, 1888, vol. xxxiii., p. 291.

[2] MEDICAL RECORD, October 6, 1900.

[3] Corning: "Pain," Lippincott, 1894.

[4] Vide "Injuries of the Cauda Equina," by William Thorburn, M.D., Brain, vol. x.

[5] "Injuries of Nerves and their Consequences," by S. Weir Mitchell, Philadelphia, 1872.

was first thrust through the skin between the second and third lumbar vertebræ. A long, fine, hollow needle, screwed to an ordinary hypodermic syringe, was then passed through the opening in the trocar and down through the soft tissues adjoining the ligamentum interspinosum till the spinal canal was entered. The entire contents of the syringe were then emptied upon the fibres of the cauda equina." The solution injected consisted of tinct. aconiti, gtt. v.; cocainæ, gr. ss.; aquæ, ℥ i.

In from five to eight minutes the patient complained of tingling sensations in his lower extremities. On examination, there proved to be a decided impairment of tactile sensibility, "amounting in certain localities, particularly in the lower third of the thigh and ankle, to a positive anæsthesia." His error of technique was due to the fact that he inserted his needle with the syringe attached; the cerebro-spinal fluid was not allowed to escape, and only in the presence of this fluid is it possible to know absolutely and definitely whether or not the canal has been entered.

If the original literature referred to by me is thoroughly examined, I believe that there will not be a dissenting voice against giving J. Leonard Corning full credit for having introduced medullary narcosis.

Five years elapsed after the last article of Corning, when the attention of the world was again called to this form of anæsthesia by A. Bier, in 1899, in his original monograph.[1] He experimented with it, and was able to obtain anæsthesia sufficient to do any operation on the lower extremities.

The honor is due him for having established it as a new anæsthesia in surgery. He used Quincke's method of lumbar puncture, but kept his needle plugged until he believed he was in the spinal canal. He was very careful not to lose any more fluid after establishing the fact that his needle was in the canal; he then attached his syringe (he prefers a Pravaz) and injected his solution of cocaine, leaving the needle attached to the syringe *in situ* for two minutes so that the solution should not escape through the artificial canal made by his puncture. The skin puncture he sealed with collodion. He made his puncture painless by using Schleich's infiltration down to the vertebræ. He obtained signs of anæsthesia five to eight minutes after injecting, the patients complaining of tingling sensations and formication in the legs. His longest anæsthesia lasted forty-five minutes.

The quantity of cocaine he used varied from 0.005 gm. to 0.01 gm. The area of anæsthesia varied in his different cases; in some it extended to the mammæ, in others as high as the neck. He believes that the diminution of sensation is due to the effect of the cocaine upon the "scheidenlosen Nerven," and perhaps the ganglion cells. He reports the results of having himself injected as well as his assistant. The report of his personal case is interesting because it shows the result when too much spinal fluid is lost, and the proper treatment, rest is not obtained; likewise his assistant, though he lost very little spinal fluid, suffered by trying to pursue an active life following his injection. He believes it necessary after every injection to demand absolute rest to lead to a rapid recovery. The sensibility to appreciate touch remained intact in most cases, and was absent only when large amounts of cocaine were used.

The constitutional symptoms he noted were headache, vomiting, sweating, slight chills usually soon after the injection, rise in temperature (which was not of a surgical nature) usually occurring within a day. He noted nothing of a dangerous nature, but believes it is contraindicated in hysterical or excited patients.

A short time after Seldovitch[2] confirmed Bier's results, having also experimented on dogs. The disagreeable symptom of rise of temperature he attributed to the cocaine, which, he claims, has been proven to occur frequently when this drug is given hypodermically. He failed to get any rise of temperature when a saline solution was injected into the spinal canal of a dog. He emphasizes the necessity of asepsis in using this method.

The next step in its advancement was made by Tuffier,[1] who extended the field of operation from the lower extremities, established by Bier, to the genito-urinary organs, rectum, and intestines. He is the first to report a large number of cases; they were comprised of both sexes. He recommends a platinum needle, 9 cm. long, with an external diameter of 1.1 mm. and internal one of 0.8 mm., the oblique bevel much shorter than that of the ordinary aspirating needle. He also uses the Pravaz syringe. He locates his point of puncture by drawing an imaginary line joining the crests of both ilia, this crosses the centre of the fourth lumbar vertebra, and from this point it is easy to find the space between the fourth and fifth, where he prefers to inject. He prefers the scorching position, as all others he has tried are subject to flexure or deviation of the vertebræ, which makes the puncture more difficult; another obstacle is deformities of the spine. He never injects the solution of cocaine until he sees the escape of cerebro-spinal fluid. He lays great stress on the necessity of using a fresh sterilized solution, as he has found it becomes rapidly inert from frequent sterilization. The maximum quantity of cocaine he used was 15 mgm. He noted the same constitutional symptoms as Bier; for the vomiting, which, he says, comes on soon after injecting, he recommends the use of ice given internally. He has found the headache the most constant symptom. It varies greatly in duration and severity; most frequently it is light and lasts a short time, but he has seen it severe and continue for two days. His anæsthesia lasted from one to one and a half hours.

The first report of its use in obstetrics was made by O. Kreis.[2] He noted no disturbance of the muscular power of the uterus; the contractions occurred just as frequently, also with apparently the same intensity as before the injection. The patient, though not suffering any pain, complained that her abdomen felt as if it were being stretched. The pressure of the head, the stretching of the vulva, the entrance of the forceps, and the extraction of the head were appreciated by the patient, but absolutely devoid of pain. The abdominal muscles remained at rest, lacking the stimulation of the pain due to pressure of the head; but when the patients were told to bear down they were able to exert as much power as before receiving the injection. No disturbance of the motor function of the uterus was noticed at any time. His anæsthesia averaged about two hours in duration. He does not believe it is advisable to use it when the assistance of the abdominal muscles is required, or in frightened or excited patients who would scream or cry out, although suffering no pain. He believes it is useful in cases complicated by heart or lung disease, or when the operator cannot obtain proper assistance.

The first extensive report and application of this method in this country was made by Marx.[3] He experimented also with eucaine, but was not able to get any anæsthesia. He injected a saline solution into the spinal canal and obtained the same constitutional effect as he obtained by injecting cocaine, minus anæsthesia. He used nitroglycerin, gr. $\frac{1}{100}$, to counteract symptoms which, he believes, are due to the shock of

[1] Deutsche Zeitschrift für Chirurgie, vol. li., p. 361.
[2] Centralblatt für Chirurgie, 1889, vol. xli., p. 1110.

[1] La Semaine médicale, 1899, p. 363, and May 16, 1900.
[2] Centralblatt für Gynäkologie, July 14, 1900.
[3] Medical News, August 25, 1900. MEDICAL RECORD, October 6, 1900.

the central nervous system, and met with varied results. He has tried hydrobromate of hyoscine, gr. $\frac{1}{200}$ given hypodermically, immediately after finishing his spinal injection, or at the first sign of any of the disagreeable symptoms. He has used from gr. $\frac{1}{6}$ to gr. $\frac{1}{3}$ of cocaine for one injection, and has given as much as gr. $\frac{3}{4}$ within an hour. He objects to injecting any other drug than cocaine into the spinal canal, as he has seen toxic results from the combination of morphine sulphate, gr. $\frac{1}{6}$, in his solution. His anæsthesia has lasted from one to five hours, and by repeated injections he has kept a patient under its influence for eight hours. He recommends that the patients be blindfolded and have their ears plugged with cotton; that it is necessary for the operator and his assistants to refrain from any unnecessary noise or talking. The patient should be reassured constantly.

He has not met with any dangerous results to mother or child, and believes it has opened up the field for normal labor without any pain. He terminates his report by stating that he thinks it is indicated in a prolonged painful first stage, convulsions present or threatening, in septic cases for explorations and operations.

In a personal interview with Dr. Marx, I am informed that he has given cocaine puncture for abdominal and vaginal hysterectomy, the operator being Goffe, of New York, the results in both cases being ideal.

Other successful cases have been reported, but they give us nothing new in technique or application.

The question now is to ascertain a technique by which the area of anæsthesia will be constant in all cases.

I take pleasure in thanking Dr. Ware for the references he has given me.

In closing, it is needless to say that this being a surgical procedure, asepsis is an absolute requisite to avoid fatal sequelæ.

1215 Madison Avenue.

THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS.

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Upon the threshold of the twentieth century there dawns a new era in practical therapeutics—no less a boon than the successful treatment of the greatest scourge to which human flesh is heir.

A short while, a bit more patience, and a trifle more effort are still requisite for its consummation and general acceptation. A short time is still required before this knowledge will be appreciated by the great body of general practitioners.

The present is formative. It is a transitional period. The profession in general has scarcely as yet emerged from the gloom of empiricism in the treatment of this disease, through which it has been groping from time immemorial.

No single period in the world's history has been so fraught with practical progress in phthisio-therapeutics as the closing years of the present century. Perhaps no similar period has possessed so many ardent workers in this field, nor has greater amount of effort been expended.

The studies and perquisitions of Cornet, Strauss, Chauveau, Cohnheim, Villemin, Klebs, Aufrecht, Koch, and others have served to elucidate and exemplify its etiology and pathology. We are indebted to these gentlemen for a clear and accurate conception of the causes and factors involved, without which there could be no rational treatment.

A brief reiteration of certain etiological and pathological principles is essential to a proper comprehension and lucid understanding of the modern methods of successful treatment.

Tuberculosis is a disease of crowding,[1] of unsanitary dwelling,[2] of deficient ventilation, of insufficient use of soap[4] and water,[5] of deficient and insufficient feeding,[6] of uncleanliness,[7] of defective hygienic environment;[8] in short, of departure from the conditions of a healthy animal life.[9]

True it has a specific infectious organism, but the bacillus is only the "histological exponent, not the whole of the tubercle, much less of the disease."[10]

Local tuberculosis, regardless of its situation in the human economy, has the same characteristics—the *locus minoris resistentiæ* and the proliferation of connective-tissue cells resulting in a sequestration of its offending concomitant infective agent.

Remove the primordial etiological factors enumerated and the disease abates; if neglected, further infection ensues. That is the so-called mixed infection. The ubiquitous pyogenic organisms find a suitable soil, and then is presented the typical clinical configuration of consumption.

Pure local tuberculosis, whether pulmonary or articular, does not possess the time-honored and respected signs of inflammation—*rubor*, *dolor*, *tumor*, *calor*, *et functio læsa*. Pulmonary tuberculosis is quite afebrile and without exudation, but add mixed infection and pulmonary phthisis is the sequence. In other words, phthisis is pulmonary tuberculosis plus a pyæmia or septicæmia. The due appreciation of this complication is of paramount importance, for almost all the dreaded symptoms of phthisis are the result of this pyogenic superinfection.

The subject of mixed infection has recently been studied with great care by one of the cleverest of bacteriologists, Sata, of Tokio, Japan. He has shown that the broncho-pneumonia of consumptives is due invariably to these mixed bacteria. The predominant micro-organisms are the streptococcus pyogenes, staphylococcus pyogenes, diplococcus of Fraenkel, and Pfeiffer's influenza bacillus.

Sata,[11] Pfeiffer,[12] and Brieger,[13] in harmony with Petruschky, attribute the hectic fever and night sweats to the work of the streptococcus. These gentlemen have been able to recognize the so-called streptococcus curve in the fever charts of many consumptives. Further, the staphylococcus pyogenes, from its known liquefying action upon connective tissue, is in the main responsible for the breaking down of pulmonary tissue. Pfeiffer's bacillus as well as Fraenkel's often causes consolidation, thus hastening the progress of the disease. The bacillus pyocyaneus of Gessard gives the characteristic greenish coloring to the sputa. The micrococcus tetragenus described by Koch and Gaffky is frequently found in phthisical sputa as well as many other micro-organisms having more or less pathogenic qualities.

Now as for treatment. It is obvious, again to quote Brieger,[14] that a specific serum cannot meet the indications furnished by a mixed infection. It has been repeatedly noted that in the contest between the system and the organisms associated with phthisis, the leucocytes and their alexins play a lesser part than in any other infectious disease.[15]

Yet there are many who still have faith, for instance, in Koch's tuberculin in spite of Virchow's protestations, or Hausemann's and Baumgarten's assurance that an eruption of tubercles occurred regularly during the injections; or Bozzolo's[16] observation that it converted a chronic process into an acute; or Papillon's[17] evidence that the reaction was to be obtained in any ordinary cachexia; or Landouzy's,[18] in general erethism.

There are yet advocates of Maragliano's serum notwithstanding De Renzi's[19] and Fraenkel's[20] demonstrations as to its futility; of Klebs' and Hutinel's, in spite of Debove's,[21] Blache's,[22] and my own[23] investigations. Portucalis'[24] recent advocacy of a serum prepared from tertiary syphilitics, which he considers "would be of great advantage to consumptives," should surely require no contradiction. It is manifestly absurd.

But it is hardly necessary to mention each and every one. Omeltchonko[25] has experimented with a variety of sera and found them wanting. The consensus of opinion it seems is with Beck,[26] Rabinowitsch,[27] Osler,[28] Richardiere,[29] Sir Herbert Maxwell,[30] Pye-Smith,[31] and others, that all sera, diagnostic or specific, have proven nugatory in their application to this disease.

As for drugs: Centuries of experimentation with every ingredient mentioned in the pharmacopœia have given us not a single one that has the slightest favorable action upon tuberculous processes.[32] Even the much vaunted creosotes, guaiacols, and the like have proven in some instances inert,[33] in others injurious.[34] However, be they inert or injurious they have certainly, to use the words of Osler, "no essential influence on the progress of this disease."[35]

Again, the virtues of climate, altitude, and atmospheric pressure, upon which so much reliance has been placed, have dwindled beneath the searchlight of close investigation. The old theory of immune zones is no longer tenable. The bacillus is found regardless of temperature, of elevation, of moisture, or prevailing winds.[36] The disease prevails regardless of demographic conditions or geographical positions.[37]

Thus we find Crowley[38] and Duckman,[39] of California, inveighing against the practice of sending the tuberculous to their State; the Honolulu health reports[40] showing progressive increase in tuberculosis among the natives; Girdner[41] affirming the percentage among the citizens of Asheville, N. C., to be the same as that of Manhattan; Newton[42] assuring us of its prevalence among the natives in the Adirondacks; Davies[43] demonstrating tuberculosis rampant even upon the Isle of Man, "where the temperature is equable, abundant sunshine, and fogs unknown." Yet the climate of these places has frequently been lauded as a specific in consumption.

Detweiler[44] and Blumenfeld, it is affirmed, were the first to prove these factors unessential to treatment. Lannelongue, Archard, and Guillard[45] have recently carefully studied the question of the influence of climate upon the evolution of tuberculosis. Their conclusions are as follows: "In certain regions the disease is rare, and its relative infrequency is attributable solely to the mode of life of the inhabitants. The improvement which has been noted in patients at health resorts which have a reputation for the cure of phthisis is due alone to the effects of the different methods of treatment adopted, and cannot be attributed to the region or place." F. Hueppe's[46] deductions were practically the same.

That climate is unessential to successful treatment was the verdict of the International Medical Congress, held at Moscow in 1897.

Dr. Pannwitz's report as general secretary of the Berlin Congress of Tuberculosis contains the following: "The fact has been proven that tuberculosis can be treated successfully anywhere without regard to climate."

"Elevation," to quote Braine-Hartwell Birmingham,[47] "of a few hundred feet may be desirable, though not necessary." J. E. Birmingham[48] declares from much experience that "elevation has no influence whatever over this disease. Patients do as well at sea level as at high altitudes."

Atmospheric conditions are unimportant. Barometric pressure does not hold the slightest causative relationship to any disease.[49] Professor Stewart in his address before the International Congress showed that the results obtained in Edinburgh with its "rain and mist and east winds" were equal to the most favorable obtained in Germany.

If further evidence along this line be desired, I refer to Walker,[50] Burton-Fanning,[51] von Schrotter,[52] Otis, Knight,[53] Shaper,[54] Girdner,[55] Tew,[56] Roane Brunnon,[57] Hillier,[58] Wolff, and others.

If drugs, sera, climate, altitude, and atmospheric pressure have proven inefficient, in what does the cure consist?

The sum substance of successful treatment resolves itself into the rational application, conversely, of its fundamental causative factors; the diametric antithesis of its so-called predisposing etiology; plus, to use the words of Moeller,[59] "the summation of many minor curative measures, each of which, perhaps, if taken by itself has but slight effect, but collectively productive of the greatest good."

It is apparent that these measures, with their multitudinous details incident thereto, can properly be carried out only in institutions where the patients are under constant, competent, sincere, painstaking medical supervision.[60]

To quote a recent author, "the value of sanatoria treatment has been too incontrovertibly demonstrated to permit of any difference of opinion."[61] To mention the advocates of sanatoria treatment for this disease would be but to name every student of the subject the world over, *nemine contradicente*.

Now as to the armamentaria of sanatoria. Perfect sanitation and prophylaxis, scrupulous cleanliness, the routine of occupation, the systematic hygienic regimen, aerotherapy, Dauerluftkur, the time air cure of the Germans, efficient nursing and the like, it goes without saying, are of prime importance. There are other measures, however, not generally appreciated, although none the less valuable, which are deserving of consideration. Foremost among them is inhalation, which dates from the period of Paracelsus. "There can be no questioning the fact," to use the words of Schroeder,[62] "that inhalation therapeutics play a great rôle in the treatment of phthisis." Dr. Penrose[63] of Johns Hopkins assures us that the antiseptic action of inhalation is manifested by the rapid disappearance of pus organisms from the sputum, and Burghart[64] and Brieger[65] are practically of the same opinion.

Antiseptics and the aliphatic hydrocarbons of the turpentine group are the ingredients generally used. They are administered by siphon or comminuter arrangement with compressed air. Of course, no sanatorium is complete without its inhalation chamber, as von Schrotter, Meissen, J. Lazarus, and others affirm, but from special study I am quite satisfied that an equally valuable method of application consists in charging the atmosphere of the entire institution with antiseptics by means of vacuum pumps and engine.

An antiseptic or medicated atmosphere constantly maintained, particularly during the night's rest, is certainly, to say the least, an efficient coadjutor of the inhalation chamber. It destroys much of the mixed infection, limits toxin necrosis, loosens and facilitates the removal of alveolar and tubular exudations, and allays local tissue irritation. P. Lacroix[66] claims still further from his experiments with medicated air that the tubercle bacilli as well as the microbes of mixed infection are destroyed. Properly administered, then, inhalation is without doubt the most potent single remedy at our command in the treatment of this disease.

Hydrotherapy is manifestly an essential to successful treatment. It should, however, be systematically

and rationally carried out as part and parcel of daily routine. So important is this measure that many enthusiasts, such as Kuthy[67] and Winternitz,[68] maintain that cures may be effected by this means alone.

The carbonated or Nauheim bath has been found valuable in its application to this disease; of course, minus the resistant gymnastics. It is a certain means of steadying an intermittent or irregular pulse, or of reducing its frequency. By promoting a superficial capillary congestion it likewise tends to relieve visceral engorgement. It is, without doubt, a superior substitute for the pneumatic cabinet.

The importance of diet in a synthetic condition is self-evident. Wilcox[69] and more recently Harris[70] have carefully studied the subject, but it is a wide field and worthy of further investigation. Suffice it to say that feeding should be slightly in excess, but the food should be well selected, nutritious, temptingly served, and, of course, properly cooked.

Symptomatic treatment is strictly a subsidiary measure. Schroeder[71] observes that despite the innumerable substances which have been uselessly employed in connection with the therapy of phthisis, there are certain indications which we are justified in meeting with symptomatic remedies, as drugs and nutrient preparations; as, for instance, hyperpyrexia, hæmoptysis, insomnia, profuse night sweats, the pains accompanying pleural, larnygeal, or intestinal infection, severe rigors, paroxysms of coughing, diarrhœa, collapse, and the like. At the same time it should not be forgotten that the tuberculous are as prone to the minor ailments as the non-tuberculous, and their innumerable complications or personal idiosyncrasies must necessarily be intelligently dealt with.

Exercise, which many of the earlier phthisiologists, notably Detweiler, deemed appropriate to treatment and encouraged, has of late been very much restricted. Dr. Edson,[72] a short time since, struck the keynote when he said that "there were indications in the pathology of this disease for rest. While physicians followed them as they applied to articular and laryngeal tuberculosis, they ignored them when the lungs were in question." Prof. William H. Thomson at a recent New York medical meeting averred that even at rest "the constant movement in respiration was a great hindrance to cure."

The advocation of golf and horseback riding in the treatment of phthisis *a priori* contravenes both pathological and clinical indications. In the light of present knowledge and experience Liegekur, therefore, supersedes Uebungskur. As Hillier[73] states, frequent and complete rest is imperative.

Lastly, it is hardly necessary to add that the secret of institutional success lies in the competency and sincerity of the physician in charge; "in his ability," as Muthu[74] puts it, "to discriminate and shape his treatment according to the physical requirements of the individual case."

In conclusion, permit me to add that the success of treatment is intimately connected with its early recognition; that pulmonary tuberculosis is positively curable. That it may be diagnosticated even without bacteriological examination, Fraenkel,[75] Fluegge,[76] Petrushky,[77] Anders,[78] Senator,[79] Bozzolo,[80] Giovanni,[81] and many others aver.

As to phthisis, however, it is of course dependent upon the extent of lung involvement and duration. The corollary is patent, that treatment must be effected early.

Sanatorium treatment for pulmonary tuberculosis is the achievement of the closing years of the century, and embraces in sum and substance modern and successful methods.

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A CONSIDERATION OF THE ANATOMICAL CONSTRUCTION PREDISPOSING TO INGUINAL AND FEMORAL HERNIÆ, AND THE MEASURES TO BE TAKEN IN SECURING THEIR RADICAL CURE.[1]

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In inviting your attention to the subject of inguinal and femoral herniæ nothing new or novel is promised. The importance of the subject alone justifies its frequent consideration. The careful study of any matter with which we are already reasonably conversant often proves valuable in bringing to our attention lesser facts we had nearly forgotten, and clearly defining others that had grown indistinct.

Fig. 1.—Cast of the Lower Abdominal and Pelvic Cavity of an Old Man (Sixty-five to Seventy Years). *a*, The external inguinal fossa (what are fossæ in the subject appear as tuberosities in the casts); *b*, the femoral fossa (the middle and internal inguinal fossæ have their negatives in the cast, but are not lettered); *c*, groove (blackened) produced by the deep epigastric artery.

My purpose to-night is stated in the title of the paper. I wish to ask you to review with me the peculiar construction of the body that, we may justly say, predisposes to the formation of an inguinal or femoral hernia. I acknowledge that I have had my doubts about the popularity of any subject so closely allied to anatomy, for many shy at the mention of this branch. Anatomy probably represents more than any other study the nightmare of our medical course. A report of cases operated on and cures obtained is more inviting, but is it as profitable to all of us as a study of the conditions which make a hernia possible and the steps to be taken to eliminate these conditions?

A hernia is the tumor and its coverings formed by the protrusion of a viscus through an opening in the walls of the cavity in which it is contained.

This paper is limited to the consideration of the indirect inguinal hernia, when the viscus passes through the inguinal canal, and a femoral hernia, when the escape takes place through the femoral canal. The permanent cure of these herniæ depends upon several factors. The principle which underlies the rational interpretation and management of these factors is that the abnormal conditions existing which allow the development of a hernia shall be restored to the normal.

In the normal individual there is no hernia, although certain facts of construction exist which predispose, at times, to the development of such an occurrence.

The more closely nature is imitated by the surgeon in the re-formation of the parts during an operation for hernia the more permanent will the result remain. It is therefore very essential, before we proceed to advocate any operation for the cure of this condition, that we know the arrangement of the parts when hernia does not exist, and the changes produced in the parts when it develops.

The Inguinal Region and Hernia.—The features of construction which predispose to an inguinal hernia are these:

First, the position of this region at the bottom of the abdominal cavity where effects of pressure are more pronounced. This operates also in the case of the femoral variety.

Second, the existence in these regions of areas of unequal curvature of the peritoneum.

The interior of the perineal sac reflects, of course, the shape of the abdominal wall and is not uniformly sphere-like, but presents certain ridges and hollows. In the inguinal region three ridges are found formed by the urachus passing from the top, and the obliterated hypogastric artery from the side of the bladder to converge at the umbilicus and still more externally the deep or internal epigastric artery, which extends from the external iliac in a direction upward and inward. Between the ridges formed by these three cords are depressions called the inguinal fossæ—internal, middle, and external. As we are limited in this paper to the oblique inguinal hernia we have to do with the last. This is usually quite pronounced. It is limited internally by the ridge formed by the deep epigastric artery, below by the line of Poupart's ligament, and above and outward smooths out into the general peritoneal wall. The significance of this pouch is this. Its deepest point is immediately over the internal inguinal orifice. It predisposes to the development of a rupture by concentrating at the orifice the force of intra-abdominal pressure. Such pressure may be no greater here than at any other point on the same level, but all other points do not have a potential opening leading through the abdominal wall, hence the effects of pressure are localized by the presence of this pouch.

Fig. 2.—Similar Cast from an Old Woman. The references are the same as in Fig

[1] Read June 11, 1900, before the Harlem Medical Association, and demonstrated by plaster casts and numerous dissections.

Should there be a state of weakness at the ring, as described later, a hernia may result.

Third. From the bottom of the fossa the funicular process of peritoneum extends onward through the inguinal canal to the scrotum. Usually this tubular structure is obliterated and only a thin fibrous cord remains, which may be hard to demonstrate. This is the normal condition and does not in itself influence the occurrence of a hernia. Should the tube remain open, either partially or completely, a hernia is not only possible but is extremely probable.

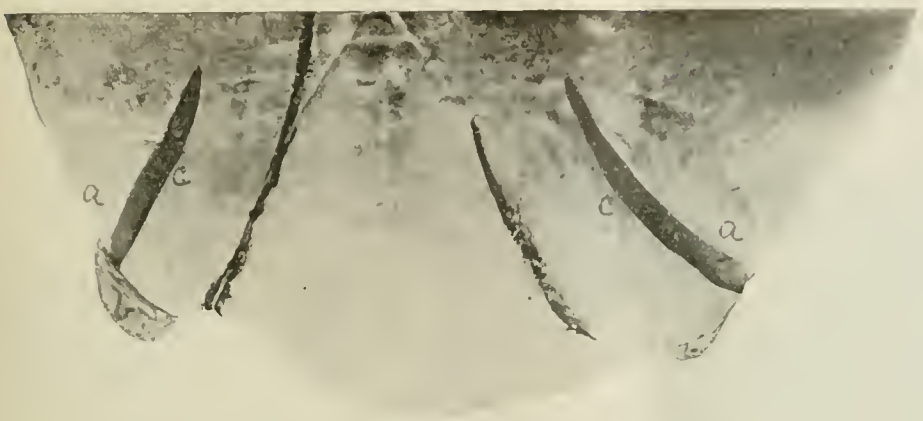

Fig. 3.—Similar Cast from a Young Woman. The references are the same as in Fig. 1.

Fourth. The next predisposing factor is found in the manner in which the elements of the cord itself converge at the internal ring. The vas deferens comes from the pelvic cavity at the inside of the internal ring, the spermatic vessels descend from the lumbar region above the ring. They meet and unite at the internal ring. Their junction forms a V-shaped figure, the apex of which is at the ring. This arrangement serves, no doubt, in a slight degree to direct a loop of intestine toward the internal orifice.

Fifth. There is a more potent factor in the fact that the cord traverses the abdominal wall. So long as nature determines that the testicle shall be worn externally, so long will the cord need to traverse the abdominal wall and a state of weakness will remain. I am hardly ready to advocate the placing of a testicle within the abdominal cavity merely to eliminate this feature of architectural weakness.

The larger and more vascular the cord the weaker becomes the abdominal wall about it, because the cord may be compressed by unusual pressure, its attachments to the surrounding parts weakened, and a knuckle of intestine may be forced between it and the margins of the inguinal ring. Repeated stretchings of this sort will tend to enlarge the orifice and allow the escape of intestine or omentum.

Sixth. The inguinal canal and rings. In order that we may all think of the same thing when these terms are used it is best to define them. By the internal inguinal ring is meant the opening, or really the potential opening, in the transversalis fascia, not the muscle, through which passes the spermatic cord in the male or the round ligament in the female. The external inguinal ring is the similar opening in the aponeurosis of the external oblique muscle through which the same structures pass, and the inguinal canal is the tract joining these rings and situated between the internal and external oblique muscles, which is occupied by the cord or round ligament *en route* from the abdomen to the scrotum or labium.

We all understand that these terms of rings, orifices, and canals are used because there are no better. There are no open holes or rings unless a hernia has existed or the dissector been at work. Normally the cord is snugly enclosed by the tissues at all points.

A word about just how these so-called openings are formed may not come amiss and will help to make clear the later statements.

In early fœtal life the testicle lies within the abdominal cavity below the future kidney. Gradually it works down until it comes against the internal surface of the abdominal wall. Preceded by a small pouch of peritoneum the testicle now passes through the transversalis fascia, the transversalis and internal oblique muscles, then between the latter and the external oblique muscle, traverses the last, and finally settles in the scrotum.

Now the testicle does not make any hole or rent in these layers of the abdominal wall, but stretches each layer before it. Each layer then contributes a long, funnel-shaped pouch covering the cord and testicle. Thus the transversalis fascia furnishes the layer called the infundibuliform fascia, which can be demonstrated for a short distance surrounding the cord and forming a funnel-shaped pit.

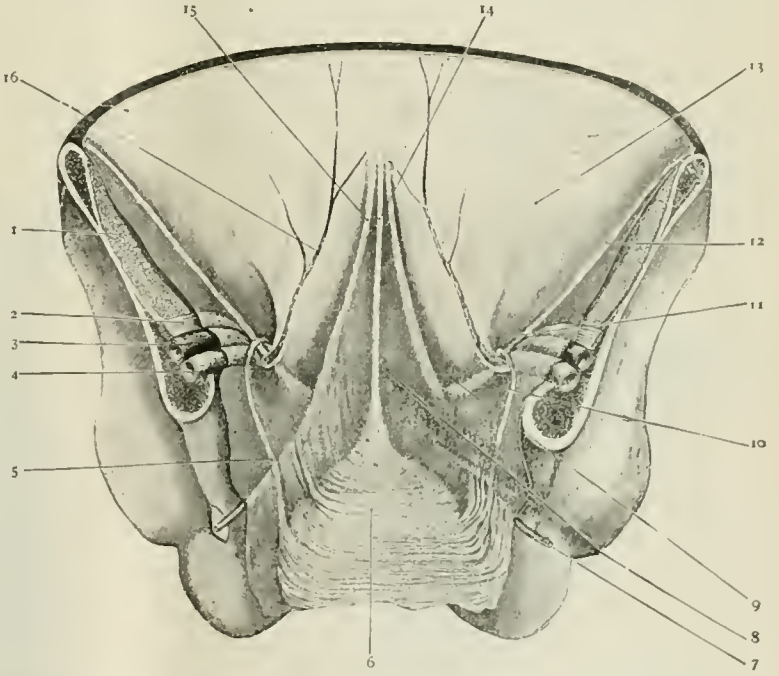

Fig. 4.—Posterior Surface of the Anterior Abdominal Wall. Peritoneum in position. Inguinal and Femoral Regions. 1, The iliacus muscle; 2, anterior crural nerve; 3, external iliac artery; 4, external iliac vein; 5, vas deferens; 6, bladder covered by peritoneum; 7, superior vesical artery (the still pervious portion of the hypogastric artery; 8, internal inguinal fossa; 9, the middle inguinal fossa; 10, femoral fossa; 11, external inguinal fossa; 12, Poupart's ligament; 13, peritoneum; 14, fold of peritoneum made by the urachus; 15, fold of peritoneum made by the obliterated hypogastric artery; 16, fold of peritoneum made by the deep epigastric artery.

The transversalis and internal oblique contribute muscular fibres as well as fibrous tissue to help in forming the cremasteric fascia. This layer is readily demonstrated, and becomes greatly hypertrophied in chronic scrotal hernia.

The external oblique furnishes a thin tissue called the external spermatic fascia, which also covers the cord and testicle.

We thus see that while the testicle may be said to pass through the abdominal wall, yet it does so only after protruding the thinned layers of this wall before it; these layers in turn furnishing the coverings for the testicle and cord and the variety of hernia we are discussing.

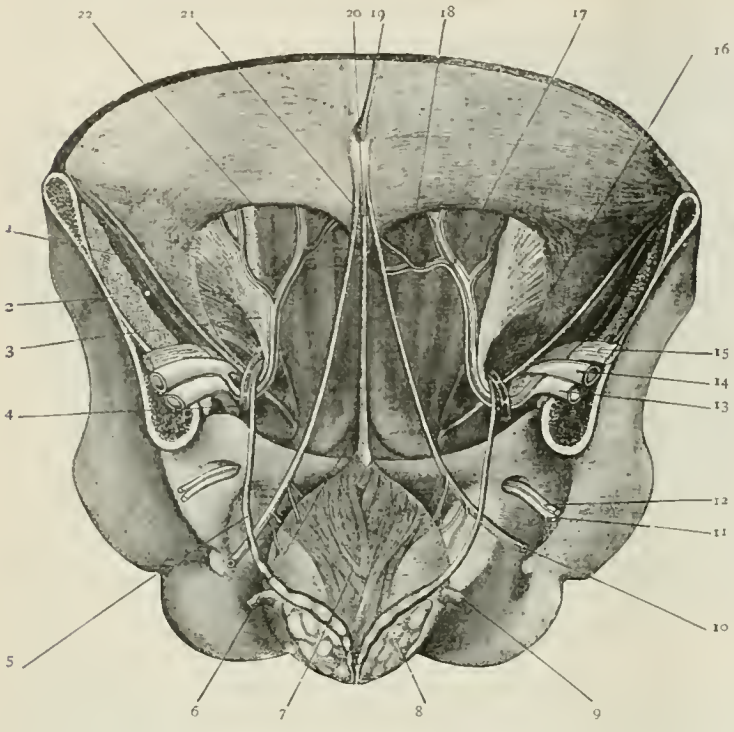

Fig. 5.—Posterior Surface of the Anterior Abdominal Wall. The Peritoneum removed. Inguinal and Femoral Regions. 1, Poupart's ligament; 2, the iliacus muscle; 3, semilunar fold of the transversalis fascia; 4, spermatic vessels; 5, vas deferens; 6, base of the linea alba; 7, the urinary bladder; 8, seminal vesicle; 9, the ureter; 10, superior vesical artery (the still pervious portions of the hypogastric artery); 11, obturator nerve; 12, obturator artery; 13, external iliac vein; 14, external iliac artery; 15, anterior crural nerve; 16, internal inguinal ring; 17, deep epigastric artery and veins; 18, rectus muscle; 19, suspensory ligament of the liver; 20, the urachus; 21, obliterated hypogastric artery; 22, semilunar fold of Douglas.

The union then about the rings, canal, and cord is always a weak one and easily destroyed. This makes the rings weak points in the abdominal wall. Yet this weakness in itself is not sufficient to cause the development of hernia unless some of the other factors are present.

The inguinal canal is about one and three-fourths inches long; that is, the two rings are this distance apart, measured along Poupart's ligament.

A weakness about the canal and rings will be found to consist in an enlargement of the rings and a shortening of the canal. These constitute most effective predisposing causes for a hernia.

Two rings there must be normally, and yet no hernia need result so long as these openings are normal in size, far apart, and each guarded by a strong fascia, the internal opening by the external oblique fascia, the external ring by the conjoined tendon.

The internal ring is still further reinforced by an active structure, viz., the common fibres of the transversalis and internal oblique muscles, which, arising from Poupart's ligament, arch over the cord and pass on as the conjoined tendon to be attached to the linea ilio-pectinealis.

Intra-abdominal pressure, then, in the normal subject serves to press the component parts of the abdominal wall together; the weak places are sufficiently protected by the stronger reinforcements, and no escape of viscera occurs.

The external inguinal ring is found presenting the appearance of a slit, caused by the divergence of fibres of the external oblique aponeurosis near the spine of the pubis, for the passage of the cord. The sides of the openings are called the pillars or columns of the ring. The further separation of the fibres of the external oblique is prevented and the weak place strengthened by some transverse fibres called the intercolumnar fascia. From this fascia and the pillars of the ring the external spermatic fascia passes on to the cord.

If the fibres of the external oblique, or pillars of the ring, are separated for an unusual distance, then both rings are weakened, the external directly, the internal indirectly, by impairment of its external support, and the condition becomes favorable for the development of a hernia.

In infancy and early childhood before the pelvis has developed the inguinal canal is a short affair, the rings are close together, and a state exists favorable for the development of hernia. If added to this there is an open funicular process, a rupture will probably appear.

Seventh. An abnormally long mesentery or omentum. The mesentery and omentum are probably unnecessarily long in case a hernia actually exists; still, it does not follow that an increase in the length of these parts is an active predisposing factor to hernia. In the cure of a hernia no account is taken of an elongated mesentery or omentum (unless the latter is hypertrophied), as the permanency of the result of the operation depends solely upon the repair of the abdominal wall and treatment of the cord.

The changes which are produced by a hernia depend to some extent upon the time of life when it appears and its duration. In early life an open funicular process will be occupied, and this pouch will form the sac of the hernia. In later life the hernial sac is acquired, either

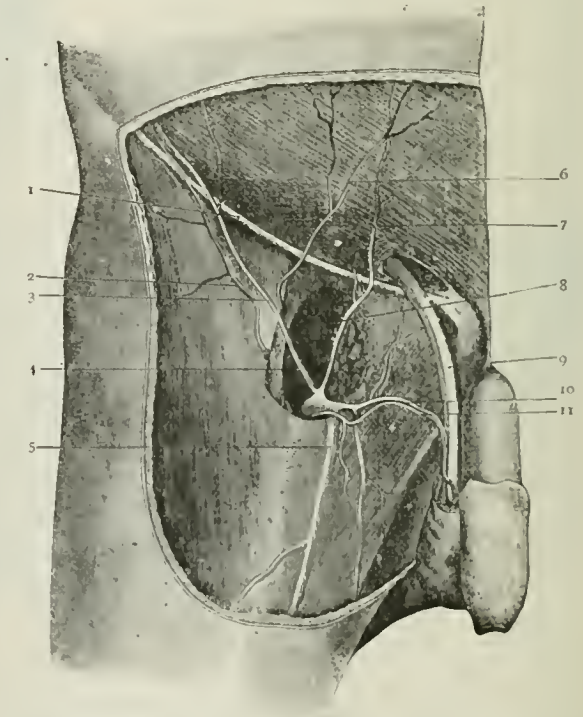

Fig. 6.—The Inguinal and Femoral Sections. Superficial dissection. 1, Poupart's ligament; 2, superficial circumflex iliac artery; 3, superficial circumflex iliac vein; 4, femoral artery (its position shown beneath the fascia lata by heavier shading); 5, internal saphenous vein; 6, superficial epigastric artery; 7, superficial epigastric vein; 8, cribriform fascia; 9, spermatic cord; 10, superficial external pudic vein; 11, superficial external pudic artery.

gradually or suddenly, by the invagination of the peritoneum in the inguinal fossa. In both cases the hernia has passed through the rings and canal into the scrotum, or labium, and there continues its development. I purposely omit reference to the numerous

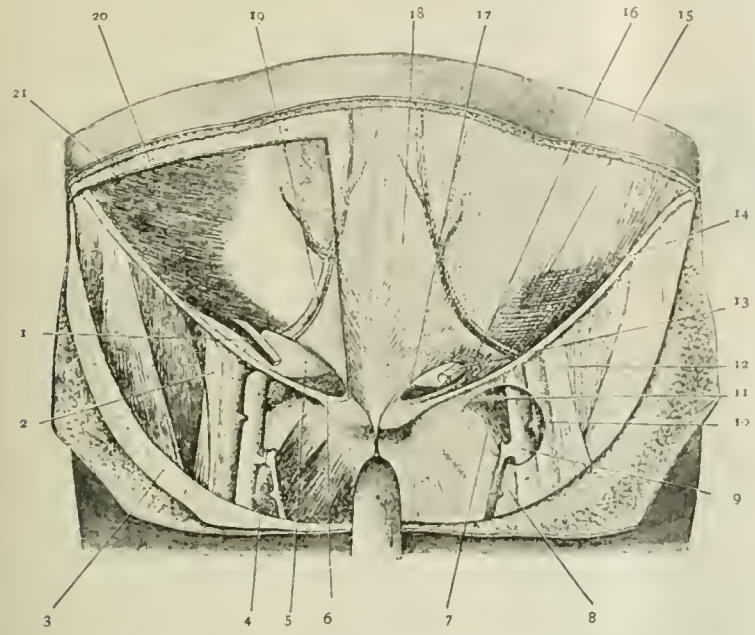

FIG. 7.—The Inguinal and Femoral Regions. Deep Dissections. 1, Cremaster muscle; 2, ilio-pectineal fascia—deep layer of the fascia lata; 3, superficial layer of the fascia lata; 4, Rosenmuller's lymphatic gland; 5, transversalis fascia; 6, Colles' ligament; 7, fossa ovalis; 8, internal saphenous vein; 9, femoral vein; 10, femoral artery; 11, falciform process of the fascia lata; 12, anterior crural nerve; 13, spermatic cord; 14, Poupart's ligament; 15, fibres of the intercolumnar fascia; 16, inferior crus of the external inguinal ring; 17, superior crus of the external inguinal ring; 18, aponeurosis of the external oblique muscle; 19, deep epigastric vessels—represented as showing through the muscles; 20, aponeurosis of the external oblique muscle; 21, internal oblique muscle.

varieties of the indirect inguinal hernia and content myself with the complete scrotal (or labial) form.

A rupture of this sort profoundly alters the normal construction of the region. The inguinal rings will be abnormally enlarged and the internal displaced toward the middle line, until it is found in a majority of cases directly behind the external, and the inguinal canal has been obliterated. The peritoneal sac presents various features into which it is not my purpose to enter, except to say that it is thickened and will usually communicate with the abdominal cavity by a narrow orifice that flares out funnel-shaped into the general peritoneal layer.

The various structures given as furnishing the coverings to the testicle and cord in turn become the coverings for the hernia. As they play no part, with the exception of the cremasteric fascia, in the development and cure of hernia, they will be ignored.

The cord itself undergoes changes. It becomes more vascular and hence larger. This increase in size is due chiefly to a varicose condition of the veins, produced by obstructed circulation, such obstruction being usually found at the internal ring. The omentum present in the hernia becomes in time thickened, and numerous adhesions may be formed between it and the sac or intestine. In the intestinal form the mesentery becomes elongated to allow the gut to descend.

The Radical Cure.—Given an oblique inguinal hernia, we now seek to find what measures must be taken to cure it.

My text at the beginning serves us now. It is this: Imitate and reproduce nature's plan of construction.

Let us see how this can be done at the ordinary operation. It is taken for granted that the sac has been opened, its contents have been dealt with, and the operator is now ready to proceed to close up the wound. To summarize the difficulties, it will be necessary to deal with the sac, the cord, and inguinal canal and rings.

The Sac.—The external inguinal fossa (in the peritoneum) cannot be entirely obliterated, but it can be made less prominent, and the funnel, which leads into the sac, can be eradicated and the sac itself removed. To do this, first divide the transversalis and internal oblique muscles, outward just above Poupart's ligament as far as its outer and middle thirds. This will give plenty of room in which to manipulate the sac and will be utilized in re-forming the internal ring. Free the neck of the sac and the peritoneum all about the internal ring. Then, while making strong traction on the sac, ligate, with chromic gut No. 2 or silk, the pedicle as high as possible and cut the sac away. This procedure fulfils two conditions. It removes the sac and obliterates the funnel leading into it.

Theoretically it would appear to be a good plan to roll up or plait the sac and leave it as a pad over the internal ring, forming a distinct projection into the abdominal cavity. Practically this pad serves as a wedge to reopen the ring until it disappears by absorption. Thus nothing is gained by retaining the sac at the time of the operation, but a fancied security is obtained and a source of possible future trouble included.

The Cord next needs most careful attention. Numerous large veins, much loose areolar tissue, thickened coverings, must be removed and a thick, vascular cord converted into a normal, firm one. All the veins but two or three, with the excess of tissue, should be removed between the ligatures. Care must be taken, however, not to injure the arteries and the vas itself, and to leave two or three veins to carry on the return circulation.

Halsted deserves credit for suggesting this diminution in the size of the cord.

The next thing in which nature is to be imitated is in the re-formation of the inguinal canal and rings. This attempt is attended with difficulty diminishing with the thoroughness with which the operator has exposed the field of operation, and the care with which the preceding steps are carried out. The farther apart

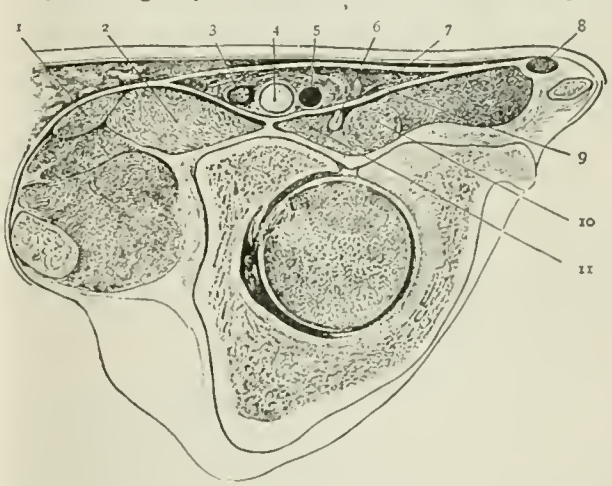

FIG. 8.—Section through the Left Femoral Canal; Upper Segment. The section runs just below and parallel with Poupart's ligament. 1, The adductor longus muscle; 2, the pectineus muscle; 3, the gland of Rosenmuller; 4, the femoral vein; 5, the femoral artery; 6, the anterior crural nerve; 7, fascia lata, the superficial layer; 8, sartorius muscle; 9, fascia lata, the deep layer; 10, the iliacus muscle; 11, the psoas major muscle.

the inguinal rings are the less liable is a hernial protrusion to occur. The external ring is fixed by different factors at the spines of the pubes; the internal, on the contrary, is a movable affair. In the normal state it lies opposite the middle of Poupart's ligament—in the abnormal, much to the inside of this. In our at-

tempt to imitate the natural construction it should be moved outward, at least as far as the outer and middle thirds of Poupart's ligament. The transversalis and internal oblique have already been divided for this purpose to this point. Now transfer the cord to the

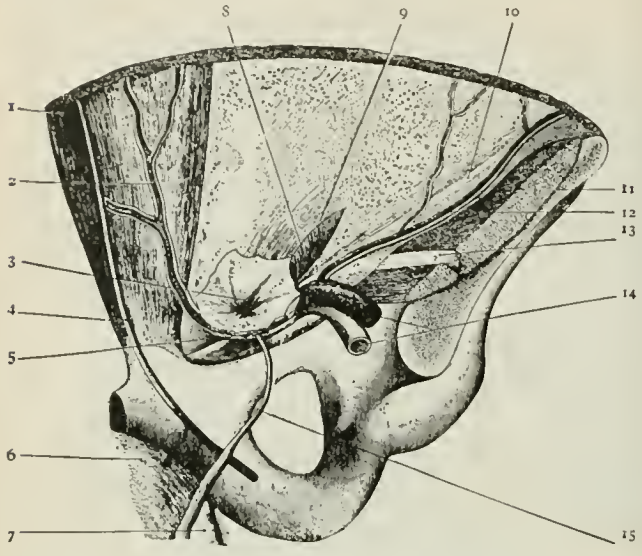

Fig. 9.—Indirect Inguinal Hernia, Showing the Relations at the Neck of the Hernial Sac. 1, The rectus muscle; 2, the deep epigastric vessels; 3, the hernial sac; 4, obliterated hypogastric artery; 5, transversalis fascia; 6, the urinary bladder; 7, tip of the seminal vessel; 8, the internal inguinal ring; 9, semilunar fold of the transversalis fascia; 10, Poupart's ligament; 11, iliacus muscle; 12, the deep circumflex iliac artery and vein; 13, the anterior crural nerve; 14, the external iliac artery and vein; 15, vas deferens.

outer angle of the incision, and while holding it there suture the transversalis and internal oblique muscles and the transversalis fascia to Poupart's ligament as advised by Bassini. Slack muscular tissue, loose conjoined tendon, even the adjoining edge of the rectus sheath can be gathered up and all sutured firmly to Poupart's ligament. Place the cord along the sutured line, and in similar manner close the aponeurosis of the external oblique over it, leaving at the spine of the pubis a small opening for the transit of the cord. The inguinal region is thus reconstructed on sound natural lines. The first line of sutures is interrupted, the second interrupted or continuous. The material is No. 1 or 2 chromic gut. The placing of the sutures at the cord is most important, as by them the inguinal rings are re-formed and will fit the cord snugly or loosely according to the nearness of the suture to the cord. The suture should be so placed that when tied the tissues will grasp the cord snugly but not constrict it.

In the Female, the conditions which allow the development of an inguinal hernia and the steps necessary for its radical cure are similar to those in the male, and the subject does not require a separate consideration. The herniæ are less frequent and are seldom as large as in the male. The operation can be done with greater ease and is more often attended with a permanent result.

Bearing on this subject is the frequency with which Alexander's operation for shortening the round ligament is followed by hernia. This undesirable result is due to a failure to reproduce the natural construction, and can be prevented by carrying out the operation on the same lines as given for a herniotomy minus the sac and contents.

Shorten the round ligament, and re-form the internal ring at the outer and middle thirds of Poupart's ligament; when closing up the inguinal canal include the round ligament in the sutures. After the external oblique has been sutured place the round ligament in the line of the skin incision, and when suturing the latter include the former. The entire inguinal region is thus re-formed; there has been secured ample room satisfactorily to shorten the round ligaments, and these have been firmly anchored by a double line of suturing, so that they cannot slip and a hernia cannot develop.

The Femoral Region and Hernia.—While herniæ do not take place at the femoral opening with the same degree of frequency that they do at the inguinal, the attempt at radical cure is attended with greater difficulties and more frequent failures.

The reasons why femoral are less frequent than inguinal herniæ, why they are four times more numerous in women than in men, and why they are more difficult to cure, are due to structural conditions. The peritoneal pouch, or femoral fossa, over the site of the femoral ring is smaller and shallower than the external inguinal, and is rendered less effective in predisposing to hernia by a packing of adipose tissue and a small lymphatic gland. When the peritoneum, fat, and gland are removed we find a well-marked pit at the inner side of the femoral vein. This is the so-called internal femoral ring. It has for its boundaries, in front and above, the inner part of Poupart's ligament; at the inside, Gimbernat's ligament; behind, Cooper's pubic ligament, and, at the outer side, the femoral vein in its sheath.

The usual description states that a membrane is found closing in this ring, the so-called septum crurale of Cloquet. Joessel, on the other hand, says there is no fascial covering between the femoral vein and Gimbernat's ligament. This space is occupied by the gland of Rosenmüller, which lies free in the upper part of the femoral canal, and the septum crurale does not exist. At this spot the intestine can pass under Poupart's ligament into the femoral canal by invaginating the parietal peritoneum without being hindered by any layer of fascia. Such a hernia passes out directly from the abdominal cavity assisted by gravity, and appears at the saphenous opening. This opening is a gap in the fascia lata for the passage, chiefly, of the internal saphe-

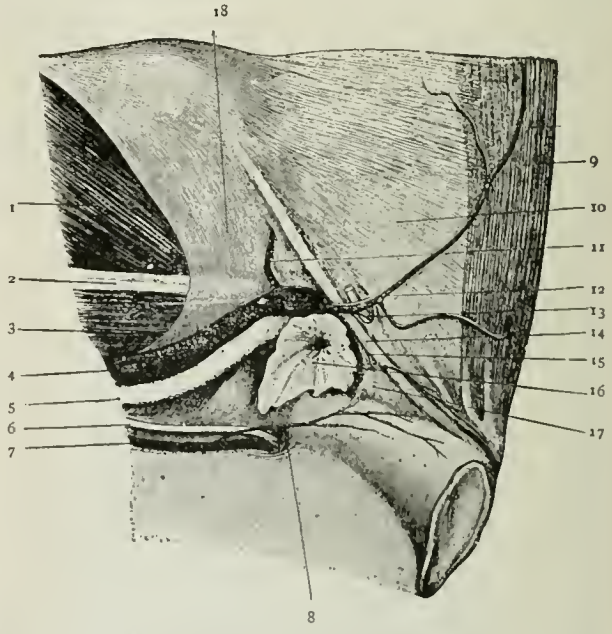

Fig. 10.—Femoral Hernia Showing the Relations about the Neck of the Sac. 1, The iliacus muscle; 2, the anterior crural nerve; 3, the psoas magnus muscle; 4, the external iliac artery; 5, the external iliac vein; 6, the obturator vein; 7, the obturator artery; 8, the pubic branch of the obturator artery; 9, the rectus muscle; 10, the transversalis fascia; 11, the deep circumflex iliac artery; 12, the deep epigastric artery; 13, the spermatic artery; 14, Poupart's ligament, 15, pubic branch of the deep epigastric artery; 16, hernial sac; 17, Gimbernat's ligament; 18, the iliac fascia.

nous vein. It is closed by the deeper layer of the superficial fascia, which, on account of perforations for numerous structures, is called the cribriform fascia. This layer is protruded before the advancing hernia and furnishes one of its coverings. The hernia now

changes its direction and enlarges forward and upward over Poupart's ligament.

The explanation of this change of direction is found in two factors. One is that the cribriform fascia is more firmly attached around the lower margin of the saphenous opening than above; a second one, and one more potent to deflect the hernia, is the presence of the superficial veins (external pudic, epigastric, and circumflex iliac), which empty separately or by a branch common to two or more into the saphenous vein just before it joins the femoral. A downward enlargement of the hernia would require that the veins be stretched or displaced. The hernia is still further assisted in its upward course by flexion of the thigh. The remaining coverings to the hernia do not interest us now.

Besides the factors indicated above which allow and even favor the occurrence of femoral hernia, there is another reason which I think is not sufficiently emphasized. It is the unavoidable presence of the large, easily compressed femoral vein alongside a distinctly weak spot in the abdominal wall. Under excessive pressure the vein can be compressed; this stretches and weakens the adjacent tissues. This stretching and yielding of the tissues will take place mostly at the inside of the vein. Furthermore, the vein does not, like the cord, traverse the different layers of the wall obliquely, but leaves at a point beneath these fixed layers and in a direct course from the abdominal cavity.

The only reason, then, why femoral herniæ are not more frequent is the small extent of this weak area.

When Poupart's ligament stretches as in the aged, male or female, or in the female after repeated pregnancies, then, one of the main supports being lost, the weak area is enlarged and a condition for the development of a femoral hernia is present. As regards the influence of sex, the broader female pelvis plus the influences of pregnancy furnish the explanation of why this form of hernia is four times more prevalent in the female than in the male.

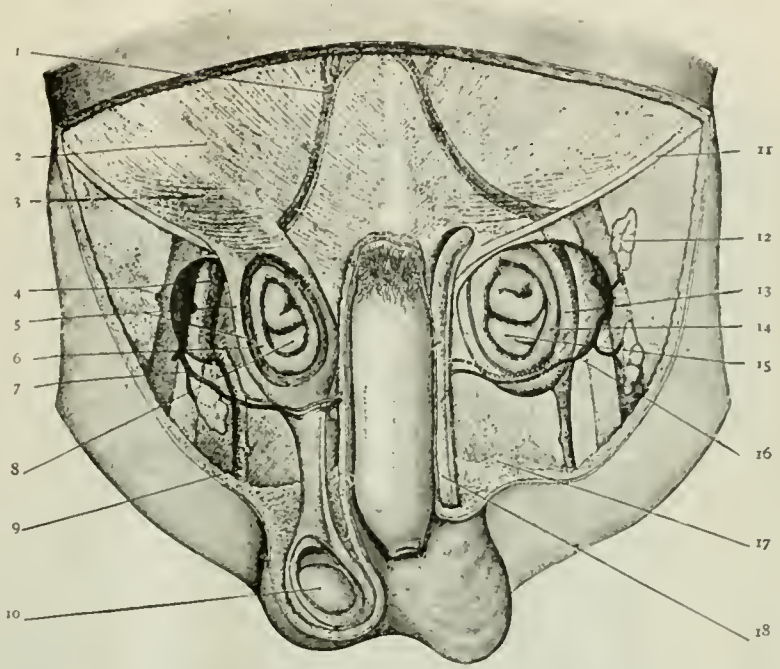

FIG. 11.—Dissection of an Inguinal and Femoral Hernia. 1, Deep epigastric vessels represented as showing through the overlying parts; 2, aponeurosis of the external oblique muscle; 3, the intercolumnar fascia; 4, femoral artery and vein; 5, fascia propria of the inguinal hernia; 6, the hernial sac; 7, the superficial external pudic artery; 8, knuckle of small intestine; 9, internal saphenous vein; 10, the testicle; 11, Poupart's ligament; 12, lymphatic glands; 13, fascia propria of the femoral hernia; 14, sac of the hernia; 15 knuckle of small intestine; 16, superficial external pudic artery; 17, fascia lata, superficial layer; 18, spermatic cord.

To summarize the architectural features which predispose to a hernia in the femoral region, we find these present:

First. The peritoneal depression, especially prominent if the usual filling of fat and Rosenmüller's lymphatic gland are absent, or Poupart's ligament is unduly lax.

Second. An open, according to Joessel, femoral ring and canal.

Third. The course of the femoral canal leading directly outward from the abdominal cavity.

Fourth. The large saphenous opening covered by the weak cribriform fascia.

Fifth, and most effective to my mind, the presence of the large compressible femoral vein.

How can such inherent and acquired weaknesses be overcome by an operation? The plans are many, some simple, some very complicated. I shall not enter at this time into a discussion of the various operations.

Theoretically, the indications are to obliterate the peritoneal fossa and close up the abnormally large ring and canal, and shorten the elongated Poupart's ligament. Practically this is much more easily said than done.

First of all, lay open the hernial tract, but do not cut through Poupart's ligament. Free, ligate, and remove the hernial sac, as in the inguinal operation. Suture Poupart's ligament to the fascia and even periosteum in front of the ilio-pectineal line, beginning as close to the femoral vein as is safe and passing inward to the spine of the pubis; then by deep sutures obliterate the femoral canal and close up the saphenous opening. Suture the skin.

This is a very simple plan, yet it fulfils all the requirements of the case as well as do the more elaborate operations; because after all has been done there remain the femoral vein and the elements of weakness its presence induces. The main point is to place the deep sutures so close to the vein that when they are tied Poupart's ligament will closely hug, but not compress, the vein, and the slack in the ligament itself is taken up.

In conclusion, then, I wish to emphasize:

First. That we should know the construction of the normal inguinal and femoral regions.

Second. That we should know the changes which take place when a hernia has occurred at either of these regions.

Third. That in attempting a radical cure we should seek to reproduce the natural construction of the parts.

Fourth. That nothing but absorbable suture materials should be used.

Fifth. That every precaution for obtaining primary union be utilized and carefully followed.

Sixth. Do not apply a truss to preserve the effects of the operation. If a radical cure has been done a truss is unnecessary; if it has not been done, a truss will not prevent the return of hernia.

Note in reference to the illustrations: Figs. 1, 2, and 3 are photographs of plaster-of-Paris casts, made by the writer, of the lower abdominal and pelvic cavities, in the following manner: The subjects were suspended vertically. A median incision was made into the peritoneal cavity from the umbilicus upward. The intestines were held upward by cords while liquid plaster was poured into the abdomen until it rose to the level of the opening, and allowed to set. The remaining figures (4–11) are from Joessel's "Anatomy."

1125 MADISON AVENUE.

LIGHT AS A REMEDIAL AGENT.

By J. W. KIME, M.D.,

FORT DODGE, IOWA.

Light has great power of penetration; it is exceeded in this respect by the Roentgen rays only. This I have been able to demonstrate by the following experiments in which I was assisted by Mr. G. L. Hostetler, a photographer of this city. The subject upon whom the experiments were to be made was taken into the dark room, and the plates were applied with great care so that all rays of light, save those that traversed the body from front to back, might be excluded.

The first illustration shows the method of photographing through the body. The direct rays of the sun, falling upon the reflector through the skylight, are focussed upon the chest of the person upon whose back has been placed the photographic plate upon which the picture is to be taken.

A transparency on glass of a valley in the Klondike region was used as the original from which the picture was to be taken. This was fastened to a photographic dry plate which had not been exposed to light, and the two were placed upon the back between the shoulder blades of the subject, a well-developed man weighing one hundred and fifty pounds, the transparency being placed next to the skin with the sensitive plate immediately behind it. Over these were placed black paper, black cotton wadding, a surgeon's plaster, and some large black cloths, and all were bound firmly down by means of long black bandages. He was then taken to the light room and the reflector was turned upon the chest for fifteen minutes. After exposure he was again taken to the dark room, and the plates were removed and the picture shown in Fig. 2 was developed on the photographic plate.

All sources of error were excluded with the greatest care, and the operation was repeated many times on various persons with like results. To test further the reliability of the procedure, and to make certain that the picture was not produced by contact of the transparency with the plate, aided by the body-heat or by some undetermined influence other than the light transmitted through the body, plates were arranged in the same manner and for like periods of time without attempting to pass light through the body, and no pictures developed upon them.

Fig. 2 represents a scene in the valley of the Klondike photographed as shown in Fig. 1.

Fig. 3 represents a picture of the Mason City and Fort Dodge depot, and in the background the Fort Dodge High School building, taken through the right hand of the writer, which is one and one-fourth inches thick. The same care was exercised in this instance as above described, and all possible sources of error were carefully excluded. Time of exposure, five minutes.

Fig. 4 was produced as a transparency from the same negative as Fig. 2, and was taken inside the cheek of the writer with the mouth tightly closed and covered with the hand. Time of exposure, five seconds.

These photographs were taken with such care and exactness that they establish the fact that the actinic rays of the sun when sufficiently concentrated may be made to pass entirely through the body of a well-developed man.

Fig. 1.

The rays of light pass through the skin with considerable difficulty; more readily through muscular tissue, and much more readily through bone. In producing a picture through the cheek the rays of light pass through but a single thickness of skin, and the picture is reproduced almost instantly. As a matter of therapeutic interest it is important to bear in mind the structures through which light must pass in reaching the deepest portions of the lungs. There are a single thickness of skin, the semi-transparent sternum and ribs, a few thin muscles, and the transparent pleura to be passed through, and then the light has reached the lungs, themselves almost wholly composed of the thin-walled air cells. Light of considerable intensity must therefore reach to the posterior thoracic walls.

The reflector used in making these experiments is a compound circular mirror thirty inches in diameter and overlaid with blue glass. It is so constructed that all the light which falls upon it is focussed upon

a spot six inches in diameter at a distance of eight feet in front of it. Thus a very powerful blue light is brought to bear upon the parts.

The heat rays of the solar spectrum are largely contained in the red band, while the actinic or chemical rays are much more abundant in the violet and ultra-violet bands; thus by utilizing the blue light we get a much greater percentage of actinic light in proportion to the heat rays than if ordinary white light be used.

The therapy of light is based upon the following principles:

1. Light is a powerful germicide, its bactericidal action being due to the violet and ultra-violet rays, or so-called chemical rays, of the solar spectrum.

2. The chemical rays of light are irritant in their action, not only upon the skin but to all the tissues through which they pass. This irritant effect is noted in erythema solare, and is often seen even in mid-winter. Very strong electric light produces similar effects. Widmark, of Stockholm, has been able to demonstrate that this dermatitis is due to chemical action and is independent of the heat rays, and that it is not a burn. In the treatment of disease by this agent the improvement may, at least in part, be due

Fig. 2.

to the irritant action arousing to greater activity the vital forces in the parts upon and through which the light is made to pass; in other words, increased phagocytosis may play an important rôle in the therapy of light.

3. The power of light to penetrate the tissues of the body. To these may be added:

4. The chemical action of the light upon the blood itself while circulating through the parts bathed in the powerful light. Sunlight must be carefully excluded from our bacteriological laboratories, otherwise many of our choicest cultures will be killed or fail to develop. If, then, light of sufficient intensity may be made to penetrate the tissues of the body, a baneful influence will be exercised upon the growth and development of bacteria in them.

The bacillus of tuberculosis in lupus is destroyed by the action of the light. Finsen, Abrams, and the writer have reported over four hundred cases of lupus thus treated and cured. If light may be applied sufficiently strong to tuberculous deposits in other tissues of the body, there is every reason to hope that like results may follow.

I am now treating a number of cases of tuberculosis pulmonalis in the manner shown in Fig. 1, and all the patients are gaining in weight and are otherwise improving. The cases are treated twice daily, and each séance is of thirty minutes' duration.

From my records I will select the following:

Case V.—Miss M. K., aged twenty-one years, domestic; has had lupus nasi one year. The patient had previously been treated with ointments of various kinds. Her father died of lupus two years before the beginning of treatment of her case. He had lupus of the face and died as the result of an operation for its removal. On August 9, 1898, light treatment was begun, and was practised daily for half an hour until September 1st. No nodules then appearing, the treatment was discontinued. On September 20th, the ulcer was completely healed, and there has been no relapse.

Fig. 3.

Case IX.—Miss G., aged twenty-five years, has had lupus of the side of the neck for six months. The process had ulcerated deeply into the subcutaneous cellular tissue. The lesion was one and one-half inches in length by one inch in breadth. Previous treatment was by ointments of various kinds, but the ulceration had steadily progressed. Light treatment was begun April 21, 1899, and continued on each alternate day until May 5, 1899. The séances were of ten minutes each. The scabs were removed before treatment began and the ulcer was kept clean with sterile water. All nodules had disappeared by May 1st and the wound was completely healed May 25th. There has been no relapse.

Case X.—Anna K., aged thirty-six, single, domestic. The mother died at thirty of tuberculosis. Nothing is known as to the father. The present trouble began two weeks prior to the first visit. It began as a bleb the size of a ten-cent piece on the left cheek. On June 7th, the ulcer had penetrated all the layers of the skin; there were also other small ulcers which are not so deep. There was great pain in the distribution of the facial nerve owing to one of its branches being laid bare by the ulceration. Treatment was begun on June 7, 1900. Three treatments of ten minutes each, with blue lens at near cautery point, effected a cure in two weeks. There has been no relapse to date.

Five cases of lupus now under treatment are all improving.

Ordinary cases of lupus require treatment for from four to twenty weeks.

It has long been known that countries having a maximum of sunshine were most favorable to recovery from the ravages of tuberculosis. Arizona, New Mexico, California, and Colorado have been the Meccas for those suffering from this disease. It has likewise been recognized that cattle on our western plains are practically free from tuberculosis, while those confined in barns are seriously affected with it.

Fig. 4.

Sunshine has not, however, been used in the most effective manner. Patients have been sent across the continent to enjoy its advantages, but upon reaching the land of sunshine they have still enveloped their bodies in clothing impervious to light. That sunshine may be of greatest value it must fall upon the man himself and not upon his clothing. Ordinary sunshine falling upon the surface of the body penetrates

the tissues to a considerable depth. The condensed actinic rays of the sun pass entirely through the human body.

The Influence of Sodium Salicylate on General Metabolism.—Francis W. Goodbody, as the result of original investigations, concludes: (1) That sodium salicylate causes an increase in the quantity of urine excreted, and in the specific gravity; the latter increase being principally due to the increased elimination of the nitrogenous substances, especially of the urea; (2) that sodium salicylate causes an increased breaking up of proteids in the body; (3) that sodium salicylate has no influence on general metabolism, so far as the absorption of proteids and fats is concerned, in spite of its known cholagogue action.—*The Journal of Physiology*, August 29, 1900.

The Lymph Node as a Factor in Diagnosis.—C. A. Wheaton describes the physiological functions of these structures, dwelling on the fact that they are engaged in a constant warfare against systemic contamination and in the manufacture of cell elements, the duty of which is to maintain the orderly metabolism of the body. He deprecates the excessive zeal of some modern surgeons in excising enlarged cervical glands, contending that in many cases the enlargement can be removed by proper attention to bodily nutrition. He says that, with the exception of the indiscriminate castration of women, none of the operative procedures have been more fashionable than the excision of enlarged lymph nodes in the neck, and the indiscriminate application of this operation merits just as severe denunciation as the other.—*St. Paul Medical Journal*, September, 1900.

Removal of the Cervical Sympathetic Ganglia for the Relief of Exophthalmic Goitre; with the Report of a Case.—M. F. Coomes, after some remarks on the nature of Graves' disease, states that he operated on April 7, 1900, upon a colored woman, twenty-nine years of age, removing the three cervical sympathetic ganglia on the right side. This was a most typical case, and had existed two years, receiving the ordinary treatment at the hands of different physicians. Her temperature preceding the operation was 101° F.; the average pulse rate, 140. The temperature and pulse records show that after the operation her temperature went down below 100° F., and the third day after the operation the pulse rate fluctuated, being 110 on April 19th, when she was discharged from the hospital, and that the temperature was normal, with the exception of two or three days, when it was up a degree or two, as a result of irritation of the wound. There was no suppuration whatever in connection with this operation; all the unpleasant symptoms gradually decreased; there was a decided improvement in the exophthalmos, the eyes receding very perceptibly; the excessive nervousness disappeared almost entirely, her sleep becoming peaceful, and there has been a decided increase in her bodily weight—a very great contrast to her restless condition preceding the operation.—*American Practitioner and News*, August 15, 1900.

Atriplicism.—Under this heading A. Boddaert calls attention to an article by Matignon, who saw service in China at the time of the late war with Japan. The cases reported by the latter writer occurred during the famine subsequent to the war. They consisted of a group of cases due apparently to the ingestion of the sprouts of the orach or chenopodium (family Atriplex). This is a vegetable growth especially preferred by the Chinese, who prepare it in several different ways and under usual circumstances do not seem to suffer any ill effects from eating it. Matignon saw, however, cases in which its ingestion was followed by paræsthesic sensations in the thumb, gradually followed by swelling extending up the arm, and later involving the face, making the patient look like a case of scarlatinal nephritis. This stage was followed by a subsidence of the infiltration and the occurrence of large phlyctenulæ containing a sero-purulent fluid and leaving ulcerated surfaces, finally these cicatrized and were succeeded by large, exuberant cheloid masses. It does not appear that the condition has ever resulted fatally.—*Bulletin de la Société de Médecine de Gand*, July, 1900.

The Use of Gold Wire in the Radical Operation for Inguinal Hernia.—Gaspare Fiore advocates the use of gold wire which is extremely fine, strong, and flexible. So far it has been used on seven patients, with the best possible results. For ligature of the neck of the sac, a wire with the diameter of m. 0.0065 was used, while for suture of the triple layers m. 0.0011 was found to be better. The wires were sterilized by being boiled in water for several minutes.—*La Riforma Medica*, August 28, 1900

Severe Case of Poisoning from Black Varnish on Boots of Yellow Leather.—A. Hallipré and Bellicaud give an account of a patient who during the funeral services of a relative was seized with serious symptoms of poisoning, viz., asphyxia, blueness of extremities, lips, nose, and tongue, coldness of extremities, drowsiness, accelerated respiration (32), feeble pulse (90). Treatment consisted of injections of caffeine and ether, sinapisms, friction with alcohol, bleeding, injection of serum, inspiration of oxygen, potions of ether and ammonium acetate. Recovery followed. The cause of the poisoning was traced to the patient's boots, which had been newly varnished with aniline black. The patient had found the odor of the varnish very unpleasant and oppressive. An analysis of the varnish proved the presence of an aniline oil.—*La Revue Médicale de Normandie*, August 25, 1900.

Physiology of Voice Production.—In a general article on this subject M. A. Goldstein concludes as follows: (1) All elements carefully considered, the best form of breathing applicable to voice production and singing is the rational combination of the costal with the diaphragmatic type. Reserve force in breathing is best attained by deep inspiration, fixation of the distended diaphragm and thorax, and control of these muscles while tone is produced. (2) To facilitate vocalization, the larynx should never be tightly contracted by the muscles of the throat, especially in the production of the upper registers. (3) On the resonating cavities, their proper conformation and position in relation to the vibrating cords and larynx, depend the quality and timbre of the voice, and the careful and proper placing of tones is perhaps the most essential factor in voice production.—*Medical Fortnightly*, September 15, 1900.

The Pathogenesis of Icterus.—Browicz comes to the following conclusions: (1) The occurrence of jaundice primarily depends on the increased activity of normal liver cells, which through various stimuli may be caused to take up unduly large amounts of nutritive material and hæmoglobin, and so produce an increased quantity of bile and bile pigment. (2) Only a healthy, normally functionating liver cell which has absorbed and converted an excess of nutritive material, and therefore produced an increased amount of bile, is able wholly to dispose of this excess through the intracellular bile passages: therefore bile reaches the circulation through the walls of the capillaries. (3) Mechanical conditions have but

an unimportant part in the causation of jaundice through the production of intra-acinous circulatory disturbances in the capillaries. (4) The path of the bile in reaching the blood lies through the blood capillaries of the hepatic acini, and only to a moderate degree involves the lymph-vessels of the larger bile passages. (5) All forms of jaundice are explicable on these grounds, viz., an increased activity of the liver cells and a concomitant overproduction of bile and bile pigment.—*Wiener klinische Wochenschrift*, August 30, 1900.

A Case of Typhoid Fever Treated by the So-Called "Woodbridge Treatment."—A. Schmidt recently treated a man who was in the sixth day of the fever when first seen. The case was rather a severe one when treatment was begun, the nervous symptoms with headache being marked. The usual Woodbridge tablets were given and a diet allowed of milk, eggs, and rice with a moderate amount of alcohol. The patient was convalescent on the thirteenth day of treatment, on the fourth day of which the temperature fell to normal and did not rise again.—*Montreal Medical Journal*, August, 1900.

Perforation of the Fœtal Skull intra Partum, with Favorable Outcome.—L. Pernice reports the following case: Owing to almost complete absence of labor pains and an apparently contracted pelvis the presenting vertex was perforated with the instrument of Naegele. An abundance of bloody fluid mixed with what appeared to be brain matter came away, the forceps was applied, and the child was delivered without further trouble. As it still breathed, an antiseptic dressing was applied to the wound as a matter of form, with the result that the child lived and a complete hemiplegia existing at birth also entirely subsided. At present the child is one and three-fourths years of age, and is mentally and physically normal except for a large cerebral hernia over the occiput.—*Centralblatt für Gynäkologie*, September 1, 1900.

Apparent Death in the New-Born.—B. S. Schultze directs that the cord should not be cut if the apparently asphyxiated infant is bluish-red in color and muscle tonus is still present. Aspirated matter should be removed from the mouth and cutaneous stimuli applied. If no reaction follows, the cord should be cut and the child dipped momentarily into cold and then warm water, repeating until a loud cry results. If the child is pale and limp like a corpse, useless time would be lost in trying to produce reflex excitability. The cord must be cut, the mouth cleansed, the root of the tongue pressed forward to raise the epiglottis, and artificial respiration should be performed by the Ewing method. Eight to ten inspiratory and expiratory movements are then to be made and then a warm bath should be given. If no result follows the swinging should be repeated. After the first spontaneous inspiration which usually follows the end of the expiratory swing, the child is placed in the warm bath; if respiration is superficial it should be plunged into cold water.—*Wiener medizinische Blätter*, August 30, 1900.

Spurious Meningocele.—Joseph Sailer describes under this name a condition in which there is defect in the skull produced by some injury; through this defect cerebro-spinal fluid passes to and accumulates on the outer side of the skull beneath the pericranium that has been elevated by its force. The symptoms are: first, the tumor, which fluctuates, pulsates, and occasionally upon auscultation gives a harsh murmur, and the signs of injury to the brain—that is, vomiting, alterations in character, convulsions, and paresis. A curious murmur has been heard in some cases, the nature of which it is hard to understand. It is synchronous with the pulse, loud and hard, resembling that of an aneurism. The nervous symptoms vary according to the nature of the brain injury. In a surprisingly large number of cases they are absent, and epilepsy seems much less frequent than after simple fractures. The treatment, now that infection can be avoided, should always be operative. There is practically no danger, and in recent cases the likelihood of perfect cure is very great.—*University Medical Magazine*, September, 1900.

Peri-Tonsillar Abscess in Children.—L. T. Royster reports a case of this affection, which is rare in childhood, occurring in only three per cent. of this class of patients. It occurs as a local infection, consequent upon acute catarrhal inflammation of the pharynx, upon the acute infectious diseases, and also rarely as a complication of retro-pharyngeal abscess. The micro-organism is usually the staphylococcus. The general symptoms resemble those of acute follicular tonsillitis, but the temperature is lower and depression less marked. The local symptoms differ: there is great pain on swallowing, torticollis is common, and a fixed lower jaw is almost invariable. The pain complained of is more marked than the examination can account for. By palpation the unilateral induration can usually be detected. The danger in severe cases comes from œdema (rarely fatal), spontaneous rupture and perforation of an artery. Vertical incision of the most prominent joint, with drainage of the cavity, is the only treatment.—*Pediatrics*, September 15, 1900.

Operation without Digital Contact with the Wound.—König believes that the surest way to secure asepsis of the wound lies, not in the sterilization of the hand nor in the use of gloves or varnishes, which means, necessary as they are, still cannot help being inadequate, but in a persistent effort to avoid touching the wound with the fingers at all. By trial he has found it perfectly feasible to do such operations as joint resections, osteoplastic operations, and in fact most of the commoner surgical procedures on the extremities, without touching the tissues otherwise than with instruments. The abdominal cavity, indeed, is a field where digital manipulation will always be a necessity, but even here, with practice and suitable modifications of the armamentarium, much may be accomplished without actual contact. The assistants as well as the operator should be trained to avoid manipulation of the operative field, and with an abundance of especially long and variously shaped retractors, forceps, etc., may perform nearly all their functions from a distance.—*Centralblatt für Chirurgie*, September 8, 1900.

The Treatment of Sciatica.—A. Heym says that in acute sciatica bed and warmth often relieve the pains with surprising rapidity. The patient's knees must be bent. The latest and best remedy is freezing the skin by means of methyl chloride or ethyl chloride. This works best in thin persons, but often fails in the corpulent. In chronic sciatica, rest in bed is not to be recommended, but a certain amount of exercise is necessary, the affected leg being, however, protected from all exertion. The best treatments consist of electro-therapeutics with the constant current; hydrotherapeutics, principally steam or hot-air baths; massage, and Swedish movements. If all these remedies have been tried without success, nerve extension may be tried, but the percentage of cases resulting in cure in this way is very small.—*The Chicago Clinic*, September, 1900.

The Use of Morphine in Surgical Practice.—Edward Martin says the general indications as to the

employment of morphine in surgery may be summarized as follows: (1) Morphine should be given hypodermically and in doses sufficient to accomplish the purpose for which it is given. (2) When surgical shock is attended by such severe pain as to cause uncontrollable restlessness, morphine should be given in doses adequate to relieve it. The same treatment is indicated for shock-restlessness without pain (usually due to hemorrhage), the appropriate general treatment for shock being also carried out. (3) Morphine is the best internal hæmostatic in the treatment of hemorrhage. When the hemorrhage is complicated by restlessness, morphine is absolutely indicated because of its quieting effect upon both mind and body. (4) When drunkards, or exceptionally neurotic patients, are to be anæsthetized a preliminary hypodermic injection of morphine renders such anæsthetization quicker, easier, and safer, and favorably affects the stage of recovery. Obstinate and exhausting vomiting after ether is sometimes relieved by morphine. (5) If in the first twenty-four hours after operation pain becomes so severe as to cause uncontrollable restlessness, this pain should be relieved by morphine. To this rule there are practically no exceptions; it applies to all operations regardless of the operative area. (6) When used in accordance with these indications the beneficial effects of morphine so overshadow its injurious effects that the latter are not demonstrable. To this rule there may be a very few exceptions.—*Therapeutic Gazette*, September 15, 1900.

Antagonism between Cocaine and Hypnotics.—Carlo Gioffredi concludes from a long series of experiments: (1) That chloral hydrate is a decided antagonist of cocaine, being able to counteract the action of doubly lethal doses given to a dog; (2) other hypnotics, such as paraldehyde, are likewise antagonistic to cocaine; (3) the antagonism is complete, influencing all the important organic functions; (4) it is a one-sided antagonism, for cocaine does not counteract poisoning by the hypnotics; (5) the antagonism is a mechanical one, similar to the antagonism between the hypnotics and strychnine.—*Giornale Internazionale delle Scienze Mediche*, August 31, 1900.

On the Physiological Action of Senecio Jacobæ.—J. L. Bunch, by experimenting on dogs with preparations from the entire plant, found that intravenous injection produced a slight rise in general blood pressure and diminution in the magnitude of both auricular and ventricular contractions. There are two substances of distinct physiological action in the plant. Intravenous injection of a watery extract of the residue on evaporation of an alcoholic solution caused a marked fall of blood pressure followed by a slight rise due to constriction of peripheral vessels. The two substances have not been separated. The substance which causes a rise of blood pressure is not contained in watery extracts.—*Therapeutic Gazette*, September 15, 1900.

The Crises of Development.—Walter R. Jordan speaks of the periods of birth, dentition, and puberty as difficult passes from one tract of mountainous country to another, with a minor crisis during the stage of childhood at seven years. The author urges the young physician in his first months or years of comparative leisure to take up child study—the scientific observation of children. Such study would give a more thorough grasp of the meaning of the developmental period of life, with its peculiar susceptibility to damage, not only throughout, but accentuated at special crises; would throw light on the after-effects of the specific and other diseases in childhood; would give greater precision and force to the physician's directions as to the general hygiene of the growing child, hours on work, play, and sleep. It would be a guiding influence on all therapeutic measures adopted in cases in which development was not proceeding normally. It would introduce system into his estimation of the defects of backward children, and would supply clews to the meaning of the behavior of precocious and unsatisfactory children. It would, when previous personal or family history supplied facts, justify him in making predictions as to the future physical and mental development of particular children; it would thus give him opportunities of instituting preventive measures against developmental failure of body and mind.—*The Birmingham Medical Review*, September, 1900.

An Unusual Symptom of Perforative Appendicitis.—David Owen Thomas reports a case, the chief features of which he sums up as follows: (1) The perforation, which took place very early, was preceded by the history of pain. Ulceration probably had been going on without any rise of temperature. (2) The severity of the pain, tenderness, and rigidity of the abdominal wall were better guides than pulse and temperature, and indicated that operation was necessary. (3) Pain in the penis was so extreme that the boy was fairly beside himself—rolling and tossing around in a desperate manner, this special symptom overshadowing all others for nearly half an hour. (4) If perforation had not been promptly recognized the amelioration of the symptoms by the next day might have caused postponement of the operation and perhaps loss of the patient. The author has known this same chief symptom to occur in the perforation of typhoid ulcer. It is probable that in such cases, as well as in this case of appendicitis, pain is transferred through the hypogastric plexus to the penis.—*The Medical Dial*, September, 1900.

The Relation of Diseases of the Eye to those of the Teeth.—N. Weill states that this phase of medicine and dentistry belongs to the newer time. Pathological conditions of the eye or orbit can cause dental disturbances, and vice versa, either reflexly or by continuity, those of the latter group being less frequent but graver. Very serious may be the results of abcesses of the orbit, which may be primary or secondary in origin. When of dental origin they may arise in one of two ways: either via the periosteum of the superior maxillary bone and the orbit, or via the antrum of Highmore. Timely operation is demanded. The writer is unable to find any case recorded in which an ocular or orbital affection involved the teeth by continuity. The reflex currents can originate in the eye and manifest themselves by pain in the teeth, but the reverse neuroses, *i.e.*, the teeth the cause of the eye disturbance, are probably more frequent. The writer cites numerous cases in illustration of this subject.—*Pennsylvania Medical Journal*, September, 1900.

Purpura Rheumatica.—M. A. Bliss reports the case of a boy aged six years. Red spots appeared on the dorsum of the hands and feet, and on both aspects of the arms and legs. They multiplied rapidly and extended up the thighs and over the upper arms, this increase being accompanied by an extensive urticaria. The right knee and left elbow joints were the seat of stiffness, swelling, and soreness, but no redness. This joint involvement would recur every evening about five o'clock, disappearing over night. By the ninth day the skin was free from purpuric spots, but a slight stiffness still recurred in the joints. Two months previously the child had suffered from malaria, so that on the appearance of the purpuric spots the writer administered quinine. The pigmented form of the malarial plasmodium was found in the blood. The author thinks there is a possibility that the purpura was due to the malarial infection.—*St. Louis Courier of Medicine*, September, 1900.

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CORNING'S METHOD OF MEDULLARY NARCOSIS.

THE value of recording original observations as soon as made and prospecting their adaptability to given ends is well shown in the matter of spinal cocainization concerning which so much is being written and said.

Although fully fifteen years have elapsed since Dr. J. Leonard Corning of this city published his experiments on this subject, and notwithstanding it is only within a few months that his suggestions have been followed, no one can question his claims to priority in first calling attention to a method of anæsthesia which is now challenging a trial by numerous surgeons here and abroad.

As the real one who first established the principle of the action of cocaine upon the cord and who first demonstrated its practicability not only by actual trials upon the lower animals, but by using it for anæsthetic purposes upon the human subject, his name must necessarily be associated with that particular field of work, however it may be extended by other investigators.

While it is well proven that the anæsthesia is perfect so far as it goes, the question of the hour which would naturally suggest itself bears upon the possibility of safely extending the area of absolute insensibility to the upper portions of the body. The cauda equina, which is the particular part exposed to the influence of the drug, although within the spinal canal, is not, physiologically speaking, the spinal cord. What may be done with comparative impunity to a bundle of nerves may be exceedingly dangerous to attempt with a distinct motor or sensory centre. Particularly must this be the case when any portion of the cord in the neighborhood of the centre of a vital organ is cocainized. Thus it is very reasonable to suppose that injections higher up in the canal for purposes of anæsthetizing the chest regions, neck, and upper extremities are presumably very dangerous.

From such a point of view the many enthusiasts who are practising the method with a desire to extend its usefulness are in great danger of going too far. Particularly is this the case with the dosage of the drug, as many surgeons have taken great risks by injecting very strong solutions—some of them containing as much as six grains—while the standard is generally placed as two per cent. of cocaine.

It must also be recollected in such a connection that cocaine is sometimes very treacherous in its action and that a large dose in a place beyond the reach of counteracting influences may leave the ruthless experimenter entirely at the mercy of a serious and preventable accident.

The extreme aseptic precautions that must be taken in making the injection cannot be too strongly urged. For the surgeon of to-day, trained to the high art of absolute cleanliness of instruments, hands, and operation area, no lesson or suggestion is needed, but the novice is extremely liable to do great mischief. The apparent simplicity of the manœuvre constitutes its greatest danger in the hands of the tyro. Fortunately so far no serious mishaps have occurred, neither have any deaths been reported from over-dosage, but it is quite plain at this stage of the investigation that we must proceed slowly and carefully if we would prevent accidents.

While this new form of anæsthesia in certain ways lessens some of the well-known dangers of ether and chloroform administrations, it is still a question if the preservation of the mental faculties during the terrible ordeal of a severe and prolonged surgical operation is especially desirable in itself. With most persons unaccustomed to the experience the mere sight of blood, and more especially mutilation in any form, causes faintness and other forms of mental shock. Certainly such an element is not a requisite addition to the physical strain of the operation itself. In fact in some of the recorded cases the mere expectation of pain, even without its ultimate realization, appears to have had a marked depressing effect upon the vital energies of the victim. Psychologically and æsthetically this claimed advantage of spinal anæsthesia is hardly to be advocated on the score of its demonstrated utility.

It must be admitted, however, on the other hand, that the well-founded prejudice against loss of consciousness in general anæsthesia is thus effectually overruled and that the patient not only escapes the dangers of the helplessly stupefied state, but is saved many of the disagreeable and ofttimes distressing phenomena attending its preliminary induction. There may also be occasions during an operation in which conditions warranting more severe procedures than were at first expected may require the consent of the patient before going further, and this being possible may save both him and the operator much subsequent trouble. Even under such circumstances it is not necessary that the patient actually sees or hears what is going on, it being sufficient only that he has the privilege of expressing an opinion and being a party to a very important contract. Hence most operators deem it best to blindfold the patient and plug his ears in order to eliminate all the objectionable elements of the direct mental shock in question.

DEGENERATES IN THE ARMY.

DR. CHARLES E. WOODRUFF, U.S.A., in the *American Journal of Insanity*, July, 1900, contributes an instructive article on the above subject. His position, of course, qualifies him to speak with authority, that is,

so far as army degenerates are concerned. As might be supposed, however, the field of observation of this type of human beings is considerably restricted, as slight deviations from normal development are sufficient cause for rejection of candidates for the army. Nevertheless it seems that a certain number of men with some psychical stigmata contrive to pass the required examination and become soldiers. Dr. Woodruff would appear to be somewhat in agreement with the views of Nordau that a markedly high type of intelligence as well as a distinctly low type is abnormal and evidence of an unstable development. He says: "It must not be forgotten that the man who represents a strict average in every respect is an absolutely characterless individual in that he has no marked characteristics. His intelligence is quite limited, for the mean between the imbecile and the genius is a man of very ordinary ability. Soldiers with average bodies have average brains, and, though strictly normal, have not a high grade of intelligence." And again: "The moral sense, also, being nothing more than the resultant of all the higher intellectual faculties, is of average development among soldiers. Extremes are very rare, whether ideal morality on the one side, or crime on the other." Perhaps the argument that an average man physically is also an average man mentally is a sound one, but if this is so will it be contended further that a magnificent animal specimen of humanity is also as a rule endowed with a superabundance of brains? By an average man, however, probably Dr. Woodruff means one with no anomalies or stigmata. Certain it is that men of what is called genius differ from other men, and it may be that they must be classed among the large and increasing army of degenerates. The best position to hold in the order of brain power would appear to be between the average individual and the man of genius. Dr. Woodruff gives some brief studies of deserters from the army who came under his notice, and who were one and all of abnormal development.

ISOLATION OF TUBERCULOUS PATIENTS IN HOSPITALS FOR THE INSANE.

By reason of his lowered resistance, of the confinement and inactivity that his treatment often entails, of his association with numbers of other individuals, and of his indifference to and neglect of ordinary hygienic observances, in addition to the usual causative influences, the insane patient is especially liable to infection with tuberculosis. While this disease is responsible for one-seventh of the deaths due to all causes in the community, the proportion is much larger in many hospitals for the insane. According to a collective investigation undertaken by Harrington (*American Journal of Insanity*, vol. lvii., No. 1, p. 257) it has been found that the total number of deaths for the five years ending 1899, in sixty-seven State hospitals for the insane in the United States, was eighteen thousand five hundred and thirteen, of which number two thousand seven hundred and forty (14.8 per cent.) were due to tuberculosis. Dividing the hospitals into groups in accordance with their geographical situation, it appeared that the total number of deaths in institutions in the New England States was three thousand two hundred and eight, of which three hundred and eighty-three (11.9 per cent.) were due to tuberculosis; the total number in institutions in the Middle States was four thousand four hundred and ninety-four, of which six hundred and eleven (13.5 per cent.) were due to tuberculosis; the total number in institutions in the Western and Southwestern States was eight thousand eight hundred and fifty-three, of which one thousand three hundred and fifty-three (15.2 per cent.) were due to tuberculosis; and the total number in institutions in the Southern States was one thousand nine hundred and fifty-eight, of which three hundred and ninety-three (20 per cent.) were due to tuberculosis. Inasmuch as the figures obtained are not complete, conclusions based upon them as to the geographic prevalence of tuberculosis in hospitals for the insane cannot be wholly relied upon. A much more important fact, however, is developed by the investigation, namely, that while in thirty-three hospitals the percentage of deaths from tuberculosis was less than fifteen per cent., it varied from fifteen to sixty-five per cent. in the remaining thirty-four. In view of all the facts, there seems to be especially good reason and urgent need to isolate cases of tuberculosis in hospitals for the insane. Some efforts have already been made in this direction, and these can be most warmly encouraged and advantageously extended. It is the duty of preventive medicine, in restricting the dissemination of communicable diseases, ever to insist on the principles of a rational prophylaxis, namely, isolation and disinfection.

THE PATHOGENESIS OF GOUT.

It is better to confess ignorance than to assume false knowledge. In spite of the careful study that has been given to the subject of gout, it must be admitted that we are as yet uninformed as to its exact nature. That it is a disorder of metabolism is obvious, but in what manner it is brought about has not been made perfectly clear. The tendency or the predisposition to the affection may be transmitted by heredity, so that one must think of some inherent peculiarity in cellular activity, giving rise to disturbances in the internal chemistry, with the accumulation in the system of the immature products, especially of proteid metabolism. In an interesting communication presented to the Section of Internal Pathology at the recent International Medical Congress held at Paris, Sir Dyce Duckworth (*Lancet*, August 25, 1900, p. 571) expressed the opinion that gout is a morbid condition dependent upon an inherent vice of nutrition, which is manifested by imperfect metabolism in various organs or parts of the body, presumably in the kidneys and probably in the liver. This trophic disorder or inadequacy leads to the formation of uric acid, probably in excess, and to its periodic retention in the blood. Histologic study throws no light upon the intimate nature of this defect, which thus relates to

cellular potentiality, possibly under neurotrophic influence and not, so far as is known, to structural alteration. This textural disability, or a tendency to it, may be primarily acquired, and also transmitted as a fault, thereby inducing from time to time urichæmia, with gouty manifestations, in the descendants. In most instances, under conditions that provoke it, and in some cases independently of these, attacks of gout may grow up and come to a crisis. Such crises are attended with an alteration in the solubility of the uratic salt in the blood, whereby irritating crystals of sodium biurate are produced, and precipitated in various parts of the body. The paroxysm of gout, the sites of its occurrence, and its metastases are thought to be determined by nervous influences, probably dominated from a bulbar centre, and the local attacks involve either the joints or textures that have been weakened or rendered vulnerable by impaired nutrition, owing to past injury or overuse. This central neurosis is considered an essential and transmissible feature in the pathogenesis of gout, and pertains to the arthritic diathesis generally. The urichæmia of gout is peculiar and unlike that which is induced by other morbid conditions, but the occurrence of urichæmia in the gouty is by itself inadequate to induce attacks of gout. Uratic deposits in any parts of the body may be removed in course of time, but are likely to be permanent in the least vascular tissues. Uratic deposits may take place to an enormous extent in gouty persons without the occurrence of pain or paroxysms. The clinical features of gout indicate that both chemical changes (due to inherent morbid tissue-metabolism) and a neurotrophic disturbance act as pathogenic factors, and that consequently gout is to be regarded as a neurohumeral malady.

News of the Week.

The New York State Hospital for Consumptives.—The commission appointed to select a site for the State Hospital for Consumptives has examined twenty-six different places, and has finally selected one on Lake Clear, about two miles south of Upper Saint Regis Lake in the Adirondacks. The site, which includes a tract of about five hundred acres, is readily accessible by rail from all parts of the State. The site has been objected to because of the comparatively large rainfall in this region, but the soil is sandy and quickly absorbs moisture, and experience has shown that the climate is a favorable one for the treatment of tuberculosis, for it is practically the same as that of the entire Adirondack lake region. Saranac Inn is only some three miles southwest of Lake Clear. The purchase price of the tract is about $8,000. It is not yet certain that the land will be acquired, as it is said the law forbids the securing of any land in that region by the State except for forestry preserves.

Intelligence in Proportion to Size.—The Society for Child Study has been making some investigations in Chicago schools, the results of which are rather interesting. Some seven thousand pupils of various ages were examined, and taking those of the same age for comparison, the results showed that small children on an average are not so bright as children physically larger. The examinations which led to these conclusions were held in schools where there was the largest proportion of pupils descended from American-born parents. The average height of pupils twelve years old, who were in the second grade, was four feet four and three-tenths inches, while the twelve-year-old pupils in the eighth grade averaged five inches taller. The same rule was found to hold good in the examination of children of all other grades.

Dr. James P. Glynn has been appointed associate surgeon to St. Mary's Hospital, Brooklyn.

An Unusual Cause of Death.—It is reported in the papers that one of the contestants in a sword duel fought last week in France was killed by a sword-thrust through the lungs. Death occurring as the result of a French duel is rare enough to be worthy of record.

The August Mortality.—The monthly bulletin of the New York State board of health, recently issued, shows that during the month of August 11,047 deaths occurred, which is almost the average, and is a decrease of 600 from the reported mortality of July. The death rate was 18.5, against 19 5 in July. No cases of smallpox have been reported in the State since July.

Memorial Hospital at Oneonta.—The corner stone of the Aurelia Osborn Fox Memorial Hospital at Oneonta, N. Y., was laid with Masonic ceremonies on October 5th. The hospital, which is designed to be a beautiful structure erected according to the most approved sanitary and scientific plans, is the gift of Mr. Reuben L. Fox, in memory of his wife.

The Medical Society of the Missouri Valley held its annual meeting at Council Bluffs, Ia., September 20th. The society voted to contribute $25 to the Rush monument fund, and a resolution was adopted providing for a banquet after each meeting. The following officers were elected: *President*, Dr. V. L. Treynor, of Council Bluffs, Ia.; *First Vice-President*, Dr. B. B. Davis, of Omaha, Neb.; *Second Vice-President*, Dr. E. E. Sampson, of Creston; *Treasurer*, Dr. T. B. Lacey, of Council Bluffs, Ia.; *Secretary*, Dr. Charles Wood Fassett, of St. Joseph, Mo. The next meeting will be in March, 1901, at Omaha.

Alvarenga Prize of the College of Physicians of Philadelphia.—The next award of the Alvarenga prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14, 1901, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college on or before May 1, 1901. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the

motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1900 has been awarded to Dr. David De Beck, of Cincinnati, Ohio, for his essay entitled: "Malarial Diseases of the Eye."

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 5, 1900. September 28th.—Surgeon J. C. Byrnes detached from the *Massachusetts* October 1st, and ordered to the New York navy yard. September 30th.—Medical Inspector J. R. Waggener detached from duty at naval hospital, Yokohama, Japan, and ordered to duty in charge of the naval hospital, Cavite, P. I.; Assistant Surgeon B. L. Wright detached from the *Isla de Luzon* and ordered to the naval hospital, Cavite, P. I. October 2d.—Passed Assistant Surgeon L. L. von Wedekind detached from the *Richmond* and ordered to the Puget Sound naval station; Passed Assistant Surgeon R. S. Blakemen detached from the naval training-station, Newport, R. I., and ordered to temporary duty on the *Pensacola;* Passed Assistant Surgeon J. F. Leys ordered to the naval hospital, Newport, R. I., for duty; Passed Assistant Surgeon J. M. Moore detached from the naval recruiting rendezvous, Chicago, Ill., October 8th, and ordered home and to wait orders; Passed Assistant Surgeon W. F. Arnold ordered to the naval recruiting rendezvous, Chicago, Ill., October 8th; Assistant Surgeon C. R. Burr detached from the Puget Sound naval station and ordered to proceed home and to be ready for orders to sea duty; Surgeon S. H. Dickson detached from the Washington navy yard and ordered to duty at the headquarters of the marine corps, Washington, D. C.; Surgeon C. G. Herndon detached from the naval museum of hygiene, Washington, D. C., October 8th, and ordered to duty at the Washington navy yard; Surgeon E. H. Green detached from duty at the headquarters of the marine corps, Washington, D. C., and ordered to wait orders. October 4th.—Surgeon E. H. Green ordered to the *Alabama* October 16th. October 5th.—Assistant Surgeon T. M. Lippitt detached from the *Monocacy* and ordered to the naval hospital, Yokohama, Japan, for treatment.

Yellow Fever in Havana.—Reports from Havana state that the yellow-fever situation there shows no sign of improvement. During the month of September two hundred and fifty-seven cases were officially reported, with a mortality of twenty-five per cent. Eighty-four cases were under treatment on September 30th, and twenty-eight new cases were reported on the first two days of October. There is some discussion regarding the diagnosis of the disease, and many cases which some competent authorities regard as yellow fever are not reported because of the absence of albuminuria. There are not many cases among the United States troops, but there has been some alarm occasioned by an unusual prevalence of yellow fever among civilian employees of the government of occupation.

The Plague.—A death from this disease has occurred at Cardiff, Wales. The victim was a sailor who recently arrived on the *Tyne* from Rosario, Argentina. Another case of plague came to light in Glasgow on October 6th, in a part of the city which has hitherto been free from the disease.

The Biennial Congress of Scandinavian Physicians met recently in Copenhagen. It was voted to publish a report of the proceedings in the *Nordisk Medicinisk Archiv* in the German language, as it was said that papers and abstracts published in French or English were more or less neglected by the foreign press, while those in German were much more likely to receive notice. The next congress will be held in 1902 at Helsingfors under the presidency of Professor Runeberg.

The New York State Medical Association will hold its seventeenth annual meeting at the Academy of Medicine in this city on October 15th, 16th, 17th, and 18th, under the presidency of Dr. E. D. Ferguson, of Troy. The other officers are: *Vice-Presidents*, Charles H. Glidden, of Little Falls, John M. Farrington, of Binghamton, William H. Thornton, of Buffalo, and Julius C. Bierwirth, of Brooklyn; *Secretary*, M. Christopher O'Brien, of New York; *Treasurer*, Edward H. Squibb, of Brooklyn. Dr. T. H. Wiggin is chairman of the committee of arrangements.

Sanatoria for Tuberculosis at Fort Stanton.—Several mutual benefit societies, including the Ancient Order of United Workmen, the Woodmen, and Odd Fellows, have requested of the government permission to erect sanatoria for consumptives in the Fort Stanton Reservation, one hundred and fifty miles south of Santa Fé, N. M. It has been suggested that the general government allot a certain tract to any or all of the States which may make application for ground upon which to erect sanatoria. There is already a government hospital there.

Obituary Notes.—Dr. William Webb Browning died at his home in Brooklyn on October 3d, of apoplexy. He was born in Metuchen, N. J., in 1852. He was graduated from Yale in 1873, with the degree of A.B., and in 1875 was graduated from the Columbia Law School with the degree of LL.B. After practising law in this city for seven years, he entered the Bellevue Medical College, from which he was graduated in 1884. In 1895 Yale College conferred upon him the honorary degree of A.M. He was professor of anatomy and of clinical orthopedics in the Long Island College Hospital, and was a member of the Kings County Medical Society and of the American Academy of Medicine.

Dr. Maria Upton Hanford, a homœopathic physician of Brooklyn, died on October 6th at the age of sixty-three years. She was a graduate of the New York Medical College and Hospital for Women in 1890, and was the wife of a practising physician of Williamsburg.

Dr. Stephen E. D. Hoornbeck died suddenly at his home in Ellenville, N. Y., on October 3d. He was born in Wawarsing Corners, N. Y., in 1844, and

was graduated from the College of Physicians and Surgeons in this city in 1865. He soon retired from the medical profession and entered business. He was appointed a member of the Eastern New York Reformatory Commission in 1894.

Progress of Medical Science.

Medical News, October 6, 1900.

The Treatment of Consumption at Home.—Joseph Eichberg states that all therapeutists in the pursuit of the specific idea seem to have lost sight of the idea that pulmonary tuberculosis in the only forms which are amenable to treatment, *i.e.*, in its chronic forms, is always either a mixed infection or a process so limited in its distribution that natural safeguards will surround the tuberculous area with an investing capsule and thus make it harmless. The treatment of consumption may be properly classified as the specific, the climatic, the dietetic, and the hygienic. It is fair to presume that the search for specifics is not yet done, nor likely to be given up, but the patient's safety probably does not lie in that direction. The most noteworthy feature in the reports of recent studies is the uniformity of success under climatic conditions the most diverse. We may safely feel that we are not of necessity bound to any climate or altitude. The patient must live out-of-doors. Next to good air we place good food, and of this there must be an abundance. The patient should be steadily encouraged to eat more than he wants. Cream and butter should be introduced into as many dishes as possible. The third feature is good rest. It is a good rule for the patient to take no exercise until there is no fever. All sources of excitement and worry should be eliminated. The patient should sleep as much as he chooses. The fourth factor is good cheer. The moral influences surrounding the patient are all-important. Medicines from the shop really do not enter as a necessary part into this plan of treatment. The various symptoms may, however, be treated by the well-known remedies. The ordinary hygienic rules should be carefully observed. All cases, even the most desperate, are suitable for this home treatment.

Internal Secretion of the Ovary.—Arthur W. Johnstone writes that retained excretions are the causes of nearly all nervous conditions, whether at the menopause or during menstrual life. There is not an iota of proof that the ovary has any other function than the manufacture of eggs. The writer believes the rule to be that if a woman's menstruation is for any reason except pregnancy delayed, she is very apt to have symptoms closely approximating those of the change of life. This being so, he is led to believe that the internal secretion of the ovary is a myth. The ovary, then, not having any kind of internal secretion, the troubles which accompany the menopause, both natural and artificial, are due to a faulty oxidation and excretion. One other cause of this condition is the intestinal infection that goes with nearly all these cases, and this allows the colon bacillus and its associates to contaminate the nitrogenous bodies with their ptomains before they are absorbed into the blood. Until we get rid of the old superstition of "ovarian influence" and similar terms which we have heard for so many centuries, the reproductive functions will never be thoroughly understood. As to the limits of conservative surgery: When an ovary and its accompanying tube can be left in a healthy condition so that their functions can be easily carried out, they should be preserved, but those dangerous experiments which result in the leaving of a scrap of one ovary in one part of the abdomen and a piece of a tube in another, or the transplantation of an ovary from one patient to another, should be condemned.

Iritis.—J. H. McCassy defines the iris as the colored membrane which separates the lens and its capsule from the cornea. The iris is the only muscular organ that is constantly immersed in liquid. Iritis furnishes from three to four per cent. of all ophthalmic cases. It is not very frequent during the first fifteen years of life and during old age. It affects men more frequently than women. Syphilis, rheumatism (articular), injury, gonorrhœa, gout, diabetes, malaria, etc., are the most frequent causes. There are three varieties: (1) Plastic; (2) serous; (3) parenchymatous. The symptoms are pain, photophobia, lacrymation, pericorneal redness, impaired mobility of the iris, exudation of inflammatory products, and disturbance of sight. Iritis should be differentiated from conjunctivitis and glaucoma. The course of this trouble may be acute, subacute, or chronic. If free dilatation of the pupil can be secured and the injury has not been too great, the prognosis is favorable. Atropine is the sheet-anchor in iritis. It is the great anodyne. Paracentesis is indicated when the tension of the eyeball is persistently and notably raised; also in large hypopyon or dotted spots upon the back of the cornea, or when the inflammation refuses to yield to milder means. In seclusion or occlusion of the pupil an iridectomy should be performed as soon as the disease becomes quiescent.

Internal Antisepsis.—By Reynold Webb Wilcox.

Neuralgia Paræsthetica.—By James J. Walsh.

The Boston Medical and Surgical Journal, Oct. 4, 1900.

Remarks upon Obscure Non-Traumatic Tumors of the Lower Abdomen Suddenly Appearing where None had Previously been Detected.—Maurice H. Richardson, in summing up the matter of the acute abdominal emergencies which constitute the greater portion of obscure and suddenly appearing tumors, says that the chief aim should be to view the whole with common sense, to consider carefully the history, weigh carefully the symptoms, to apply all reasonable methods of examination, and finally, if it is determined that intervention is necessary, to proceed to operation without unnecessary delay. In all suddenly appearing tumors of the lower abdomen, however obscure they may be, intervention is demanded if the symptoms are the least urgent. A tumor that has attributes of sudden formation, of tenderness, of hemorrhage, of profound constitutional disturbance, demands immediate intervention. Tumors, however, which do not possess the attributes of urgency may be watched, especially if the local symptoms are subsiding and if the patient's strength is returning. From their very nature, however, they all require surgical intervention sooner or later.

Case of Patent Foramen Ovale in Advanced Life.—William L. Worcester reports the case of a negro aged fifty-seven years, admitted to the hospital suffering from general paralysis. In the physical examination then made, the following condition of the heart was noted: "Apex beat in sixth interspace, under nipple; no heart sounds heard; a long, loud murmur, systolic in time, can be distinctly made out at apex." No indications of embarrassed circulation were noticed. The patient died of exhaustion from a series of convulsions. At the autopsy the heart was found to be moderately hypertrophied; the cavities, especially the right ventricle, were dilated. The valves were healthy. The foramen ovale was patent, measuring 2½ by 2 cm. in diameter. It was divided into two unequal parts by a small tendinous cord. Immediately under the right aortic semilunar valve was an opening forming a communication between the ventricles. On the side of the left ventricle it was about 1 cm. in its longest diameter; on the side of the right ventricle not more than 2 mm. in diameter. So far as could be judged from appearances, this was probably a congenital defect.

Serum Therapy in Pneumonia.—William H. Smith says that, as the question stands to-day, it may be stated that experimentally animals may be rendered immune, that their serum has protective property, and that continued investigation is doing away with some of the difficulties which previously harassed the early investigators. But the fact still remains that in dealing with the pneumococcus we are dealing with an organism capable of many variations and degrees of virulence, and that the serum obtained under such conditions must of necessity vary both in strength and character. Experimentally, antipneumococcus serum seems to be of value. Practically, that it is of any great value does not at present seem to have been demonstrated, as the reported number of cases are too few, and the series of any one observer is too small.

A Case of Inflamed Peritoneal Cyst Simulating Ovarian Cyst with Twisted Pedicle.—By Agnes C. Vietor.

New York Medical Journal, October 6, 1900.

Prevalent Errors regarding the Diagnosis and Treatment of "Eye Strain" from Various Causes.—A. L. Ranney gives his conclusions as follows: (1) All errors of refraction (manifest and latent) should be first very accurately determined, and as far as possible corrected for both distant and near points. (2) A mydriatic should be employed before suspected latent refractive errors are finally decided upon. (3) The ophthalmometer of Javal should first be employed to detect and measure corneal astigmatism. Subsequently cylindrical trial lenses should be employed to verify the instrument of Javal or to detect astigmatism of the lens. (4) Neither retinoscopy, nor trial lenses, nor the ophthalmoscope are positive and trustworthy in estimating "latent" refractive errors. The former is probably the best of the three in skilful hands; but serious errors may be made even by a competent retinoscopist. (5) A marked difference in the refraction of the two eyes should be corrected by proper lenses at all times and for all points. This is vital to good work on eye-muscles as a

preliminary step. (6) Cylindrical glasses should preferably, but not necessarily, be set in spectacle frames, in order to lessen the danger of alteration in the axis of the cylinder. (7) No glasses prescribed should ever be worn by a patient until they have been inspected and verified by the oculist who prescribed them. (8) The frames selected by the patient or optician should always be inspected by the oculist with care to guard against decentred lenses Each pupil should accurately correspond to the centre of the lens. In children, the frames may haev to be changed from time to time, on account of the growth of the head and face. (9) Patients should be personally instructed by the oculist to observe any decentring of their own lenses, that often occurs from bending of the frames or nose-clips; also personally to test the vision of each eye separately from time to time (by means of a test card) to see if the refractive correction remains perfect. (10) Patients should also be cautioned by oculists always to have their lenses verified whenever they fall out of the frames and are replaced, or whenever a lens gets broken and a new one is made. (11) All tests made to determine either the power of individual muscles of the orbit or the presence or absence of equilibrium of the ocular muscles are of no positive value until all errors of refraction are determined and properly corrected by lenses. (12) The first "muscular tests" made upon any patient by the oculist should be recorded as revealing only the "manifest" muscular errors (in contradistinction to "latent" muscular errors); and these tests should invariably be made with the proper lenses placed before the eyes of the patient to correct refractive errors, if any exist. (13) The "manifest" muscular errors (revealed at the first examination) should never be regarded as possessing much clinical importance, except as possible pointers toward some special type of heterophoria and a guide to the oculist in searching for "latent" heterophoria. (14) The most positive and uniform standard of power in any of the ocular muscles (when studying some puzzling case of suspected heterophoria) is the normal power of abduction. (15) A marked difference in the power of sursumduction on the two eyes is always to be regarded as a suspicious sign of hyperphoria. (16) It is usually wise to follow up suspected latent hyperphoria with vertical prisms, prior to any investigation of apparent anomalies of the internal or external muscles, whenever hypoesophoria or hypoexophoria seem to exist. (17) Whenever the refraction of a patient requires the constant wearing of glasses to correct it, the investigation of heterophoria by the wearing of prisms is most easily made through the aid of lorgnette frames that can be attached to spectacle frames by means of small hooks. (18) Operative procedures upon the eye muscles should never be too hastily performed. It is vitally important, to insure the best results in any case, that the effects of accurate refractive correction (and possibly of prisms also) be noted for a time; and that repeated muscular tests be made in any case of heterophoria before any surgical steps for its radical correction be advised or undertaken.

The Use of the Suprarenal Capsule in Diseases of the Heart; a Preliminary Report.—S. Floersheim has noticed no effect upon the normal heart, but found that in cases of mitral regurgitation by giving dry powdered suprarenal gland, gr. v. in a capsule, to be chewed, within from one minute to ten minutes the action of the drug became apparent. In one case he noted that the effects became apparent as rapidly as in fifteen seconds. The pulse grew fuller, stronger, and more regular, the contractions of the heart more rhythmical; the murmur, which was diffused and blurred, became circumscribed, and in two cases the murmur, which was slight, actually disappeared and remained absent for more than fifteen minutes, while in a number of other cases the murmur became reduced in volume, the heart sounds clearer, the murmurs more distinct, more easily recognized and differentiated. In a general way it may be said that under this remedy the rapidity of the heart is not noticeably altered while the tone is improved, especially in conditions of dilatation, and a much better force is induced. Concerning the rapidity of effect he found that manifest effect was apparent at times in ten seconds, while at other times ten minutes were necessary to show any evident change. He uses the extract as an adjuvant to other remedies. No claim is made that it takes the place of nitroglycerin, strychnine, or digitalis.

Implantation of an Artificial Vitreous; "Mules' Operation."—M. L. Foster refers to three cases, two of which were operated on by himself. He finds that the great advantage of Mules' operation is that the glass ball within the sclera maintains the muscular apparatus of the eye in nearly its normal position, and so secures its better action, which results in better motility of an artificial eye when properly fitted. The most serious objection he finds to be the prolonged convalescence, which lasts from ten to fifteen days, about double the length of that following enucleation. Failure of the operation, with extrusion of the glass ball, occasionally happens. It may be the result of the insertion of too large a glass ball, suppuration, or the absorption of catgut sutures in the sclera before the cut edges of that tissue have become firmly united. It seems better to use the smallest-sized ball in every case, and to use silk to unite the edges of sclera. Suppuration is to be guarded against by the observation of strictest asepsis.

Some Observations upon Syphilitic Manifestations in the Optic Nerve and Retina; Inflammatory Manifestations.—By P. T. Vaughan.

A Case of Pin in the Larynx for Two Years; Removal by Endolaryngeal Methods.—By A. W. De Roaldes.

Combined Electrization, or Galvanofaradization.—By A. D. Rockwell.

Fibroma of the Larynx.—Case reported by A. B. Thrasher.

Journal of the American Medical Ass'n, Oct. 6, 1900.

The Reefing Operation for Movable Kidney.—Edward Wyllys Andrews describes the technique of this operation as follows: (1) Incision at the outer borders of the quadratus from the twelfth rib to the ilium. This is carried through the lumbar fascia and along the edge of the quadratus to the loose fat about the kidney. (2) The muscles are retracted and the fatty capsule is split the whole length of the kidney. The two flaps thus formed are pulled outside, and the kidney is thus held well up and back. Care should be taken that the lower pouch of this capsule is pulled high up. In cases of great prolapse, the fatty capsule will be found drawn into a long tube, like a stocking. It will surprise one who has not tried it to see how nicely it can be reefed by drawing it out of the skin opening, and how well the kidney obeys every pull we make in the upward and backward direction. It is expected that Gerota's capsule is included. Five or six inches of this fatty sac can sometimes be drawn up. The kidney will now be seen to lie snugly in the lumbar wound, and yet to rise and fall in respiration. Probably it will be an inch or more below its normal place. This is an advantage, because it removes from it the pressure of the liver, and enables us to hold the entire organ and not merely its lower pole. He has had cases of relapse by older methods in which the lower pole was still anchored by his stitches, while the upper end tilted forward and could be felt below the costal arch in front. (3) The broad segments of the fatty capsule, and its enclosing, or Gerota's, fascia already drawn outside are now held by the hands of an assistant or by long forceps, while the opening in the muscular wall is closed by a line of mattress stitches. These transfix the fatty capsule. The real support is obtained, however, not by the stitches, which would cut out, but by compression between the muscles. (4) The flaps should now be cut off an inch or two outside the muscle, everted and stitched down, after which the skin can be closed in any simple manner.

Yellow Fever; its Nature and Cause.—Eugene Wasdin in discussing this subject says that yellow fever has presented a uniform complex of symptoms which distinguishes it clinically from other infections. In a characteristic case, the temperature rises to its maximum within the first twenty-four to thirty-six hours, the pulse rising at first in proportion to the temperature, but this does not continue. Upon the second or third day the temperature generally declines, the patient entering a period of comparative calm. Then comes the third stage with rising temperature. This phenomenon presenting the two accessions of temperature with a decline, the period of calm separating them, has been recognized by southern clinicians as the most characteristic of all the symptoms of yellow fever. Among the clinical phenomena is the "black vomit." Cases of the fever have been divided into three classes—the ephemeral, the grave, and the siderante or fulminantly fatal cases. The writer believes that the bacillus icteroides is constantly present in yellow fever, and that it is the cause of the disease.

Lessons from a First Series of One Hundred Cataract Operations.—F. T. Rogers from a study of these cases draws the following conclusions: (1) More attention should be paid to the general condition of the patient, and the presence of any systemic disturbance should influence the prognosis. (2) All operative procedures on the crystalline body should be done under the best possible illumination. (3) Providing that it is large enough, the exact site of the corneal section does not materially influence the result. (4) The combined operation is the safest and the easiest for the operator of limited experience. (5) The most frequent complications, iritis and iridocyclitis, should be combated by the early instillation of atropine, and their existence does not necessarily prevent an ultimate good result. (6) Discission of the capsule can be done with

comparative safety and materially increases the acuity of vision. (7) Infection of the wound does not in all cases destroy the sight. (8) The patient should be frankly informed of the possible outcome.

Resection and Anastomosis of the Divided Ureter.—By Howard A. Kelly.

Aseptic Minor Gynæcology: with Demonstrations.—By Augustin H. Goelet.

Demonstration of Home Milk Modifier.—By A. L. Sherman.

Acute Graves' Disease.—By James R. Arneill.

Philadelphia Medical Journal, October 6, 1900.

The Etiology of Gall Stones.—Frederick C. Shattuck says that little is known of this subject. What we do know is that (1) gall stones are composed mainly of cholesterin, often partly of biliverdin calcium precipitated by changed reaction of the bile. A nucleus may be formed of biliverdin calcium, bacteria, a foreign body, or a combination of these. (2) Gall stones, while not unknown in childhood, are rare under the age of thirty years; from thirty to sixty they are more common, little difference existing between the several decades of this period in point of frequency; after sixty they are more common than in earlier life. (3) They are from two to four times more common in women than in men. Stasis of the bile is a very important etiological factor, and the chief causes of this seem to be, in the writer's opinion, tight lacing and want of exercise, and typhoid fever. He thinks we can get rid of the latter cause more easily than of the former.

A Case of Gall-Stone Obstruction of the Cystic Duct, Illustrating the Difference in Pathology, Symptoms, and Treatment between This and Gall-Stone Obstruction in the Common Duct.—By Frederick A. McGrew.

Hemorrhagic Pancreatitis and Fat-Necrosis following an Operation on the Gall Bladder.—By Charles G. Stockton and Herbert U. Williams.

Two Interesting Cases: Gall Stone of the Cystic Duct, with Situs Viscerum Inversus; and Gumma of the Liver.—By Frank Billings.

Indications for Drainage in Diseases of the Biliary Passages and the Technique of Operation.—By J. E. Summers, Jr.

On Lesions of the Pancreas Simulating Gall-Stone Impactions of the Common Duct.—By Maurice H. Richardson.

Diagnosis of Medical and Surgical Diseases of the Liver and Biliary Passages.—By John Herr Musser.

The Relation between Gall Stones and Appendicitis.—By A. J. Ochsner.

Obstruction of the Common Bile Duct.—By John B. Deaver.

The Lancet, September 29, 1900.

A Lymphatic Anæmia Met with in Children.—A. Macgregor has seen within the last few months some twenty-three cases of an anæmia which he does not find described in any of the books. Boys are far more often affected than girls, and the favorite age seems to be between three and eleven years. The cervical triangles become packed with small, hard glands, and there is a chain of them along Poupart's ligament. The spleen is generally enlarged. It is not the condition in which the glands become tuberculous, nor is it gland fever. The axillary glands are never affected, while the bronchial glands frequently are. Catarrhal pneumonia is not uncommon. The anæmia is not always very marked. Examination of the blood shows a decrease of the red and a large increase of the white corpuscles, and of the latter the increase of the large uninucleated corpuscles is very striking. Normally, it is said, lymphocytes form fifteen to twenty per cent. of the white corpuscles, the large uninucleated from six to eight per cent., the multinucleated from seventy to eighty per cent., and the eosinophilic from two to four or seven per cent. Macgregor stained a large number of films of the blood of children suffering from this lymphatic anæmia, and on counting the leucocytes found that the lymphocytes formed from twelve to thirteen per cent., the large uninucleated from twenty to thirty-nine per cent., the multinucleated from forty-one to sixty-three per cent., and the eosinophilic from two to nearly seven per cent. The increase of the large uninucleated corpuscles from six to thirty-nine per cent. is certainly noteworthy.

The Etiology of Rheumatic Fever.—F. J. Poynton and A. Paine have found in this disease a diplococcus concerning which they make the following claims: "(1) We have demonstrated these diplococci in eight successive cases of acute rheumatism. (2) They have been present in five cases in pure culture. (3) We have obtained them (*a*) from the blood of living patients suffering from acute rheumatic pericarditis; (*b*) from the pericardial fluid and from the fragments of granulations removed from the valves after death; and (*c*) from the throat of the living patient suffering from rheumatic tonsillitis. (4) We have isolated them and grown them in an acid medium and also upon blood agar. (5) They have also grown in the pericardial fluid, which we proved on those occasions to be acid. (6) They do not thrive on ordinary media. (7) We have isolated them in pure culture from the joint exudation, heart blood, urine from the bladder, and cerebro-spinal fluid of rabbits that have been inoculated with a sufficient dosage." The authors believe the organism to be identical with those described by Triboulet and Wassermann a few years ago. The rest of the article is devoted to the details of the facts laid down in the general summary given above.

A Case of Rupture of the Anterior Annular Ligament of the Ankle Joint.—The patient of G. W. Ord was a strong boy, aged thirteen years, who had twisted his ankle at cricket. There was slight puffiness just internal to the external malleolus and no ecchymosis, but there was great pain on flexing the foot and on pressure over the swelling. When he stood up with feet uncovered, the big toe could be extended fairly well but not so well as its fellow on the sound limb; the second, third, and fourth toes could not be raised from the ground, though he was just able to communicate movement to them; while the little toe was immobile. Ord applied the battery to exclude the possibility of ruptured tendon, and obtained muscular contraction of the extensor longus digitorum, but with diminished extension, especially of the little toe. Treatment consisted in firm strapping and bandaging. Complete recovery resulted.

The Treatment of Typhoid Fever.—James Barr states that in those cases often protracted by recrudescences and relapses, in which we get evening rises of temperature lasting for one or two weeks and due to secondary infection, we may cut the pyrexia short by a few injections of antistreptococcus serum. The article in general follows along familiar lines.

The Determination of Chloroform. A Method of Determining with Precision Minute Quantities of Chloroform in the Blood, Secretions, or Organs of Animals Variously Anæsthetized with Chloroform.—By James Edmunds.

On the Caloric Value of Certain Artificial Infant's Foods.—By W. Overend.

Experimental Proof of the Mosquito-Malarial Theory.—By Patrick Manson.

A Halfpenny Impacted in the Œsophagus.—By T. C. Squance.

The Etiology of Scarlet Fever.—By W. J. Class.

Puerperal Sepsis.—By R. P. Ranken Lyle.

British Medical Journal, September 29, 1900.

The Significance and Pathology of the Argyll-Robertson Pupil (Illustrated).—Wilfred Harris declares that the loss of the pupil reaction to light is a physical sign of the greatest value in the examination of cases of nervous disease. Of these it is by far the most commonly met with in two diseases, locomotor ataxy and general paralysis, inasmuch as these diseases are due largely if not entirely to previous syphilis, acquired or, in a few cases, congenital. The morbid anatomy of the Argyll-Robertson pupil has never been demonstrated, though it has been variously surmised to depend on a nuclear lesion, or on sclerosis of Meynert's fibres between the anterior corpora quadrigemina and the third nucleus, or even on a lesion of the ciliary ganglion. It is highly probable that in man and other animals with binocular vision, in whom there is semidecussation of the optic nerves at the chiasma, a similar arrangement holds good between the anterior corpora quadrigemina and the third nuclei, namely, that there is a semidecussation of the fibres subserving the light reflex between these two parts. Meynert's fibres have been shown by Boyce and others to be not a complete decussation, some fibres remaining uncrossed in or close to the posterior longitudinal bundle of the same side, and it seems not improbable that these fibres have the above function. This being the case, it is no longer necessary to conceive the two third nuclei being tied together in order to explain the consensual reaction of the pupils to light, as light thrown on either pupil in any direction will thus cause afferent stimuli to reach both third nuclei independently. It seems much more probable then, in the absence of direct pathological evidence, that the Argyll-Robertson pupil is due to sclerosis of these fibres on one or both sides according as the loss of light reaction is unilateral or bilateral, rather than due to any nuclear degeneration such as has been suggested.

The Etiology of Tropical Dysentery.—Simon Flexner believes that the present knowledge of the cause of dysentery may be summed up as follows: (1) No bacterial species yet described as the cause of dysentery has an especial claim to be regarded as the chief micro-organism concerned with the disease. (2) It is improbable that any bacterial species that is constantly and normally present in the in-

testine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as a probable cause of epidemic dysentery. (3) The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause. (4) The pathogenic action of the amœba coli in many cases of tropical and in certain examples of sporadic dysentery has not been disproved by the discovery of amœbæ in the normal intestine and in diseases other than dysentery. While amœbæ are commonly present and are concerned in the production of the lesions of subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries even in the tropics. In the former varieties bacterial association probably has much influence upon the pathogenic powers of the amœbæ.

Subcutaneous Saline Infusions in Pneumonia.—William Ewart and Beaumont Percival conclude that: (1) In the severe cases treated, no unfavorable results were observed from the saline infusions; (2) these seemed to delay rather than to accelerate the fatal termination; (3) they were not resented by the patients, and by some of them they were acknowledged to be comforting; (4) they were powerless to check the fatal course of the pneumonia in the worst type of cases; (5) they do not seem, except in one case in which no pus but clear serum exuded from the cut surface of the gray hepatization, to have made any difference in the characteristic appearances of the pulmonary changes. At the same time, while results have been disappointing, they do not prove the infusions to be useless. A different composition, a larger bulk, or a greater frequency of administration might lead to very different results. The cases reported were exceptionally severe, and may have been incapable of recovery. But the effects were such as to recommend the method for more extensive trial in cases with anxious prognosis, for there may be among them cases not of the worst type which might be saved by this treatment.

Headaches and Other Nervous Symptoms in Relation to Post-Nasal Adenoids.—David McKeown believes that the condition of the tissues in the nasopharynx and the nasal fossæ, with the consequent obstruction to the vascular and lymphatic circulation and pressure upon nerves, to be an important factor in the production of headache and the allied symptoms, for one of the immediate results of operation is the cure or relief of headache; after many operations without an anæsthetic, patients who had headache at the beginning were free from it a few minutes after completion of the manipulation; even when cerebral symptoms have not been realized, there is experienced a great relief after operation; the anatomical relations of the pathological area with the intracranial contents are very intimate; headache is a symptom of acute nasal catarrh and also of evanescent attacks of nasal congestion as well as a feeling of weight or oppression in the region of the forehead, an inability or disinclination for mental or physical work, and a general depression of the vital functions. These concomitants of headache are found in cases of adenoids.

On Intermittent Pulse (with Diagrams).—Arthur R. Cushny believes that intermissions of the pulse may be divided into several classes: (1) True ventricular intermissions in which the pause is exactly equal to two pulse intervals, and during which there is no cardiac sound; (2) true auricular intermissions in which the pause is shorter than two pulse intervals, and during which there is no cardiac sound; (3) false ventricular intermissions, in which the pause is equal to two pulse intervals, but is often interrupted by a slight elevation; (4) false auricular intermissions, in which the pause is shorter than two pulse intervals; (5) another form which has been described by Wenckebach. The treatment of cardiac disease may be rendered more exact by the careful examination of the pulse, which may indicate whether the existing condition is that of excessive irritability or of deficient activity.

Two Cases of Lipoma of the Kidney.—W. S. Lazarus-Barlow says that lipoma is apparently a very rare condition, judging from the statements concerning it in books. In both these cases which he reports, the tumors were removed under the impression that they were small secondary deposits. In the one case, the prime lesion was a glioma of the brain; in the other, an intense suppurative meningitis arising from disease of the antrum. Both the patients were adults—a man aged seventy years, and a woman aged thirty years. The growths were approximately spheroidal, about the size of a Spanish nut, and found in the cortex just beneath the capsule, to which they were not adherent. Lipomata of this size are only pathological curiosities, but occasionally one is met so large that it is the object of operative interference.

The Origin of Gout.—William Ringrose Gore presents the following conclusions: (1) Gout is not due to the presence of uric acid in the blood. (2) The symptoms of gout are due to a toxin. (3) The concurrent presence of uric acid is due to the action of the toxin on the liver. (4) The toxin is formed by the action of one of the intestinal bacilli on an intestinal secretion specifically altered by diet, this alteration being assisted by hereditary disposition.

A Discussion on the Pathological Distribution of the Diphtheria Bacillus and the Bacteriological Diagnosis of Diphtheria.—By F. W. Andrewes and others.

The Diastolic Expansion Movement of the Ventricles as a Factor in Compensation for Disease of the Mitral Valve.—By T. Stacey Wilson. (Illustrated.)

A Discussion on the Pathology of Cirrhosis of the Liver in Adults and Young Children.—By Arthur Voelcker and others. (Illustrated.)

A Case of Purpura and Intense Anæmia, with Marked Deficiency in the Red Bone Marrow.—By Robert Muir. (Illustrated.)

A Discussion on Influenza as it Affects the Nervous System (Illustrated).—By Judson S. Bury and others.

The Progress of the Sanitarium Treatment of Consumption in England.—By Jane H. Walker.

A Case of Fatal Malignant Endocarditis and Right Embolic Hemiplegia.—By William Ewart.

Nutrient Media of "Standard" Reaction for Bacteriological Work.—By J. W. H. Eyre.

A Discussion on the Problems of Gastric Ulcer.—By J. Frank Payne and others.

Consanguinity as a Factor in the Etiology of Tuberculosis.—By Charles A. Davies.

Uterine Myomata and Developmental Irregularity.—By W. Roger Williams.

Deutsche medicinische Wochenschrift, Sept. 20, 1900.

General Actinomycosis with Localization in the Brain.—Nikitin's case began with pharyngitis and an obstinate dry cough, while later on signs pointing to a slight tuberculous infiltration developed at the left apex. No tubercle bacilli were found in the sputum, however, and some time later an abscess developed below the left clavicle. This was opened, but was succeeded by another in which the ray fungus was found. Potassium iodide was given in large doses, but this did not prevent the formation of further metastases about the thorax, fingers, tibia, and femur. Finally severe cerebral symptoms (convulsions, headache, paralysis, aphasia) set in, and the patient passed into the comatose state and died. On section a walnut-sized actinomycotic abscess was found just posterior to the left frontal convolutions.

Prolapse of the Fœtal Intestines during Labor.—Jaerisch was called to deliver what apparently was a lateral presentation. On digital examination the fœtal small intestines were found filling the vagina, and the hand could be passed into the child's abdominal cavity through a defect in its anterior wall. Version was impracticable, and embryotomy had to be done before delivery was possible. The fœtus was then found to be a monster with imperfect frontal development, a large left-sided encephalocele, hare lip, deformed thorax, right arm atrophied, syndactylism of the right toes, and a five-inch cleft in the abdominal paries permitting the escape of intestine and liver.

The Theory of Infection.—Hugo Marx proposes the following theory: A bacterium effects its passage from the non-infectious or virulent to the infectious or virulent state through the intracellular condensation and localization which results in the formation of the Babes-Ernst bodies. The index for present virulence is to be found in the number of individuals containing these bodies, for future virulence in the ability of the cells to produce them.

An Improved Instrument for Obtaining the Urine from the Kidneys Separately in Women.—By Neumann.

Riedel's Method of Reduction in Anterior Dislocation of the Humerus.—By Graef.

The Neuron in Anatomy and Physiology.—By Max Verworn.

Münchener medicinische Wochenschrift, Sept. 18, 1900.

Acute Leukæmia.—A. Dennig believes that many cases diagnosed as scurvy or Werlhof's disease would, if a blood examination were made, turn out to be acute leukæmias. In illustration he details an instance in which the history, symptoms, and physical signs seemed to justify the diagnosis of sporadic scurvy until on examination the blood was found to be that of leukæmia, showing the importance in all cases of stomatitis of unknown origin, especially if accompanied by the hemorrhagic diathesis, of making a hæmatological investigation. Acute leukæmia is not to be differentiated from the chronic form by any stated time measure, but whenever the disease from the

outset presents symptoms and lesions usually not observed until late, it may be considered acute. In addition to the usual symptoms of progressive asthenia, palpitation, syncope, pallor, hemorrhagic petechiæ in the skin, mucous membranes and internal organs, swelling of the liver and spleen, etc., which are common also to the chronic form, there is a marked difference in the character of the blood changes which serves to distinguish the two. In acute leukæmia there is an increase of the uninuclear elements exclusively; these belong to the class of lymphocytes and are present in all sizes. They possess a large round nucleus surrounded by a narrow rim of poorly staining nongranulated protoplasm. Multinuclear leucocytes and normoblasts are scanty, while the uninuclear cells with neutrophile granules and the eosinophile myelocytes typical of the chronic form are entirely absent.

The Occurrence and Diagnosis of Gout.—Strümpell comments on the increasing frequency with which the diagnosis of gout is being made, and thinks it is due to a better recognition of its nature rather than to any greater prevalence of the disease. Characteristics which distinguish it from acute articular rheumatism are the tendency to attack the joints of the lower extremity, especially those most distal, like the metatarso-phalangeal articulation of the great toe, the fact that only one or but few joints are involved, the frequency of the attacks, and their short duration. Masked gout is often confounded with arthritis deformans, but a careful study of the history usually makes the distinction clear. Various painful affections of the foot, tarsalgia, achillodynia, atypical ischialgia are often of gouty origin. Of the internal changes the gouty kidney takes first place; the organic lesion is usually recognized, but the causative factor is overlooked. Concerning the degenerative changes in the heart and arteries which so often accompany gout, it is hard to say to what degree they are the result of the specific poison of the disease and how large a part in their etiology is played by the usually concomitant alcoholism and luxurious habits of living. Of the etiology of the disease in general, it may be said that while such poisons as alcohol and lead seem to be directly responsible for the trouble in the majority of cases, still the element of heredity is the governing factor and is present in nearly all instances.

Malignant Œdema.—G. Muscatello and C. Gangitano draw the following conclusions from the clinical observation of five cases of the disease and a bacteriological study of the morbid tissues. Two micro-organisms, the bacillus aerogenes capsulatus and the bacillus coli communis, stand in direct causal relationship to the affection. Of these the former is to be regarded not as the specific producer of the disease, but as a gas-forming organism which is simply a toxic saprophyte and is able to locate itself only where the vitality of the tissue has become depreciated to a serious degree. The bacillus coli communis is usually associated with other organisms and is capable of producing malignant œdema. Clinically two courses of the disease are to be noted. The first of these, due to the bacillus aerogenes capsulatus alone, is unaccompanied by inflammatory manifestations, does not exhibit a very marked tendency to spread, and assumes a rapidly progressive course only in the later stages when the organism has become incapable of further resistance. The other form, resulting from a mixed infection, is usually inflammatory in nature and rapidly invades surrounding parts from the very beginning. Although malignant œdema is one of the most serious of infections, the prognosis is no longer as grave as was formerly supposed. Through free exposure of the focus, early and complete extirpation of the entire necrotic mass, and energetic disinfection, a favorable result may be looked for in a large number of cases.

The Treatment of Joint Abscesses by Drainage with the Glass Speculum, and Pure Carbolic Acid.—By A. M. Phelps.

Cholecystitis and Secondary Gastro-Intestinal Disturbances.—By Fleiner.

The Indications for and Technique of Myomectomy.—By Martin.

Berliner klinische Wochenschrift, Sept. 10, 1900.

Gonorrhœal Joint Inflammation.—F. Rubinstein distinguishes four forms of this affection: (1) Gonorrhœal hydrops; (2) fibrino-serous exudation; (3) purulent inflammation, empyema of the joint; (4) phlegmonous inflammation. To relieve the first he advises rest of the joint, iodine applications, blisters or vasogens (guaiacol or creosote). If the amount of fluid is great, puncture. Some writers inject a five-per-cent. carbolic solution. For the fibrinous form Rubinstein advises rest, immobilization, and elevation of the joint with splints and plaster bandages, an ice-bag being applied if pain is severe. Purulent accumulations call for incision and drainage. Later, when all active manifestations have come to an end, massage and warm baths are to be recommended.

Experimental Researches on Sterilization of Catheters, with Some Remarks on Asepsis in Catheterization of the Ureters.—By M. Katzenstein.

Injurious Suggestions in Patients Suffering from Accidents.—By W. Seiffer.

Polyneuritis after Malaria and Landry's Paralysis.—By B. Baumstark.

French Journals.

Local Trophic Effect of Gentle Abdominal Massage.—Saquet speaks of the effect of gentle abdominal massage, citing two cases. The first was that of a young man aged twenty years, who for six months had been suffering with his stomach. In spite of varied treatment he was gradually growing worse and looked like one in the last stages of phthisis. He suffered from constipation and insomnia; he was very nervous, and was convinced that he was about to die. After instituting the abdominal massage, his condition rapidly improved; his abdomen, which had resembled that of a child with meningitis, became supple and daily enlarged. The treatment was not severe nor very special. His pain disappeared, and he was able to digest all that was given to him. The patient gained in six months about sixty-five pounds, which he has not lost since that time, now five years ago. The second case was that of a woman aged fifty years, who had been sickly since birth. She presented all the symptoms of enteroptosis of the last degree. At the end of a few weeks the patient returned in a condition of health which she had not known for years. The author believes that by diet alone it will often take years to obtain improvement, while with massage added the benefit will be noted in a few weeks.—*La Médecine Moderne*, September 19, 1900.

Treatment of Genital Prolapse in the Woman.—Coville divides prolapse into three sections: (1) Partial prolapse; (2) complicated prolapse (tumors, hypertrophies, or uterine deviations); (3) complete prolapse. Prophylaxis should consist in keeping the parturient woman in bed from ten to twelve days at the least. Any laceration should be immediately repaired. Curative treatment should consist in operating for prolapse, whatever the degree, unless there exists the contraindication of an inoperable malignant tumor. The time of pessaries has passed and ought now to give way to surgical treatment, rational and benign, and which promises to the patient not only relief from suffering but the integrity of her functions.—*La Presse Médicale*, September 19, 1900.

The Treatment of Biliary Lithiasis.—A. Gilbert and L. Fournier state that certain hygienic rules by themselves constitute true prophylactic measures against lithiasis—regular meals, the use of clothing producing neither displacements nor deformity of the abdominal organs, exercises, care about the digestive functions—one of the principal results being the avoidance in a certain measure of biliary stasis and ascending infection. To these measures may be added the use of alkalies, cholagogues, abdominal massage, and cold intestinal injections. This same treatment is indicated after the establishment of lithiasis. When serious complications are threatened, then surgical intervention is indicated.—*Journal des Praticiens*, September 22, 1900.

Epididymo-Testicular Tuberculosis Treated by Ligatures of the Spermatic Cord.—P. Mauclaire, in describing this operation states that he generally ties and cuts *en masse* all the spermatic cord. The cord is tied very high, near the external orifice of the inguinal canal. Two ligatures are used, about 2 cm. apart. Sometimes chloroform is used, sometimes only cocaine. Sometimes he has curetted the focus, sometimes incised it. At times he has used the thermocautery. His results have been most encouraging. Instead of castration, there is a chance of saving the testicle even if it atrophies a little, while the method is not dangerous.—*La Presse Médicale*, September 22, 1900.

The Journal of Experimental Medicine, October 1, 1900.

An Experimental Study of Oxaluria, with Special Reference to its Fermentative Origin.—Helen Baldwin concludes her discussion of this subject as follows: (1) As varying amounts of calcium oxalate may be held in solution in the urine, conclusions based upon the presence or number of calcium-oxalate crystals found therein are of no real value as an indication of the quantity of oxalic acid present. (2) Unless the utmost care is exercised, the results obtained by quantitative estimation of oxalic acid are subject to large percentages of error. This is especially true in the use of Neubauer's or Schultzen's methods, in which the calcium oxalate is precipitated in an alkaline solution. (3) An ordinary mixed diet regularly contains traces of oxalic acid or its salts. (4) A portion of the oxalic acid ingested with the food may be absorbed and reappear unchanged in the urine. (5) The normal daily excretion of oxalic acid in the urine fluctuates with the amount taken

in the food, and varies from a few milligrams to 2 or 3 cgm., being usually below 10 mgm. (6) In health, no oxalic acid, or only a trace, is formed in the body, but that present in the urine has been ingested with the food. (7) In certain clinical disturbances which in some of the cases studied above were associated with absence of free hydrochloric acid from the gastric juice, oxalic acid is formed in the organism. (8) This formation in the organism is connected with fermentative activity in the alimentary canal. (*a*) The prolonged feeding of dogs with excessive quantities of glucose, together with meat, leads eventually to a state of oxaluria. (*b*) This experimental oxaluria is associated with a mucous gastritis, and with absence of free hydrochloric acid in the gastric contents. (*c*) The oxaluria and the accompanying gastritis are referable to fermentation induced by the excessive feeding with sugar. (*d*) The experimental gastritis from fermentation is associated with the formation of oxalic acid in the gastric contents. (9) The symptoms attributed to an oxalic-acid diathesis, with the exception of those due to local irritation in the genito-urinary tract, do not appear to be due to the presence in the system of soluble oxalates, but are more likely to depend on other products of fermentation and putrefaction.

Proliferation and Phagocytosis.—F. B. Mallory declares that the effects which injurious agents, especially the toxins secreted by bacteria, produce on tissues are manifested in four different ways: (1) By degeneration or necrosis of cells; (2) by exudation from the blood-vessels; (3) by proliferation of cells; (4) by phagocytosis, this term being used here to mean the inclusion and digestion of certain cells by other cells. These four processes may occur separately, or in various combinations and proportions. The author's object in this paper is to show that strong toxins cause degeneration or necrosis of cells and exudation, while dilute and weak toxins produce proliferation and phagocytosis. The results of the study of large numbers of cases of certain diseases and of typical and unusual lesions support this hypothesis. The statement of the proliferation and phagocytosis occurring in diphtheria is based on the histological study of two hundred and twenty cases. Pratt has recently shown in a study of fifty cases of acute lobar pneumonia that micrococcus lanceolatus causes marked proliferation of the cells lining the alveoli, the pleural cavities, and the lymphatics; these newly formed cells are very phagocytic. The acute lesions of the glomeruli of the kidney throw much light on the question of proliferation due to bacterial toxins. The typhoid and tubercle bacilli produce mild toxins which act slowly and usually produce proliferation only. The kind of cells which a phagocyte incorporates depends on its situation in the tissue. In acute proliferative intracapillary glomerulo-nephritis the writer has never found any evidence of phagocytosis. The tendency of the cells which proliferate under the action of toxins is to degenerate and disappear as soon as the agent to which they owe their existence is destroyed or neutralized. The processes of proliferation and phagocytosis which have been described as due directly to the action of toxins are regarded generally as reparative in nature. Similar processes occur in repair. The phagocytic cells are phagocytic beyond all bounds of necessity and destroy great numbers of active, useful cells. These are all abnormal and to a certain degree malignant properties.

Pathological Report on a Case of Dermatitis Vesiculo-Bullosa et Gangrænosa Mutilans Manuum (Duhring), with a Consideration of the Relations of Vascular and Nervous Changes to Spontaneous Gangrene and Raynaud's Disease.—William G. Spiller draws the following conclusions from the study of this case: (1) Gangrene may be caused by endarteritis obliterans. (2) Alteration of nerves alone without alteration of the vessels is believed by some to be a cause of gangrene. We need probably more evidence before this conclusion can be definitely accepted. (3) Gangrene may cause degeneration of the vessels, especially of the portions near the gangrenous area. (4) Gangrene is less liable to cause degeneration of nerves except of the portions within or near the gangrenous areas. (5) Sudden closure of blood-vessels causes degeneration of the nerves nourished by these vessels, unless an adequate collateral circulation is promptly established. If the vascular disease is of a chronic type the nerves may escape, at least for a time, but do not always do so, the result doubtless depending upon circulatory conditions which vary in different cases. (6) Degeneration of nerves is a possible, but not thoroughly demonstrated, cause of degeneration of the blood-vessels.

Refractory Subcutaneous Abscesses Caused by Sporothrix Schenckii. A New Pathogenic Fungus.—Ludvig Hektoen and C. F. Perkins describe an organism which is undoubtedly identical with that described by Schenck in the bulletin of the Johns Hopkins Hospital for December, 1898. To study an abscess of this nature, it should be excised in an early stage of formation. It is very interesting to note that we have here a pathogenic fungus that in the lesions it produces in animals exists in the spore-form, or in a modified spore-form, and that it undoubtedly multiplies as such; threads do not seem to develop in the tissues of susceptible animals. This fungus produces a slow, circumscribed, and nodular inflammation with necrosis and pus formation in the centre, and the development of granulation and fibrous tissue at the periphery—encapsulation. A characteristic clinical feature of the human cases is the refractory nature of the subcutaneous abscesses. In the three cases on record there appeared a succession of these abscesses on the upper extremity consequent upon injury: the scratch of the skin of the finger by a nail; the blow upon the finger by a hammer; the puncture of a finger by a wire.

Serum-Globulin and Diphtheric Antitoxin. A Comparative Study of the Amount of Globulin in Normal and Antitoxic Sera, and the Relation of the Globulins to the Antitoxic Bodies.—By Philip Hanson Hiss and James P. Atkinson.

A Contribution to Staining Methods. 1. A Differential Stain for Connective-Tissue Fibrillæ and Reticulum. 2. Chloride of Iron Hæmatoxylin for Neuroglia Fibres.—By F. B. Mallory.

A Study of the Neurofibrils in the Ganglion Cells of the Cerebral Cortex.—By Stewart Paton.

Annals of Surgery, October, 1900.

The Surgical Treatment of Primary Renal Tuberculosis, with a Consideration of the Immediate and Remote Results after Operation.—The conclusions drawn by Otto G. Ramsay are summarized as follows: (1) That renal tuberculosis may be classed as a semi-malignant form of inflammation, and that for this reason surgical treatment of some sort is always indicated; (2) that this surgical treatment will have a palliative or a curative end in view depending on the condition of the patient and the duration and extent of the disease; (3) that nephrotomy in renal tuberculosis is to be classed as a palliative operation; and that as a palliative operation for the immediate relief of dangerous symptoms, and as not precluding a later nephrectomy, nephrotomy with drainage of the abscess cavity is most valuable; (4) that resection of the diseased part of the kidney is contraindicated in renal tuberculosis because of the danger of leaving a tuberculous focus in the portion left in the body; (5) that nephrectomy or nephro-ureterectomy is indicated in every suitable case, and in suitable cases should be followed by a lasting cure in 55.5 per cent. of the cases; (6) that the indications against nephrectomy are tuberculous or other disease of the second kidney, or tuberculous foci in other organs; (7) that tuberculosis of the bladder is not to be considered a contraindication to nephrectomy, as it will probably heal later; (8) that a small tuberculous focus in the lung, if the patient otherwise is in good condition, may sometimes not be considered a contraindication; (9) that in doubtful cases, when it is questionable whether the patient can stand an immediate nephrectomy, it is better to do a nephrotomy, following it later by nephrectomy; (10) that the clamp method of controlling the pedicle is contraindicated from the danger of hemorrhage after the removal of the clamp; (11) that it is safest to remove the ureter with the kidney, as a persistent fistula may give trouble if it be allowed to remain in the body; (12) that a certain proportion of these fistulæ will finally disappear, either after the removal of a deep suture, or because of the slow disappearance of the tuberculous disease in the ureter, which in these cases gradually changes into a fibrous cord; (13) that we may expect a steadily increasing number of final cures as our means of diagnosis improve, and as our surgical technique is carried out more carefully and scientifically.

Mesenteric Cysts.—By C. N. Dowd. The patient was a woman aged forty-one years. The cyst was remarkable in the following particulars: (1) It showed the exact structures and fluid contents of an ovarian cyst-adenoma, and hence suggested its probable origin from an embryonic ovarian sequestration. (2) It showed in the smaller loculi the epithelial structure which explained its growth, and in the main cyst wall the firm fibrous structure which has been found in most mesenteric cysts. (3) It contained clear fluid in some of its loculi and bloody fluid in others, and showed large blood-vessels in the delicate cyst walls, thus indicating that hemorrhages from the cyst walls explained the sanguineous fluid, and suggesting a similar cause in other sanguineous cysts. A general consideration of mesenteric cysts is summarized as follows: (1) The occurrence in the transverse mesocolon of a multilocular cyst-adenoma which contained pseudomucin, and which was exactly like a cyst-adenoma of the ovary, suggests its probable origin as an embryonic ovarian sequestration. (2) The occurrence of dermoid cysts in a similar position suggests a similar origin. (3) The occurrence of chylous cysts in the mesentery, which have the structure and ap-

pearance of ovarian and parovarian cysts, and which have in their walls lymph vessels, suggest embryonic cysts into which there has been an effusion of chyle. (4) The sanguineous cysts appear to be preformed cysts into which hemorrhage has taken place; hæmatomata in the mesentery should not be described as cysts. (5) The presence of cysts which have the structure of the intestinal wall suggest sequestration from the intestine. (6) Serous cysts are apparently similar in origin and structure to the cysts already considered. They are usually not situated in the path of the lacteal vessels. (7) Hydatid cysts form a class by themselves and are due to the tænia echinococcus. (8) Reports indicate that mesenteric cysts are being removed at least as often as once a month. If microscopical examinations of the cyst walls and chemical and microscopical examinations of the cyst fluid are made, the entire subject should soon be understood. (9) It is probable that all mesenteric cysts may be included in the classifications (*a*) embryonic cysts, (*b*) hydatid cysts, (*c*) cystic malignant disease.

Tetanus: a Study of the Nature, Excitant, Lesions, Symptomatology, and Treatment of the Disease, with a Critical Summary of the Results of Serum Therapy.—A. V. Moschcowitz concludes a very lengthy article by calling attention to the following points: (1) All forms of tetanus are caused by the bacillus of Nicolaier; hence the diagnosis of rheumatic or idiopathic should have no room in our nosology. (2) The tetanus toxins appear to have a decided affinity for the anterior horns of the spinal cord, which may be distinctly recognized by Nissl's method of staining. (3) The cerebrospinal fluid of tetanus patients is more toxic than the blood. (4) The antitoxin therapy appears to have a distinct beneficial influence upon the course of tetanus. (5) With the antitoxin treatment the mortality percentage has been reduced from about ninety per cent. to forty per cent. (6) Although the use of the serum is a most important factor in the treatment of tetanus, the other recognized therapeutic measures should not be neglected.

Suprapubic Retrocystic Extraperitoneal Resection of the Seminal Vesicles, Vasa Deferentia, and Half of the Bladder.—By H. Young.

Excision of the Right Vas Deferens and Vesicula Seminalis for Secondary Tubercular Disease.—By J. A. Hutchison.

A Study of One Thousand Operations for Acute Intestinal Obstruction and Gangrenous Hernia.—By C. L. Gibson.

Dislocation of the Humerus, Complicated by Fracture at or Near the Surgical Neck.—By C. B. Lyman.

Remarks on the Technique of Prostatectomy, with Report of a Case.—By Herman Mynter.

A New Method of Colpoplasty in a Case of Entire Absence of the Vagina.—By Carl Beck.

Zeitschrift f. Tuberk. u. Heilstätt., vol. i., No. 4, 1900.

The Treatment of Pulmonary Tuberculosis and Diseases of the Respiratory Passages with Organo-Toxin.—De Lannoise applies this name to an attenuated toxin obtained by keeping bouillon cultures of tubercle bacilli at a temperature of 98° to 100° F. for a period of from two to four months. Treated in this way the product is harmless when injected into men or animals, and exercises a very favorable effect on the course of tuberculous disease. After a few injections respiration becomes more free and deep, the cough and expectoration are increased, the expectoration losing its mucopurulent character, becoming first yellowish, then white, and finally disappearing entirely. Cavities already present apparently cicatrize, the temperature drops and stays down, and the digestive and renal functions are greatly improved. The rationale of this action is not entirely clear; apparently it is not the bacillus but the body cell which is acted on and made more resistant to the pathogenic agent.

The Significance of Heredity in Pulmonary Tuberculosis.—F. Reiche, basing his conclusions on statistics obtained by examination of over one thousand cases, believes that the prevalent idea that a family tendency to tuberculosis may exist, and that individuals may from birth be predisposed to this infection, is erroneous. While it is undoubtedly true that oftentimes the offspring of markedly phthisical parents is lacking in stamina and resisting-power, just as is the case in the children of those cachetic from other reasons, *e.g.*, cancer, nephritis, or cirrhosis, yet in the majority of instances the child acquires the disease, which may lie dormant for years, by direct infection from the diseased parent. This is an encouraging view, for it permits the hope that with increasing care in the prophylaxis such infections may be greatly diminished and the dread of a hereditary taint be robbed of much of its terror.

The Marriage of Phthisical Patients.—C. Gerhardt says that on the one hand it has been proposed to make the marriage of tuberculous subjects a legal offence, and on the other it has been stated that the better care, greater comfort, more regular habits, and mental quietude attending the married state more than counterbalance the dangers. He himself is of the opinion that the risks are quite as grave as usually considered, and while exceptionally favorable cases are to be found it is still the physician's duty to warn the public most emphatically of the dangers accompanying such unions. In general it should be demanded of a tuberculous individual that before matrimony he should have been perfectly healthy for at least a year.

The Educational and Legislative Control of Tuberculosis.—Charles Denison ascribes a large part of the morbidity from tuberculosis to deficient ventilation in dwellings. Owing to the rebreathing of devitalized air the lungs grow inactive, and there is gradual clogging of the out-of-the-way air cells with the products of combustion, and a damaging form of local auto-intoxication follows. Legislation should provide for each individual in a living-apartment fifteen hundred cubic feet of air space and a minimum ventilation of two thousand feet per hour per person. Courses in ventilation should be instituted in institutions of learning, and governmental commissions be appointed properly to investigate and study the subject.

Experimental Contributions to the Understanding of Tuberculous Toxæmia.—E. Maragliano, by injecting the blood of tuberculous individuals prepared in various ways and precipitates obtained from their urine into guinea-pigs and rabbits, was able to determine that (1) patients giving clinical evidence of toxæmia had in their blood (injected as such, in the form of a glycerin extract or as blood serum), and also in their urine, substances which when injected into healthy or tuberculous animals produced toxic symptoms; (2) that this intoxication resembled that produced by tuberculin; (3) that this toxic property could be neutralized by a simultaneous injection of tubercle antitoxin.

The Diagnostic Value of Koch's Tuberculin.—Albert Fraenkel says that the reaction against the use of this agent, which was the natural result when it was found that not only was it useless as a therapeutic agent but also that even as a means of diagnosis its employment was not free from danger, has gone too far, and that properly and carefully administered it gives valuable information with very little risk. A large portion of the undesirable by-effects and sequelæ attributed to the reagent are due solely to the unnecessarily large doses which it has been customary to give.

Tuberculous Gastric Ulcer in Connection with a Case Ending Fatally.—Theodor Struppler's case presented the rare picture of a tuberculous ulcer which almost entirely surrounded the pylorus and perforated, inducing a fatal secondary peritonitis. The patient was a youth aged eighteen years, who was also suffering from pulmonary tuberculosis and tuberculous enteritis. The author believes that in this case the infection was due to the swallowing of sputum containing bacilli.

How Does Infection of the Intestine Take Place? (To be concluded).—By Buttersack.

Respiratory Exercises in the Treatment of Pulmonary Tuberculosis.—By Schultzen.

Archives Générales de Médecine, September, 1900.

The Psychology of Phthisis.—Maurice Letulle believes that certain psychical and intellectual changes occur during the course of this disease. In the early stages there is a species of hyperexcitability in the mental state, a feverish desire for occupation, change, and society, followed later by mental lassitude and indolence, a veritable intellectual neurasthenia. As to the moral state of the patients, some retain their strength and beauty of character through their long illness until the end, others undergo a species of psychic irritability. Melancholy is the rule, with an indifference which is plainly shown in the facial expression. Egotism is apt to follow, tuberculosis being of all diseases the one most conducive to the "contemplation of self"—"Myself, always myself, myself alone, whatever happen." All affection and every service are accepted as a right. Jealousy is apt to be marked, rendering the lives of those who care for the patient hard in the extreme. The consumptive is impatient of every little discomfort, and unforgiving of neglect. For the treatment of these sad changes in character no amount of reasoning will have one-hundredth part of the effect that is produced by warm sunshine, the light of warm countries, flowers with their sweet perfume, a view of the sea, and beautiful scenery of all kinds.

The Diabetograph.—Under this name F. Coulon describes an instrument devised for the purpose of rapidly and automatically estimating the amount of sugar contained in the urine of diabetic patients. In consists of a glass cylinder 20 cm. in length, bell-shaped at the mouth, tapering to the other extremity where there is a stop-cock. Figures are marked along the tube. The cylinder is filled with the

urine to be analyzed, and by careful management of the stop-cock allowed to flow drop by drop into a small glass receptacle in which 2 c.c. of Fehling's solution diluted with six times its volume of distilled water has been allowed to come to the boiling-point. When the desired reaction is obtained, the number opposite the level of the urine in the tube will indicate the amount of glucose to the litre of the urine. The diabetograph is based upon the two following principles: (1) All urine which is capable of reducing an equal volume of Fehling's solution contains 5 gm. of sugar to the litre. (2) The amount of urine necessary for the reduction of Fehling's solution is in inverse proportion to the amount of sugar contained.

The Development of Typhoid Fever during the Course of Active Syphilis.—G. Etienne from a study of several cases concludes that syphilis renders more grave the prognosis of typhoid. On the other hand, typhoid may aggravate the condition of the coexistent syphilitic lesions, which may under its influence lead to dangerous complications, such as gangrene of the vulva, which occurred in one of the cases reported. Typhoid fever may perhaps cause a reawakening of syphilitic lesions.

Multiple Sclerosis. Paralysis of the Sixth and Seventh Cranial Nerves, and Both Limbs of the Right Side.—By M. Bouchaud.

A Case of Recklinghausen's Disease, or General Neurofibromatosis.—By P. Bourcy and Laiquel-Lavastine.

Experimental Researches in Regard to Reflex Amyotrophia.—By Mignot and Mally.

Anatomical Study of Tuberculosis of the Pancreas.—By E. Lefas.

Revue de Médecine, September 10, 1900.

A Case of Compression of the Superior Vena Cava.—Ch. Dopter reports the case of a man apparently in good health, in whom the following symptoms appeared: Gradual increase in size of the neck, with swelling and congestion of the face; œdema of the anterior thoracic wall, and varicosities at the base of the thorax, soon extending upward; upper limbs œdematous and cyanosed. The subjective symptoms were retrocostal and scapular pain, vertigo, attacks of suffocation, dysphagia, dysphonia, but no palpitation. Vesicular murmur was lessened in the right lung; a soft souffle was heard with both inspiration and expiration in the right bronchus; to the right of the sternum were simple beatings, synchronous with those of the heart. The *x*-rays showed an aneurism of the aorta, and the following diagnosis was made: An aneurismal ectasis of the ascending portion of the arch of the aorta and a part of the transverse portion, which by its development had compressed the superior vena cava, the right bronchus, the pneumogastric and left recurrent laryngeal nerves. Syphilis was undoubtedly the cause of the condition, and mixed treatment resulted in a partial cure.

Pneumothorax with a Valve due to Pleural Adhesions.—F. Duplant concludes a study of this form of disease by saying (1) that pleural adhesions do not prevent the production of pneumothorax. (2) The frequent formation of adhesions in tuberculous patients explains the fact that the pneumothorax occurring in the phthisical is at first partial or enclosed within septa. (3) Pneumothorax in tuberculosis with a broncho-pleural fistula usually acts like pneumothorax with a valve. (4) The existence of a membranous valve closing the orifice is altogether exceptional. (5) Treatment is scarcely ever palliative. To be curative it should be directed to the obliteration of the broncho-pleural fistula.

Premature Medullary Syphilis with Brown-Séquard's Complex of Symptoms (Hemiparaplegia with Crossed Hemianæsthesia.—By M. Brousse and Ardin-Delteil.

Hypertrophic Hepatico-Pancreatic Sclerosis with Hypersplenomegaly.—By Georges Guillain.

A Chinaman's First Ambition.—The first ambition of every Chinaman is to have a splendid coffin. A poor man will starve himself for years to buy one. It is always received with great ceremony on its arrival at the house, and is regarded as the most valuable piece of furniture in the establishment. It is kept in the place of honor. There are many strange customs connected with the funeral rites. One of these is the burning at the tomb of paper horses, idols, umbrellas, and clothes. These are supposed to be necessary or useful to the man when he gets to heaven. By being burned they undergo some material resurrection and meet him there.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PLAGUE—WAR HOSPITAL COMMISSION—MORE CONTRADICTION TO MR. BURDETT-COUTTS—CRUELTY TO BRITISH PRISONERS—REPORT OF ASYLUMS COMMITTEE—BIRMINGHAM UNIVERSITY—HUXLEY LECTURE.

London, September 24, 1900.

The progress of the plague in Glasgow has not been so reassuring to the public this week as last, but then the public is greatly influenced from day to day by variations in the figures which do not alarm those in charge of the hospitals. On Monday five fresh cases were reported—the total being twenty-two, with one doubtful. One patient has since died, making the fifth death, of which two occurred in the Belvedere Hospital and the others outside. The figures last night were twenty-one cases, one doubtful, and one hundred and five persons isolated as "contacts." One of the new cases was that of a woman who had been employed as a ward-cleaner. She had been inoculated with serum soon after the outbreak, and her attack was extremely mild; Dr. Chalmers, the medical officer of health, thinks that if more serum had been injected she would have been quite immune, but the remedy was available only in small quantity at first. Now there is an abundant supply.

It is quite clear that the disease in Glasgow is in its mildest form. The progress of the cases and the death rate both show this. In India a rate of forty per cent. is common. Here, on the highest computation, it has not exceeded half that. This is better than even Sidney—the lowest rate I call to mind, and which showed one hundred and three deaths out of three hundred and three cases.

The circumstances at Glasgow are far more favorable than they were at Oporto when plague broke out there last year. Every effort has been made to prevent the spread of the disease, and so far with considerable success, for twenty-two cases in a month and only five deaths certainly encourage the belief that the sanitary authorities are waging a successful war. Even in Glasgow, however, there may be found weak joints in her armor, but her authorities are making every effort to find them. We must not, however, forget that there is a danger of other places becoming infected. For a considerable period now the West has been threatened, and with here and there small outbreaks occurring we have frequent warnings that we are not immune to the pestilence.

Professor Muir's report on the cases shows that the bacillus pestis was found and cultures produced the disease in animals.

Glasgow has parliamentary powers permitting the prohibition of holding "wakes" over the bodies of persons dead of infectious diseases. The magistrates have first of all urged upon the Roman Catholic priests to discountenance wakes, as at one of these the outbreak occurred. The priests say watching the dead is a solemn act. No doubt it is. But one would suppose that in times of danger they might assist the authorities. The fact is, these solemn acts too often degenerate into drunken orgies.

Lord Kitchener has given evidence before the hospitals commission which further controverts Mr. Burdett-Coutts. His lordship admitted some delay in the supply of stores, but said this was inevitable owing to the rapid advance. The field hospitals he held had done their work remarkably well. He had frequently ridden with Mr. Coutts, who never once made a complaint to him. Had he done so it would have been immediately investigated. The medical staff worked tremendously hard, and the civilian doctors did excellent service.

Lord Stanley, private secretary to Lord Roberts and principal censor, denied that criticisms on the hospitals were stifled. Mr. Burdett-Coutts was given every facility until Lord Roberts thought he had had time enough to acquaint himself with the facts and should return to Cape Town. When an order was given to that effect, Mr. Coutts said if he could not have more time he would have to make a bad report. This seems very like a threat, and may well be compared to the spite of the society ladies when they were excluded from the hospitals. Mr. Coutts has now been so much contradicted that no reasonable person can place reliance on his statements. I have mentioned only a few of the more important contradictions. They suffice for the present, and we can await calmly the report of the commission for other evidence.

Another inquiry arising out of the war is that into the treatment of British prisoners by the Boers. This has now been published and shows a good deal of cruelty. Lord Roberts says "the inhuman treatment of the sick prisoners throws the greatest discredit on the authorities at Pretoria." He speaks of the efforts of Drs. P. H. Hay-

lett and R. von Gernett to ameliorate the condition of their patients as the gratifying features of the inquiry. On the other hand, he says, it "would be difficult to condemn too strongly the conduct of Dr. H. P. Veale." You will deeply regret that any doctor should have laid himself open to such a verdict from so mild a judge as Lord Roberts.

The report of the asylums committee of the County Council for the year ending March 31st shows a diminution in the number of lunatics from 21,393 in the previous year to 21,069.

The first session of the medical faculty of the new University of Birmingham will be opened on October 1st, when Professor Windle, M.D., D.Sc., will deliver an inaugural address. Dr. Windle is the dean of the medical faculty.

Lord Lister will give the Huxley lecture on October 2d.

WHY GYNÆCOLOGISTS ARE RELUCTANT TO USE ELECTRICITY.

To the Editor of the Medical Record.

Sir: I have read with much amusement Dr. Robert Newman's ingenuous article entitled "Electricity in Gynæcology, and the Present Reluctance of Gynæcologists to Use Electricity," published in the Medical Record for September 29th. I say "amusement" and "ingenuous," because the doctor surely cannot have intended his question seriously, when he asks why gynæcologists have discarded electricity in their practice. Where has my venerable friend spent the last ten years that he needs to ask this naïve question, which—after reciting at some length his own experience of many years, and stating that he "has treated successfully with electricity most of the diseases above enumerated" (his list includes the majority of pelvic diseases in the female, from abrasion of the os uteri to extrauterine pregnancy) and "has always treated his cases of fibroid tumor successfully by electricity"—he finally fails to answer, remaining content with the conclusion that "the reluctance of gynæcologists to apply electricity, or at least to recommend it, has not been explained."

If the doctor had chosen to look outside of the circuit of his batteries, and had followed the progress of gynæcology in the last ten or fifteen years, even ever so slightly, he would have found the explanation for the abandonment of electricity by gynæcologists in the fact that the recent improvements in antisepsis and in surgical technique, and their consequent better acquaintance with many pathological conditions in the female pelvis, have taught them that they can cure the majority of those conditions far more easily, rapidly, and safely by the use of the knife and its allies than by any form of electricity, how, how long, or by whom applied.

I speak as a former believer in "Electricity as a Therapeutic Agent in Gynæcology," having published my experience in a paper with the above title in the *American Journal of Obstetrics* for December, 1885 (an article of forty-one pages, which seems to have escaped Dr. Newman's observation, although it was thought worthy of translation into French by P. Menière, Spanish and Russian), and in a second, "My Recent Experience with Electricity in Gynæcology," *Journal of Obstetrics*, June, 1890; as well as in a chapter on the subject in Thomas and Mundé, 1891; and I reported one case of cure of a tubal pregnancy by the constant current (see Medical Record and *Journal of Obstetrics*, October, 1884) when the patient almost died from shock, but rallied and is still alive. But who would to-day dream of curing a tubal pregnancy, ruptured or unruptured, by electricity? Certainly no man who is able to use the knife!

And who would to-day attempt to cure chronic salpingitis, or salpingo-oöphoritis, or old intraperitoneal adhesions, or chronic uterine displacements, by electricity? I will not deny the utility of the mild galvanic current in many cases of salpingo-oöphoritis for its soothing effect, as also in neuralgic dysmenorrhœa; or that galvanism locally applied may hasten the absorption of pelvic exudates unattended by suppuration. But a cure of an inflamed tube or ovary, a disappearance of its adhesions, or of any old intraperitoneal adhesions, is a physical impossibility by electricity or any other than a surgical procedure. The author is to be congratulated on his unfailing success in the cases treated by him with electricity. Especially would I have been pleased to see the cases of prolapsus uteri, with external and irreducible uterus, in which the "high-tension current cured every case, and caused the contraction and diminished the size of the organ, so that it was reduced and pulled back to its normal place without the use even of the hand, and solely by the action of the electric current." I devoutly wish I could have that "high-tension current" at my disposal for the cases of complete prolapsus uteri et vaginæ which I laboriously and often not too successfully endeavor to cure by a series of plastic operations. It is strange that no gynæcologist seems to have confidence in the miraculous power of electricity in these old cases of complete prolapse, which are still the opprobrium of gynæcological surgery.

But Dr. Newman's chief successes have been with fibroid tumors of the uterus. He quotes ancient history in support of his position, notably my friend the late Dr. Apostoli, who certainly deserved credit for his persistence and perseverance in pushing the claims of electricity in gynæcology, but who quite as certainly was an enthusiast, a fanatic, a "crank" on the subject. He went so far as to propose to cure a large submucous polypus, presenting through the widely dilated external os, which he showed me at his clinic in 1886, by electro-puncture, and answered my inquiry why he did not remove it by the knife or scissors, as could easily be done in ten minutes, by saying, "Why, that would not be curing it by electricity." I used galvanism, with and without a milliampere, for a number of years in uterine fibroids; I employed mostly mild currents, using intravaginal and intra-uterine blunt platinum sounds and an abdominal wet clay or sponge electrode, and all the results I achieved were a temporary arrest in growth of the tumor and an amelioration of symptoms (hemorrhage or pressure) while the treatment was continued. That I do not deny, and that in my opinion constitutes the benefit to be derived in fibroids of the uterus from Apostoli's method. A cure, a complete disappearance of the tumor, I never saw. Dr. A. Lapthorne Smith, whom Dr. Newman quotes as one of his supporters, was obliged to admit that of sixty patients with uterine fibroids whom he treated with electricity, to his own certain knowledge only two had been cured of the fibroid, for the tumor was expelled from the uterus (Am. Gyn. Trans., vol. 23, 1898). In the others, the symptoms had been relieved as the tumor had diminished in size. That a fibroid of the uterus can be inflamed and made to slough by galvano-puncture is well known. I reported several such cases with ultimate cure in my paper of 1890 (*loc. cit.*). But that is a very unsafe proceeding, and hardly to be recommended.

I believe I am known to be rather conservative as regards the removal of the fibroid uterus by abdominal section, for the reason that I do not think that the symptoms in a very large proportion of fibroids justify the risks necessarily and inevitably attending every such operation. Hence electricity would be to me a veritable boon in the treatment of such tumors, even if only to relieve the symptoms and arrest the growth. But I have of late years almost entirely discarded it, because it is too troublesome, complicated, and principally because it is too uncertain.

I have a galvanic and a faradic battery in my office, and occasionally employ them, mostly for scanty or irregular menstruation from ovarian inertia, as occurs often in anæmic or in obese, flabby women. And I consider intrauterine faradization as the method *per se* in stimulating the uterus and ovaries to increased growth and activity in amenorrhœa and sterility. But much as I esteem electricity as a therapeutic agent in nervous affections, muscular atrophy, general nervous prostration, neuroses, neuralgias of various kinds, etc., in fact, in diseases which are outside of my domain, and of which I pretend to know little, quite as much do I regret to be compelled to consider electricity a failure in gynæcology, with the above-mentioned exceptions, as compared with our present improved surgical methods for treating the majority of the affections which come under the observation of gynæcologists. I do not think, intelligently and moderately used, that it can do much harm, for instance, produce intraperitoneal adhesions as Dr. Newman quotes to have been asserted. But I do not think it does as much good as the length of treatment, its expense, and the trouble incurred should lead us to expect.

Evidently the electrotherapeutist feels differently on the subject; and that is but natural, since electricity is his special line of practice. It does not seem quite fair to intimate, as Dr. Newman substantially does, that only the cases which are surgically or otherwise incurable are referred to the electro-therapeutist, as he claims has been done in hospitals; and the method is then blamed for the failure. Surely no member of a hospital staff can be forced to treat patients referred to him by a certain method, when he knows that they are not suitable cases for that treatment.

To include the galvano-cautery under the head of therapeutic electricity, as Dr. Newman does, is incorrect, since it is the hot knife or wire which produces the therapeutic effect, not the electricity which does the heating. No one denies the utility of galvano-cautery, any more than of the Paquelin thermo-cautery, when indicated.

An explanation for the decline of electricity as a therapeutic agent in gynæcology, which I have heard hinted by electro-therapeutists, is that the gynæcologist does not know how to use electricity so as to benefit his patients. That may be true, although those of us who have used

electricity have tried faithfully and perseveringly to familiarize ourselves with the details of the batteries, currents, and instruments before using them. But that insinuation might be answered with equal justice by another, namely, that the electro-therapeutist, not being an expert gynæcologist, might fail to make a correct diagnosis of the case, both before and after his treatment, and that therefore his so-called "cures" were open to doubt, even though he might be perfectly honest in his statements.

When Dr. Newman, therefore, says, "Basing my conclusion on my own experience and on reports contained in the literature on the subject, I may say that we obtain better results from treatment by electricity than by other means," I am compelled, from my experience, to contradict him, and to question the correctness of his observations. As he himself says, "An investigation for facts and truth may not be pleasant, and it is not my desire to elicit unpleasantness; hence let us cover with professional love all differences."

However this may be, I wish I could conscientiously feel the confidence in electricity which I did when I published my papers fifteen and ten years ago. But the last ten years have wrought a great change in gynæcological practice, and where formerly tampons, applications, pessaries, and electricity were employed, to the exhaustion of patient and physician, now otherwise incurable diseases of the uterus and appendages, displacements, ectopic gestations, ruptured and unruptured (hæmatoma and hæmatocele), pelvic abscesses, etc., are rapidly and safely treated by surgical methods. That is why electricity is no longer used by gynæcologists.

PAUL F. MUNDÉ.

20 WEST FORTY-FIFTH STREET.

LETTER FROM PERU.

(From our Special Correspondent.)

VACCINATION—PREVAILING DISEASES—VITILIGO.

AREQUIPA, PERU, August 20, 1900.

WE are at present passing through our annual influenza epidemic. We have also smallpox, but that comes only every three or four years. Vaccination is gratuitous, municipal, but not compulsory. If all do not take advantage of it, it is not owing to any theoretical ideas or conscientious scruples, but to the dilatory "to-morrow" way of doing things. Sometimes, however, children, among the lower class, are not vaccinated owing to certain "astrological" ideas—a child born in a leap year or year in which there is a solar eclipse does not require vaccination, being already protected. How such ideas originated I cannot make out, and how they still exist in spite of constant proofs to the contrary is one of those mysteries appertaining to most superstitions. When I was a younger man—at the age when one knows everything with certainty—I had no doubt that vaccination should be compulsory. Now I am not so sure about it; at least, it is not the profession who should insist upon compulsory vaccination. Let the public demand it if they like.

When a man comes to me and asks "Should I have my children vaccinated?" I say, "Yes, and you also should be revaccinated." I have then more than fulfilled my duty. I am not going to seize, or get the law to seize, him and his children, and vaccinate them by force. I might with equal (or more) justice have a law passed that any one with a strangulated hernia, if irreducible, should be compelled to submit to operation. Appendicitis, glaucoma—where shall we draw the line?

I think there are two reasons (?) at the root of the resistance to forcible vaccination. First, human (especially Anglo-Saxon) nature, when ordered to do a thing, feels inclined to resist; secondly, with many there is the idea that the physicians wish compulsory vaccination so that they may be paid for it; they do not realize that if there be no vaccination the physicians will be largely the gainers. The doctors will take good care that they and their households will not get smallpox. In this respect smallpox differs from other infectious diseases or diseases bred or promoted by filthy soil, air, water, or overcrowding. These may be contracted from no fault or neglect on one's own part, but from one's neighbors' faults, and therefore it is that in these cases a central authority is required who will make all obey. It may interest some of your readers to know what diseases we have here and what do not trouble us. I give my impressions gathered during more than thirty-five years' residence. Statistics I do not give, as there are none that can be relied upon. Measles, whooping-cough, and typhus come every three or four years. As there is free traffic in contagion, they go through most of the available material in the population. Scarlet fever has not visited us. Typhoid fever is rare. Diphtheria (and croup) did not exist when I first arrived, but during the last twenty years there have been sporadic cases, at other times epidemics, particularly in some rural districts. Scrofulous necks or joints are not common. External aneurisms are very rare; the contrary is, I am told, the case in Valparaiso.

Dysentery and hepatic abscesses are rather common, as compared with Europe, but less since we changed our water supply from river to spring, a work executed by our present President. Cholera never has appeared. Yellow-fever cases have been brought here from the coast, but infection has never taken place, even though the cases were brought in the summer when the temperature does not go to 0° C. Pneumonia is at times epidemic and seems to be more fatal (case mortality) than at or near coast level. In Cuylloma, about sixteen thousand feet above sea level and twice the height of Arequipa, it seems to be even more deadly. I should like to hear the experience of some of my Californian colleagues who practise about these altitudes as to the fatality of pneumonia.

Phthisis is not common, but has, I think, become more frequent during the last twenty years, as we have easier communication—rail—with the coast, and so more patients suffering from this disease are sent here and doubtless communicate the disease to some who otherwise would have escaped. Of tubercular leprosy I have seen one case—a young negro from a coast valley.

As to hydrophobia, I have known of four cases, each separated from the others by intervals of years.

Of malaria, there are no cases here, but many cases come from the neighboring valleys. It must be remembered that Arequipa is the medical centre of a district extending toward the coast a hundred miles and more laterally, and toward the interior much more.

In some of the valleys there is a disease comparatively common, but rare here, viz., vitiligo. In Europe, Canada, and the Northern States I fancy it is a rare disease. Is it common in the Southern States? When I was a clinical clerk in the Edinburgh Royal Infirmary, I do not remember having ever seen a case in the skin ward. Most of the cases here come from the valley or have originated there, but I have seen cases here in youths and adults who had never been in the valleys. It is a general belief here that the disease is given to a person, by an enemy, in food or drink; some asserting that the substance which causes it is toad's excrement. I need hardly remark that any proof of the above is wanting. The patient is looked upon askance, people even avoiding taking his hand from fear of contagion, and often he is called "leprous," this term being loosely applied to many skin diseases. The surface attacked varies in extent from a few small patches to half or more of the body surface. I have seen an almost pure negress, aged forty-five years, whose abdomen and thorax were more white than those of a Caucasian. I cannot say how much more of her surface was affected, as I came upon it when examining her abdomen for a uterine fibroid and did not extend my surface examination farther. No connection seems to exist between the affection and the general health; often the patients are otherwise perfectly healthy and attain to a fair age. I cannot say that I have ever cured a patient, but in a very few cases I have seen a limited eruption disappear spontaneously after some months. There are some natives who pretend to be able to cure it. Some of the so-called cases of cure I have seen; they were not satisfactory, in the best of their cases what was left was superficial matrix from a destruction of the skin. They seem to use sometimes vegetable, sometimes metallic (mercurial) irritants roughly rubbed in. I have latterly been trying on small patches repeated sinapisms with some apparent effect—a diminution of the extreme whiteness of the patch and of the darkness of the surrounding border.

LIGAMENTOPAXIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your issue of October 6th publishes a description of my method of operation of "ligamentopaxis," or "round ligament ventrosuspension of the uterus," by Dr. D. Tod Gilliam, of Columbus, Ohio, which gives the details of the operation but does not mention my name.

My method was first published and illustrated in the *Centralblatt für Chirurgie*, August 21, 1897. It was also reported by Dr. C. A. von Ramdohr before the New York Obstetrical Society in the same year, and was made a graduation thesis at the University of Paris under the auspices of Poirier, Berger, Guyon, and Albarran. Garrigues' "Diseases of Women" also contains it, and the *American Journal of Obstetrics and Diseases of Women and Children*, vol. xlii., No. 8, 1900, gives a description of the original operation and some of its modifications.

I must assume that these facts were unknown to Dr. Gilliam, and that he will correct his description accordingly. Very respectfully yours,

CARL BECK, M.D.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 24, 1900.

GEORGE B. FOWLER, M.D., PRESIDENT.

In Memoriam: Dr. Landon Carter Gray.—DR. WILLIAM B. PRITCHARD delivered this address. He said that Dr. Gray counted on both sides a long line of distinguished ancestors. His boyhood had been spent at his father's home on Staten Island. He had graduated from Bellevue in 1873, and had begun practice in this city. In a year or two he had moved to Brooklyn, and had there developed his aptitude for the study of diseases of the nervous system. In 1890 he had been in the full vigor of health, though handicapped by an overcultured mentality. Following a third attack of la grippe in 1894 he had developed pneumonia and certain marked circulatory changes. A fourth attack of la grippe led to an endocarditis, and from that time on his health had steadily failed. He was fully cognizant of his condition, but rather than prolong his life by retirement and inactivity he deliberately and courageously chose to die in the harness. In no other sphere did Dr. Gray attain a more deserved distinction than in medico-legal work. A distinguished jurist characterized him as the model of what a medical expert witness should be. He was a type of the loyal friend and the generous foe. To him a cardinal crime was ingratitude. He was an intellectual gladiator, and the atmosphere of the intellectual arena was to him as sweet incense. He was bold to audacity; his sense of humor was keen; his ability as a teacher was striking. He possessed in a remarkable degree the faculty of organization. Of those who stood highest here in his special field today there was not one who did not bear tribute to his memory.

Demonstration of New Intravesical Instruments and Photographs.—DR. F. BIERHOFF gave this demonstration, all of the instruments being modifications of those devised by others. One of the instruments was an improved Civiale's meatotome. It was provided with a scale, a set-screw, and an indicator, so that the exact size of the meatus could be accurately gauged. A second instrument was a forceps for removing foreign bodies from the bladder. The next instrument shown was a modification of Nitze's lithotrite and foreign-body forceps. In using the original he had found that because the posterior jaw moved toward the inside of the bladder and covered the prism it was exceedingly difficult to seize and hold the foreign body. The improvement consisted in having the posterior jaw fixed and the posterior shaft fenestrated. The operator, while looking through the fenestra, could then readily seize the foreign body. Still another instrument was a cystoscopic intraprostatic incisor. It consisted of two parts—one, the cystoscope; the other, the incisor. With this instrument it was entirely feasible to select accurately the part of the prostate to be incised, and then, by rotating the instrument, to make the incision at this point. By a graduated milled head the length of the incision could be regulated to a nicety. The instrument was the joint invention of Dr. A. Freudenberg, of Berlin, and Dr. Bierhoff, and it was designed to do away with the objection that the Bottini operation had hitherto been done entirely in the dark.

A series of interesting intravesical photographs were then projected on the screen and explained.

DR. WILLIAM K. OTIS said that he had been interested in intravesical photography for the past three or four years, and hoped soon to present an instrument which could be used for such photography with ordinary plates and cystoscopes. The electric light, being always a yellow light, made it difficult to get good pictures on ordinary plates, and for the same reason yellow screens had not proved advantageous. According to his experience, a good photograph could rarely be secured with a shorter exposure than twenty seconds. The larger the cystoscope used the better. He now employed one having a circumference of 26 to 30 mm. Small telescopes gave a fairly large field, but one which is poorly illuminated. The speaker congratulated Dr. Bierhoff on his photographs, but remarked that it was asking almost too much of intravesical photography to require that these small photographs be greatly magnified and projected upon a screen. Such treatment would render even the best of such photographs almost unintelligible.

DR. H. N. VINEBERG spoke in favor of Kelly's method of cystoscopy in the female in preference to the use of the instruments of Nitze and Caspar. The Kelly instrument possessed all of the advantages and none of the disadvantages of the other instruments. He would like to ask what method was employed in removing the hair-pin from the bladder in one of the cases described. In a case of this kind coming under his own observation he had succeeded in doing this by sharply bending the foreign body before extracting it.

DR. BIERHOFF, in closing, said that he had had made in Berlin a special photographic plate, which was particularly sensitive to yellow light. This plate was circular, for use with the Nitze cystoscope. By using improved electric lamps, capable of giving a fairly white light, he had been able to get photographs of the interior of the bladder with exposures varying from five to twelve seconds. Nitze claimed to have succeeded with exposures of only three seconds, but he had used extremely powerful lamps, the use of which had been known to cause serious burns and hemorrhage. In the case of hair-pin in the bladder, the pin had been removed by rapid dilatation of the urethra under anæsthesia, followed by withdrawal of the foreign body through a large urethral speculum.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 5, 1900.

WILLIAM H. THOMSON, M.D., PRESIDENT.

Artificial Infant Feeding. Complete Report Written for the Children's Section of the Thirteenth Medical Congress.—DR. A. JACOBI presented this report. He said there were certain experiments going to show that the casein was not identical in the milk of different animals. Cow's milk contained twice as much phosphorus as did breast milk, but in the form of inorganic compounds. This fact might perhaps explain the greater tendency to rachitis in children fed on cow's milk than among those artificially fed. In his opinion, the chief advance in infant feeding had been in the more general adoption of the custom of heating the milk and the various substances mixed with it before giving it to the infant. As long as there was danger of infection of the milk with typhoid, scarlatina, tuberculosis, and similar diseases, just so long must milk be subjected to pasteurization or sterilization. For the purpose of infant feeding it was of the greatest importance that lactic-acid fermentation should be interrupted or prevented. By pasteurization all of the lactic-acid germs were not destroyed, and if there was present only one-fifth of one per cent.

of lactic acid, the milk could not be pasteurized. Perhaps it was because Dr. Koplik did not usually obtain milk in this city until sufficient time had elapsed to permit of a certain amount of lactic-acid fermentation that he was led to speak so strongly against pasteurization and in favor of sterilized milk for infants. One should not depend upon milk pasteurized or sterilized on a large scale by dairymen, for it was impossible to guarantee such an article of commerce, and there might be no alteration perceptible in the taste and smell to indicate that the milk was a dangerous article of food. The only safe way was for the milk to be sterilized or pasteurized at home daily. Last year, in the *Journal of Experimental Medicine*, Theobald Smith had called attention to the fact that by heating milk to only 140° F. tubercle bacilli were killed on an average in from five to ten minutes. In order to secure this result, however, it was necessary to prevent the formation of the membrane or "skin" on the milk by constant stirring during the heating-process. Regarding the interesting question of the modification of milk, the speaker quoted Professor Rotch as saying that the chief object should be to learn how to prescribe milk with exactitude, and then he went on to show how inconsistent it was to insist upon such exactitude in prescribing milk for infants when mother's milk, which should be our model, varied greatly in composition, not only in different individuals but in the same person at different times. The great point to remember was that in artificial feeding no routine mixture would suit any large number of cases. A certain abuse had already crept into this practice of depending on laboratory milk, for it was not uncommon for nurses to go to the laboratory and ask for a milk, and receive in response to this request a milk modified by the "bar maid" in charge in accordance with a certain printed schedule giving what a child of a certain age or size should take. Dr. Jacobi said he had known flies and cockroaches to be found in the milk coming from the laboratory, and the fact that they had been pasteurized or sterilized did not make them any the less objectionable additions to an infant's food. Another important and practical objection to laboratory milk was its great expense; it would often take the whole of a workingman's income to pay for such milk for one infant. A goodly part of the milk sugar in mother's milk had been found to be eliminated unchanged. A milk mixture containing twenty-five per cent. of milk had sufficient milk sugar in it to insure lactic-acid fermentation. It was well known that in healthy infants a large quantity of fat was eliminated from the system in the fæces, and hence he did not think it rational, under ordinary circumstances, to add cream to milk in preparing the latter for infant feeding. Moreover, the fat in cow's milk was different from that of breast milk; the emulsion was not so fine, and there was less oleic acid. His own experience in the feeding of infants had led him to reduce rather than to increase the proportion of fat for infants, and under this practice he saw no acid or fat diarrhœas. While some infants seemed to thrive on almost anything, this did not vitiate the general rule, that milk should be diluted for infants. This was particularly necessary if the infant was sick. In infantile atrophy the milk should be diluted and also reduced in quantity. Nurses and mothers often forgot that the child might cry because of thirst as well as of hunger, and that they should frequently offer it water. It had been objected that this practice led to dilatation of the stomach; but as he had never seen a case of dilatation from this cause he could not but feel that this objection was purely theoretical. In diluting milk it should be remembered that the mere addition of water would cause the formation of rather tough curds. He had always preferred to use cereal decoctions for this purpose, chiefly barley and oatmeal. He recommended that one tablespoonful be placed in one quart of water and boiled down to half a quart, and then used to dilute the infant's milk to the desired degree. Regarding the question of whether young infants could digest starch, he said that experiments had been made which showed conclusively that the saliva from the parotid of the newly born infant exerted an active diastasic influence on starch.

Dr. Henry Koplik said that the secret of infant feeding was to study each case. In doing so, it would be found that all of the recognized methods of feeding would prove useful at times. After all, the great essential was a fresh and clean milk. Sometimes everything would go along well if the cow's milk were simply diluted with a cereal; at other times this would not be sufficient, and it might be necessary to add malt—a diastase. When this was done some sick children would immediately improve, and after a time could then be put back upon the very mixture which had originally given trouble. The explanation of this was probably to be found in the fact that the physician had to deal with a sick infant and an unhealthy bowel. Scurvy was not so much the result of a particular food as of processes going on in the gut. It was seen in breast-fed infants, as well as in those fed artificially on raw milk or on milk that had been pasteurized or sterilized. He looked upon scurvy as a true toxæmia, and sterilization as only one of several causes of scurvy. In spite of the fact that pasteurized or sterilized milk was used all over this country, the American Pediatric Society had been able to find only four hundred cases of scurvy. Surely it was far better to have even this small percentage of cases of curable scurvy rather than hundreds of thousands of desperate cases of gastro-enteritis.

Dr. Henry D. Chapin said that in New York City the milk supply had improved very much in the past few years, and he believed it was in the power of the medical profession to secure still greater advance along this line. He had recently made an extensive study of the milk supply, and had been surprised to find how good it was on the whole. The most important defect noted was a lack of cleanliness. The butter fat ranged from 3.5 to five per cent. and the lactic acid about 1.15 per cent. It was perfectly well known at the present day how milk should be handled, and this being the case it was only a question of education and of money. He believed the prescribing of milk in percentages had been carried to an extreme. The proteids were calculated in the laboratory on an assumed ratio to the fats, and hence it was absurd to prescribe small fractions of percentages of proteids under these circumstances. He agreed with what Dr. Jacobi had said about the advantages of using cereals as diluents, but he also believed that there was a decided gain from the use of dextrinized gruels.

Dr. Walter Lester Carr took the same position regarding the way physicians had been misled by placing too much dependence on the printed tables supposed to represent the composition of milk. The disposition was to forget that at the bedside one was called upon to face conditions quite different from those which obtained in the laboratory.

Dr. A. Caillé sent a communication in which he expressed the belief that the most serious and common mistake in connection with infant feeding was to pin one's faith on certain routine mixtures—in other words, the physician's motto should be "individualize treatment."

Anthrax.—Excise well outside the areola surrounding the eschar. The best substitute for the knife is the actual cautery.—Warren, *Surgical Pathology and Therapeutics.*

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

Tenth Annual Meeting, Held in New York, September 25, 26, and 27, 1900.

WALTER H. WHITE, M.D., OF BOSTON, PRESIDENT.

First Day—Tuesday, September 25th.

THE meeting was called to order in the New York Academy of Medicine by the president, Dr. Walter H. White, of Boston, and the address of welcome was delivered by the acting mayor, Hon. Randolph Guggenheimer. Dr. Charles R. Dickson, of Toronto, responded to Mr. Guggenheimer. Other addresses were delivered by Dr. Louis Faugères Bishop, secretary of the Academy of Medicine, and by the Rev. Newman Lawrence.

Report of the Committee on Electrodes.—DR. CHARLES R. DICKSON, of Toronto, chairman of this committee, presented the report, and in connection therewith exhibited various electrodes. Several of those shown were made of aluminum, at the recommendation of Dr. Walter H. White, and were intended for use with the static current. One of these was a disc, three and three-fourths inches in diameter, having on its circumference twelve large rivet-heads, and provided with a handle thirteen inches long. Another, a multiple-point electrode, was made of a disc, as in the first instrument, but instead of the rivets were seven long steel points. Standard connections for electrical apparatus were exhibited, and their formal adoption by the association was recommended.

MR. R. G. BROWN, another member of the committee, presented his perforated flat electrode, made both in brass and aluminum. His plug connection was again shown, and its advantages were emphasized. He said that it had been found that aluminum was acted upon by the salt water often used to moisten electrodes. Mention was made of the use of amadou, or punk. Pads were made of this material, and were then covered on both sides with linen and carefully quilted. Made in this way they constituted excellent electrodes. He advised the use of the ordinary tinsel connecting-cords covered with small rubber tubing. This gave perfect insulation, and insured greater cleanliness and durability. In connection with bipolar electrodes it was recommended that, as a matter of uniformity, the marked terminal at the rear of the instrument should always correspond with the distal metallic portion of the electrode. The connections should be made by means of a plug and "split tube," and the electrode was preferably constructed so that it could be separated and disinfected.

The association adopted the report, including its recommendations concerning electrodes of standard size and construction.

DR. G. BETTON MASSEY, of Philadelphia, criticised the seven-point multiple electrode, contending that this number of points was altogether insufficient if one desired to guard completely against the passage of sparks. For some time he had obviated this danger by making a rosette of the metallic thread used in making tinsel cloth. A whole spoolful of this thread was wound around the fingers and then cut, thus giving a rosette made up of a very large number of fine and soft metallic points. If the patient should accidentally come in contact with this rosette, he would not be injured as he would if the electrode were made up of large, stout, steel points.

DR. R. J. NUNN, of Savannah, said that while undoubtedly tin was a valuable material for electrodes, it could be used to advantage only with currents of high voltage and low amperage, because other currents oxidized it very rapidly. He preferred thin annealed copper, which possessed the advantages without the disadvantages of block tin. Aluminum also oxidized rapidly and became brittle—a fact of which any one could readily convince himself by attempting to wear an aluminum corset during the hot months.

DR. WALTER H. WHITE, of Boston, in defence of his electrodes, said that they had been modelled after those by the French, and were intended to be used only with the French method. He had used the multiple-point electrode for five or six years, and had never known it to produce sparking. He had used with a great deal of satisfaction a mitten electrode made out of a tinsel cloth known to the trade as "armor cloth."

DR. MASSEY explained that what he had said about the multiple-point electrode used by Dr. White would not apply to the French method.

DR. FREDERICK H. MORSE, of Melrose, Mass., said that he had found that electrodes made out of ordinary asbestos cloth, such as plumbers used, were cleanly and inexpensive. They could be boiled or baked.

Electro-Therapeutic Sins.—REV. NEWMAN LAWRENCE, of Stapleton, Staten Island, read a paper with this title. He said that one of the most common of electro-therapeutic sins was the practice of this form of therapeutics by physicians who understood ordinary medicinal therapeutics, but were almost completely ignorant of electrical laws. This sin was almost on a par with that of the electrician who essayed to treat disease without having had any instruction in therapeutics. The author pointed out, by reference to well-known physical laws, the utterly fraudulent nature of those so-called electro-magnetic body appliances, which consisted of a number of small magnets and conductors which did not change their position with reference to one another. He said that he had repeatedly tested certain electric belts dependent for their action upon the moisture of the body, and he pointed out that as all of the metal plates were excited by the moisture of the body, and they could not be divided up into cells, the increase in the number of plates used in such belts simply converted the arrangement into one large plate. The concluding portion of his paper was devoted to a consideration of the all too common practice, especially prevalent among clergymen, to give testimonials about things which were not at all understood by the person thus so extravagantly singing their praises.

The paper was enthusiastically received, not only because of its impartial presentation of the subject, but because of the manly arraignment of the testimonial evil. A committee was appointed to endeavor to secure its wide publication, especially in the lay journals, where it would do much more good than in those intended exclusively for the eyes of physicians.

Discussion: Electricity in Tuberculosis and Present Modes of Treatment.—The following topics were considered:

Etiology of Tuberculosis; its Course and Termination.—DR. S. A. KNOPF, of New York, opened the discussion with this paper. He divided the etiology of tuberculosis into two parts—the sources of infection, and the causes which permitted the disease process to gain a foothold in the human economy. Undoubtedly, he said, the chief source of infection was indiscriminate expectoration. "Drop infection" or the transmission of the disease by the transportation of particles occurred, but it was comparatively rare, as it required close proximity to the diseased person. The source of infection next in importance was bovine tuberculosis. Only by uniform State laws or by Federal legislation could bovine tuberculosis be controlled. Almost all other countries had a ministry of public health, and the advantages of such a department in our national government were obvious. Tu-

berculosis might be disseminated by kissing. Tubercle bacilli had been found in cigars made by hand, owing to the saliva used to cause the final coating of the cigars to adhere. The nurses and friends of tuberculous patients were exposed to infection with the disease by inoculation. This was particularly apt to occur when they were washing out vessels soiled with tuberculous sputum. Auto-infection might arise in a tuberculous patient from a wound. Ordinarily the inhalation of air laden with tubercle bacilli did not give rise to the disease, as the epithelial cells of the upper air passages opposed the entrance of the germs, and the nasal mucus was inimical to their growth. Anything which lowered the vital resistance favored infection. The speaker declared that tuberculosis was eminently a curable disease, its natural tendency being to fibrous transformation. His belief was that in the majority of cases a fatal termination was the result of mixed infection and an intense toxæmia.

The Modern Treatment of Pulmonary Tuberculosis.—Dr. M. J. Brooks, of Stamford, Conn., read this paper (see page 563).

Electric Light as a Therapeutic Agent.—Dr. Charles O. Files, of Portland, Me., in presenting this contribution, stated that it was a recognized fact that the bacilli were destroyed by free exposure to light; hence the effort to combat the disease by exposure not only to the electric light, but to the ozone that was incidentally generated. The treatment was best carried out in an arc-light cabinet. In every case of tuberculosis that he had treated by the electric light improvement had been apparent, but it should be noted that none of these cases was in the later stages of the disease.

Electric Light; its Physiological Action and Therapeutic Value in Tuberculosis of the Throat and Lungs.—Dr. Wolff Freudenthal, of New York, presented this communication (will appear in a future issue).

Report of the Practical Value of Grotte's Method and of Others who Advertise Cures.—Dr. Egbert Le Fevre, of New York, presented this paper. He said that one year ago this method of treatment had been tried experimentally in St. Luke's Hospital, New York City. Both in-patients and out-patients were selected, and careful records were kept, including notes of the local and general physical condition, the number of tubercle bacilli, and the toxicity of these bacilli. The treatment was kept up continuously for three months. A number of cases in the first stage of pulmonary tuberculosis were treated by this method, and in none was a cure effected; moreover, the local process was not modified, the physical signs did not abate, and in two of the cases there was a distinct aggravation of the local signs after two weeks, so that the treatment was soon discontinued in these instances. In another case there was no effect on the physical signs, but the tubercle bacilli increased, and their vitality was unimpaired. Three of the cases at first showed some improvement, but no more than had been previously observed in these same individuals during their stay in the hospital under the same hygienic and dietetic treatment. A case of glandular tuberculosis did very badly under this electrical treatment; the external application of iodine, together with the electricity, causing violent irritation, and finally necessitating a surgical operation. In this patient, with the breaking down of the glands there was rapid softening of the lung, and the disease then ran a very rapid course. Cases in the so-called second stage — *i.e.*, when there was beginning softening — were not improved by the electrical treatment, there being no perceptible effect on the bacilli or on the septic infection. In the advanced cases the treatment apparently did harm. In one case which had been in the wards for eighteen months, and in which the process had been apparently arrested for a considerable time, there was a rapid breaking down of the lungs after six weeks of the treatment, and the patient died four months after the treatment had been discontinued. Regarding the Grotte method, Dr. Le Fevre said that in the three months' trial just described a static machine had been used in connection with the apparatus invented by M. Grotte. In this machine there was supposed to be formalin, and his claim was that it was acted on by the electric current and by the latter carried into the patient. The patient was put on an insulated stool, and a towel wrung out of a mild solution of formalin was spread upon the chest, and the current then passed. A solution of iodine in spirits of camphor was also painted over the portions of the chest corresponding to the diseased areas of the lung. It was worthy of note that the pathologist of the hospital could not detect any iodine in the patient's secretions in spite of the claims of the inventor that it was carried into the system by cataphoresis.

The Treatment of Tuberculosis by Means of Transfusion of Antiseptics by Means of Static Currents of High and Low Tension.—Dr. J. L. Hatch, of New York, said that since last winter he had constantly seen some of Grotte's patients, and the results of the treatment in them, as well as in some of his own cases, had surprised and pleased him.

Dr. G. Betton Massey, of Philadelphia, opened the general discussion by describing his method of treating tuberculous glands of the neck. An opening was made into the gland large enough to admit a gold electrode not much larger than a hypodermic needle. This electrode was amalgamated at its tip, and through it a globule was injected. An electric current of from three to ten milliamperes was used, and by electrolysis the tissues were asepticized by the formation of the oxychloride of mercury. Cases were cited to prove the good effect of this treatment, and the speaker urged that this method be employed for the purpose of destroying the tubercle bacilli in cases of local tuberculosis in almost any part of the body except possibly the cranium, thorax, and abdomen. He believed it to be both a quick and an efficient method of improving the local and general condition.

Dr. Robert Reyburn, of Washington, D. C., said it was not at all essential to use a gold needle, as he had successfully conducted a similar method of treatment, using an iron needle. He was of the opinion that it was much better to operate without making an opening into the skin, as the latter would needlessly open up a possible channel of infection.

Dr. William J. Morton, of New York, said that Dr. Massey deserved credit for adding mercury to the list of substances that were serviceable in carrying out that useful method of treatment introduced by Gautier under the name of metallic electrolysis. At one time he had been an enthusiastic advocate of metallic electrolysis, but had sobered down somewhat after making some experiments to determine the extent to which the various metals used as electrodes could be driven into the tissues by the electric current. He had never been able to make this diffusion extend farther than one-fourth of an inch, and even to do this it had been necessary to use a stronger current than was desirable. Regarding the Grotte treatment of consumption, Dr. Morton said that he had visited St. Luke's Hospital with a view of learning by personal inspection something regarding this method. He had seen on one side of the room an excellent static machine of American manufacture, and on the opposite side a cumbersome French machine having ebonite plates. He could vouch for the vigor with which the electricity was applied, for the sparks were flying freely, but, to his surprise, on testing the French machine, which he

was informed was the one depended upon almost entirely for the essential part of the treatment—the cataphoresis—he could secure from it no sparks whatever. This observation had very naturally aroused his suspicions, and he hoped the association would appoint a committee, and instruct it to search for definite proof that formalin vapor, or any similar substance, could be made to enter the human system by the aid of electricity. Its effect on disease could then be determined by physicians at the bedside. He wished to be perfectly fair to all concerned, and for that reason the committee should inquire carefully into the electro-physics of the Grotte method. M. Grotte should prove that iodine, or the products of formaldehyde, could be really introduced into the healthy human system in this way.

Dr. Le Fevre, in closing the discussion, said that when the pathologist of St. Luke's Hospital had reported that he had been unable to prove that either the formalin or the iodine had been introduced into the patient's system, M. Grotte objected to the person carrying out the investigation, on the ground that he was incompetent. Grotte's own chemist was then allowed to conduct an investigation, but he too failed to prove that any medicinal substance had been introduced into the system by the treatment. The treatment had been abandoned because apparently useless and because the claims of its inventor had not been substantiated. It was hardly necessary to add that the physicians of the hospital had conducted this investigation with all sincerity and in an impartial and scientific spirit.

A committee, consisting of Drs. William J. Morton, Robert Newman, and Emil Heuel, of New York City, was then appointed to investigate the electro-physics of the Grotte method.

A Plea for the Better Application of Electricity in Diseases.—Dr. J. Griffith Davis, of New York, in this paper cited various cases to illustrate the importance of studying well the mode of application of electricity best suited to the individual patient.

Some New Appliances for X-Ray Work.—Mr. E. W. Caldwell, E.E., of New York, made this exhibit. The first appliance shown was an improved stand and holder for the *x*-ray tube. The latter, instead of being held with a screw-clamp rigidly—a method fraught with danger to the tube—was securely held in a forked piece of wood by easily graduated pressure made by a band and a small coil spring. A most interesting and ingenious device was a wooden shelf or adjustable table for supporting the arm firmly, no matter what its position. This rest was supported on a ball-and-socket joint, and by means of two or three simple attachments the arm, forearm, and hand could be prevented from twitching or trembling, and the photographic plate could be readily placed parallel to the condyles. Considerable difficulty was often experienced in obtaining good *x*-ray photographs of the pelvic and hip joint. To facilitate getting the two limbs parallel to each other and to the plate, each limb was strapped to a small wooden table, and the latter were joined by levers in such a way that when the injured limb was put in the desired position and clamped, the well limb would be parallel to the injured one. The speaker said that in taking *x*-ray photographs the plate was often injured by the moisture of the person's body. The best and cleanest way of preventing this was by interposing a thin sheet of celluloid, such as could be procured at artists' supply stores. This material was clean and waterproof, and was very transparent to the *x*-ray.

Dr. Charles O. Files, of Portland, Me., asked if it were possible in most cases to secure a good picture of the head of the femur. He had tried this a good many times, and with indifferent results when there was much adipose tissue. He was under the impression that one could not get a good picture of the head of the femur under such circumstances.

Mr. Caldwell replied that it was always difficult to get such a picture, even with a young and lean subject, but in the majority of cases it was possible to get one sufficiently good to show whether there was present a fracture or any extensive necrosis of the head of the femur or of the acetabulum. With a fleshy subject having small bones it was decidedly difficult. The best picture of this kind that he had made had been of a man weighing one hundred and fifty pounds, and this had required an exposure of six minutes. The longest exposure which he used in such cases was fifteen minutes, though with children one minute would often suffice. In most of his work the *x*-ray tube had been excited with the coil, and he preferred this to the static machine, as he found that he could obtain certain results with the coil that he could not with the static machine. He would admit, however, that some of the most beautiful radiographs that he had seen had been made with the static machine. For the extremities the static machine was excellent, and perhaps gave rather better definition than the coil, but for the hip joint he personally preferred the coil.

Combined Electrization or Galvano-Faradization.—Dr. A. D. Rockwell, of New York, read a paper with this title. He said that by the term galvano-faradization was meant the simultaneous application with the same electrodes of the galvanic and faradic currents. He believed that the contractile fibre cells were more powerfully excited by the interrupted or high-frequency currents, and that there was greater stimulation of waste and repair than when the galvanic current alone was used. It had always seemed to him that the combination of these currents was as rational as the combination of our medicines in prescriptions. His experience had fully confirmed this view. The faradic current alone had very little effect on osmosis; the galvanic current, on the other hand, stimulated osmotic action to a great degree. This was still more marked by combining the two currents. When this was done, heat production was also increased. The physiological action of electricity was shown chiefly through its influence on secretion, excretion, and absorption. All forms of electricity would relieve certain painful conditions, one succeeding when the others failed, and *vice versa*. Parts sensitive to pressure, barring the hyperæsthesia of hysteria, were, as a rule, more favorably affected by the galvanic than by the faradic current. The same relief from pain was often not observed from these currents when combined. The use of the combined currents was especially valuable in the treatment of spasmodic conditions, particularly local ones. The symptoms of exophthalmic goitre were more readily controlled by the combined than by the simple electrization.

Dr. G. Betton Massey said that the galvanic and faradic batteries could be easily combined by connecting the negative of the galvanic with the positive of the faradic battery, and setting both in action, preferably controlled by a controller. There was a distinct value to galvano-faradic electrization, which was explicable on a consideration of the subject of electrotonus. Years ago Waller had shown that at the negative pole the galvanic current would cause the faradic current to be more active, and at the positive pole less active.

Mr. R. G. Brown said that he was unable to understand how it was possible to use this so-called combined electrization, for the one must short-circuit through the other. This remark gave rise to a lengthy discussion, which was finally cut short by lack of time and before a definite agreement of opinion had been reached.

Gleanings in the Field of Electro-Therapeutics.—Dr. Charles O. Files, of Portland, Me., read this suggestive paper. The first case reported was one of double amputation of the thigh, done about one hour after the crushing of the limbs in a railroad accident. During the operation the patient suddenly succumbed to the combined shock of the injury and the operation, and appeared to be dead on the table. The prompt application of a galvanic current, one pole being put to the epigastrium and the other to the base of the brain, revived the patient almost immediately. It was, however, necessary to resort to electrization at short intervals for nearly three weeks, as the heart frequently flagged. Every surgeon who saw the case during the first fortnight expressed the opinion that the prognosis was practically hopeless. The man completely recovered. Another case mentioned was one in which most gratifying improvement followed electrical treatment and massage in a case of incipient tuberculosis. For many years the author had found electricity a most valuable ally as a hypnotic, and in many inveterate cases of facial neuralgia, even those which had persisted after repeated surgical operations on the nerves and ganglia.

Second Day—Wednesday, September 26th.

Electricity in Gynæcology, and the Present Reluctance of Gynæcologists to Use Electricity.—This was the general subject for discussion.

The General Office Work of a Gynæcologist.—Dr. Fred. H. Morse, of Melrose, Mass., read a paper with this title. He said that nowhere had electricity a greater range of usefulness than in gynæcological work. The man who could see no other treatment than surgical for pelvic adhesions and sore ovaries would save much suffering and unnecessary operating by the intelligent and proper use of electricity. Electricity was invaluable in making the diagnosis when there was a deep-seated pus formation. In metritis, endometritis, subinvolution, uterine displacement, ovarian neuralgia, painful menstruation, electrical treatment was most satisfactory. In acute inflammatory conditions electrical treatment was not contraindicated, but special care was requisite in its application. The intensity of the current, the size and nature of the electrode, and the length of the treatment must all be carefully considered. In most cases such treatment could be carried out properly in the physician's office. A reliable battery and amperemeter and a good high-tension faradic battery were absolutely essential. He preferred asbestos cloth for the material of which the distributing electrode was constructed. Ordinarily the external electrodes employed were too small.

The Morton Wave Current—A Valuable Addition in Electro-Therapeutics.—Dr. W. B. Snow, of Atlanta, Ga., sent a paper with this title. In his absence the paper was read by Dr. Dickson. The author stated that the wave current was unique in many of its characteristics. In the first place, it was the only current administered from but one side of the generator; (2) it was the only current in which the alternations were of charge and discharge; (3) it was the only current administered to the patient while insulated; (4) it was the only current with high potential that could be passed to and fro through the body with little discomfort; (5) it was the only current with the passage of which the patient received general electrization, the surges of the current passing through the tissues of the body. These properties of the wave current made it the choice of all electrical currents if there was any virtue in electricity, for it permitted the use of the highest possible electromotive force upon the patient. The fact that it penetrated every part of the body made it unexcelled. It was so controllable that it might be applied to the eye. One million volts of this wave current might be applied with safety, and with but little discomfort to the patient. The physiological actions of this current were the result of: (1) The surges of the current to and fro, and (2) the intense vibratory and peculiar local electrical effects. The constitutional effects were: (1) Marked lowering of arterial tension; (2) lessened frequency of the heart's action and increased volume of pulse; (3) increased oxidation and metabolic activity; (4) marked diminution of nervous irritability with sense of drowsiness; and (5) a sense of fatigue if the sitting was too prolonged. The current was said to be absolutely harmless and a powerful tonic. So far as had been determined, polarity did not affect the result. The local effects were: (1) A sense of vibration, marked over the muscles when there was little underlying fat, and by rhythmic contractions; (2) physiological tetanus; (3) the sedation of pain and nervous irritability by prolonged and gradually increased electromotive force as toleration permitted; (4) an antispasmodic action; (5) stimulation of the glands beneath the electrodes to more active secretion; (6) local congestion and hyperæmia were relieved when not due to specific poison or to necrosis. Metabolism was most active beneath the electrode. As a general rule, the treatment gave better results than sparks except where the small muscles contracted too painfully, as, for instance, in the hands in cases of rheumatoid arthritis. All atonic conditions and chronic menstrual disorders were relieved by treatment with this current. To obtain the best tonic effect, a long block-tin electrode should be placed under the clothing and over the vertebral column, and a one-inch spark-gap employed. Most cases of neuralgia not due to pressure or to specific poison were relieved by a few treatments. Most cases of sciatica could be successfully managed by daily treatments. Few conditions required treatment at shorter intervals than twelve hours. A most important factor in such treatment was what was termed by the author "bridging," *i.e.*, a repetition of the treatment before the pain had had time to become severe again. It was the only current in which the alternations were of charge and discharge. For sprains and bruises the application of the wave current was the treatment *par excellence*.

The Nervous Disorders Peculiar to Women.—Dr. G. Betton Massey, of Philadelphia, in this paper discussed more particularly the relation of neurasthenia to these disorders, and the frequency with which affections within the abdomen underlay the neurasthenia. He pointed out the frequent need for well-regulated and properly directed activity as opposed to the notion of absolute rest.

Use of the Continuous Current and Electrolysis.—Dr. Robert Newman, of New York, presented this paper (see page 486).

Dr. Massey said that this field was less attractive and less remunerative than that of operative surgery, and hence the reluctance of gynæcologists to use electricity. He quoted Dr. Thaddeus Reamy, of Cincinnati, as saying that in the State of Ohio many physicians by the use of electricity were now keeping their patients in their own hands, and protecting them from the specialists in the large cities.

Dr. Reyburn remarked that one reason for their reluctance was that they were quite often ignorant of the laws of electricity and hence could not use electrical treatment with advantage.

Dr. William J. Morton thought it was time for electro-therapeutists to admit that they sometimes adhered too fondly to their favorite method, and refrained from the use of the knife sometimes when perhaps it might be better. Extremes should be avoided.

Dr. Lucy Hall-Brown said that another reason

why gynæcologists were loath to employ electricity in their practice was that it required such a large amount of apparatus and attendance, and consumed so much time; however, she could not see how any gynæcologist could be really conscientious in his work and wholly refrain from the use of electricity. She had had three cases of fibroid tumors in which complete hysterectomy had been done. One of these patients had made a good recovery and had remained well; another had apparently recovered, but had later developed melancholia and had committed suicide three months after operation; the third had died three days after operation—not a very excellent showing for the operative treatment.

Dr. Reyburn said he had treated about half a dozen cases of fibroids by the use of electricity. In all of them there had been improvement, and three had been practically cured.

Several other members took part in the discussion, expressing views similar to the foregoing regarding the operating gynæcologists and their methods of practice.

Spark-Gap Currents, viz.: Franklinic Interrupted, Static Induced, and Wave Currents.—Dr. William J. Morton, of New York, discussed this subject. In his opinion, the wave current, or as he preferred to call it, the "displacement current," presented more advantages than either the franklinic or static induced current. From the standpoint of the electro-therapeutist he believed this wave current embodied all that could be obtained from an electro-static machine in current form. He made use of it in neurasthenia and in all cases when the object was to improve the general nutrition. One of its most remarkable effects was the production of analgesia or anæsthesia. It was more pleasant to take and more diffusive than the static induced current and was quite as easily localized.

Dr. Hall-Brown spoke more especially concerning the technique that she had made use of in treating patients with the wave current. The loud noise made by the static machine she had succeeded in reducing very materially by inserting the terminals of the machine in corks at either end of a very large glass tube. In order to insure good contact between the electrode and the patient she made use of block-tin strips, and carried these down along the spine, under the clothing, very easily by the use of a director made of a piece of hard rubber not unlike a thin ruler in appearance. The strips of tin should be kept very smooth, and this was accomplished by passing over them the "squeegee" roller sold in photographic shops. She had employed this current quite extensively in the treatment of neurasthenia and neuralgia. A study of the urine showed quite conclusively the profound effect of the current on glandular activity, and gave a valuable hint as to why it proved so useful in the treatment of neurasthenia. For gynæcological work she made use of a wooden table insulated by screwing glass telegraph insulators on to the legs. The current was conveyed into the room by a wire insulated with rubber and enclosed in a glass tube.

Dr. C. R. Dickson, of Toronto, said that the wave current had proved of great value in his hands in the treatment of sciatica and peripheral neuritis.

Dr. Margaret A. Cleaves, of New York, attributed the great value of this wave current to the fact that with it one was able to expend a greater amount of energy within the tissues of the body without causing discomfort. In this way profound changes of nutrition were set up. It had seemed to her that the method was indicated more especially in pathological processes of rather long standing. She had used it in neuritis, rheumatoid arthritis, neurasthenia, and, in gynæcology, especially in prolapsus, and had found it an agent of exceeding great value.

Dr. Walter H. White, of Boston, remarked that he had been using this current for about a year past in neurotic conditions, and with good success.

On Methods of Generating and Transforming Electric Currents for Therapeutic Uses.—Mr. Charles T. Child, E.E., technical editor of the *Electrical Review*, sent a communication with this title. In it he said that what was ordinarily known as the direct current was a special case of the alternating current in which the frequency was reduced to zero. One must know the electromotive force or tension (measured in volts) and the volume of current flowing, the latter being measured in amperes or milliamperes. For therapeutic purposes the maximum of pressure was sixty or seventy volts. There were two ways in general use for producing the direct current for therapeutic purposes, one the familiar battery, and the other by the cutting down of currents of high voltage. Although the battery had recently celebrated its centennial it was yet far from a state of perfection. The so-called dry battery was useful only for small currents and for short periods. For the running of motors and cauteries storage batteries were best. The reduction of high-pressure currents for therapeutic purposes was done most simply by employing a shunt around a resistance, such as coils of wire or incandescent lamps. In order to avoid abrupt stops, the resistance coil must be very finely subdivided, or so arranged that contact could be made with it at any point of its length. The action of static machines depended upon the principle of the familiar electrophorus. They generated potentials up to several hundred thousand volts. The complexity of action of the static spark was astonishing in view of its apparent simplicity. To produce the static induced current two condensers or Leyden jars were attached to the terminals of the machine. A brief description was given of the modern methods of producing induced currents, and emphasis was laid on the part played by interrupters, particularly the fluid interrupter.

Illustrations of the Value of the Cataphoric Method in Cancer.—Dr. G. Betton Massey, of Philadelphia, discussed this subject. He said that he had recently published statistics showing that there could be no doubt that cancer was very decidedly on the increase. He declared that cancer was now known to be a curable disease. His method of treatment consisted in driving the salts of mercury into the cancer under the action of a heavy electric current. Of course, cataphoresis was well known, but the plan of using mercury in this way was original with him. As the method was painful, the patient should be etherized and placed on a large negative electrode consisting of a leaden plate covered with heavy pads. The active electrode was made of a tube of gold the tip of which was amalgamated. A current of three hundred or four hundred milliamperes was used, and mercury was injected through the hollow electrode. Within ten minutes the tumor began to blanch. The operation was kept up sometimes for two hours or more, and resulted in extensive necrosis of tissue which had been asepticized by the penetration of the mercury. An inodorous slough separated in from one to three weeks. This was a bloodless method of destroying an accessible growth, and at the same time sterilizing its immediate neighborhood. Dr. Massey said he had used the method in 37 cases, and of these 11 had been successes. Of this number of cases, 22 were metastatic at the time of beginning the treatment, showing that the treatment had been begun too late. Of the 37 cases, 2 were fatal from causes traceable to the treatment, and avoidable in the future. One was that of a woman dying of carcinoma of the tonsil. She took ether badly and died before the full current could be turned on. He had used as much as four hundred

milliamperes about the neck, and as much as six hundred immediately over the heart, but such currents must be used with great care. It was not intended, of course, that it should take the place of the knife in all cases, but in many instances it would be a more convenient means than the knife. It afforded an excellent opportunity of reaching the earliest manifestations of cancer, or of treating very promptly the first recurrences after a cutting operation.

Dr. Morton said that while reasonable success had been met with in the use of this method, he was frank to say that he had never felt like using such heavy currents. If by any inadvertence the patient should move there would be variation of potential, and it must be remembered that a variation of only two milliamperes about the head would produce severe vertigo. He had known twenty-five milliamperes to produce a momentary syncope.

Dr. A. D. Rockwell, of New York, suggested that it might be well in a case of large cancerous tumor to introduce the mercury into the base, thus diminishing the amount of sloughing.

Dr. Morton remarked that when these metals were oxidized at the positive pole it was at the expense of the electrolyte, so that when the tissues became dry during the electrolysis—in other words deficient in water, oxygen, and sodium—the process went on slowly. To obviate this he had been in the habit of using a hollow platinum needle, with the aid of which he injected a solution of chloride of sodium, thus renewing the supply of electrolytic material.

Dr. Massey, in closing, urged as an additional advantage of the method, that cancer of an organ could be extirpated without necessitating the removal of all of the organ. The method was particularly suited to cases of carcinoma of the cervix uteri. The chief danger from using these heavy currents was from interference with respiration or with the heart's action. In these etherized patients syncope amounted to nothing, and the operator was justified in taking some risk because of the desperate nature of cancer.

The Causes of Some Cases of Neurasthenia, and their Treatment.—Dr. Francis B. Bishop, of Washington, D. C., read this paper. He said he had been in the habit of having a quantitative analysis made of the daily amount of urea and phosphates in cases of neurasthenia, and he had learned in this way that in neurasthenics there was quite commonly a diminution of the daily quantity of urea and an excess of phosphates. The muscular tissue formed about forty-two per cent. of the body weight, and seemed to be the chief seat of metabolism. Muscular exercise increased the output of urea, but not until the day after the exercise had been taken, thus showing that certain chemical changes must take place before the urea was formed and excreted. The object of treatment should be to promote these chemical changes by muscular exercise. Ordinary muscular exercise was good in its way, but was followed by fatigue, and these persons were already fatigued. For this reason he made use of electricity. He began with a mild galvanic current to stimulate the cells of the brain and spinal cord. This was followed by general galvanization, and then by general faradization according to the method of Dr. Rockwell. General galvanization was applied by having the patient lie upon a pad twelve inches square placed under the back, and passing a hand electrode over the different muscles. Lastly the patient received treatment for about fifteen minutes in his ozone cage, receiving a mild spray during this time. This cage had proved particularly beneficial in cases requiring a soothing effect and gentle stimulation. Many functional nervous troubles could be successfully treated with his ozone cage.

Dr. Rockwell spoke of the two principal types of neurasthenia, the hereditary and the acquired, and said it was difficult to treat neurasthenics without at least occasionally using drugs. He had found the bromides and cannabis indica especially valuable.

Dr. D. R. Brower, of Chicago, remarked that in many of his neurasthenics he had found dilatation of the stomach, while in others there had been an impaction in the colon. He was convinced that there was an intimate relation between the state of the abdominal cavity and neurasthenia.

Dr. S. Fairweather Wilson, of Montreal, mentioned two or three cases of neurasthenia that had been marked by renal insufficiency. In addition to hydropathic measures, he had treated them with static electricity, using the head breeze and small sparks over the abdomen, and had in each instance been rewarded by seeing the patients recover promptly.

Dr. Cleaves said that when certain neurasthenics seemed to require something more than the convective discharge she was in the habit of using the galvanic current in the form of the vaginal hydro-electric douche. Dr. Bishop's "ozone cage" acted like covering the patient with a large crown electrode, so that the discharge was through the whole body instead of simply from the head. Of course, a large quantity of ozone was generated, but the name ozone cage was perhaps a little misleading, as directing the attention away from the main point.

X-Ray Photography.—Dr. E. R. Corson, of Savannah, read a paper on this topic. He expressed the opinion that the most important thing was to have a generator which would furnish powerful *x*-rays. A skiagraph giving mere bone outlines was certainly not satisfactory, and unless the *x*-rays were powerful enough to penetrate the bone, details could not be properly brought out, no matter how great one's photographic skill. The mere length of the spark did not indicate the efficiency of an *x*-ray apparatus. By increasing enormously the number of interruptions the quantity of current passing through the tubes was also augmented, and the efficiency of the apparatus proportionately increased. The author recommended the use of a coil giving a spark of only eight or ten inches, and all of the current the *x*-ray tube would stand. It was also recommended that a hydrochinone developer be employed, and that all negatives, no matter how strong, be intensified after development. His negatives were usually so black that they were difficult to print, but when printed they showed no flesh, and gave sharp contrasts. The object was to give as clearly as possible the internal bony structure.

Third Day—Thursday, September 27th.

Electricity in Brain Failures.—Dr. D. R. Brower, of Chicago, read a paper with this title. He attributed the frequency of cerebral neurasthenia at the present time to the almost universal condition of unrest, the keenness of competition, the drifting away from the authorities of the past, and not a little to "Young America" and "the new woman." In his experience it was rare not to find this disease associated with disorder of the intestinal tract, or with dilatation of the stomach. He recommended most earnestly intragastric electrization, claiming that the treatment could be readily carried out by the patient himself. The séances should be daily, and of about five minutes' duration. Applications through the abdominal wall were far less efficient than with the Einhorn gastric electrode. The applications in any case should be made three or four hours after a meal. Of course, proper attention should be paid to the diet, but in addition the physician should resort to intestinal faradization. Galvanization of the brain was also necessary, and was entirely feasible, as had been abundantly

proved by Erb and other eminent and trustworthy observers. The electrodes which he used were three by seven inches, one being placed on the forehead, and the other at the nucha. The general character of the mental phenomena determined the polarity. If the case was one of general depression, the negative pole was placed at the forehead, but if the case was characterized by excitement, the positive pole was placed there. He rarely exceeded a current strength of two milliamperes, and often not more than one milliampere. It should be continued for two minutes, and then be followed by transverse galvanization, using the same electrodes and a current of one to one and one-half milliamperes for five minutes. This should be followed by bulbar galvanization, the positive electrode being placed at the nucha while the negative was moved up and down over the cervical sympathetic on both sides without breaking the current. The duration of this treatment should be five minutes. This application should be followed by static insulation from a machine giving a ten-inch spark. This latter application should be made daily for the first ten days, and then on alternate days. Special stress was laid on the great advantage of using currents of low amperage and protracted applications in the cerebral galvanization of neurasthenics.

Electro-Therapy of Insanity.—Dr. Alfred T. Livingston, of Jamestown, N. Y., read this paper. He said that it was now about nineteen years since he had first used electricity in the treatment of mental disorder. He had at first proposed this to the eminent consultant, the late Dr. John P. Gray, of Utica, but the latter had opposed the treatment very vigorously. However, he had ultimately tried it on a patient, a woman of thirty years suffering from acute melancholia. The first application showed plainly the calmative effect of the galvanic current when applied to the centres connected with the brain. In the course of a few weeks the patient was thoroughly restored to health. He had since used it frequently, and had been greatly pleased with its calming action. Inquiry both at home and abroad had shown that this use of electricity was almost unknown. The author closed with an earnest plea for larger medical staffs in our insane hospitals, and for better treatment of insanity in the earlier stages, thus curing many patients now allowed to become chronic or incurable. The treatment advocated was founded on the theory that insanity was largely dependent, in the first instance, upon circulatory changes in the brain. As a rule, the current should be made to pass through the nervous centre related to the part affected. The method of application consisted in directing the galvanic current to the three pairs of the sympathetic cervical ganglia, beginning and ending with the lower pair, and using small hand electrodes. A current of ten to fifteen milliamperes was used on the lower, eight or ten on the second, and from five to eight on the upper pair. The electrodes were slid along without producing any break in the current. He was of the opinion that in any case of insanity the effort should be made to correct all disordered bodily functions, with the object of aiding mental recovery.

Dr. Massey said that static electricity seemed to him to offer much hope of relief in this class of cases.

Dr. E. B. Silvers, of Rahway, said that in alcoholic patients the use of cannabis indica internally, and electricity externally, had succeeded very well in his hands, and the method had been tried with good results in the Trenton asylum.

Dr. W. E. Ford, of Utica, said that the ranks of the insane were recruited from neurasthenics who had gone from one physician to another for months or even years, without the gravity of their condition being appreciated, or without receiving benefit because the physicians did not care to give them sufficient attention. He was positive that electricity always did these persons some good. The mild stage of dementia which followed serious neurasthenia was the same mild condition of dementia which came after a mild attack of acute melancholia. The relaxed condition of the capillaries seen in these patients could be immensely improved by electrical treatment— often much more so than by drugs.

Dr. Brower remarked that he had found that many neurasthenics among the poorer classes could be treated very satisfactorily in general hospitals.

Dr. William J. Morton was of the opinion that all these neurasthenics should be cared for by the general practitioner, but he had very little respect for the treatment ordinarily meted out to these poor neurasthenics. The wave current was valuable in these cases because it soothed the nervous irritability and promoted sleep. Much of his success in the treatment of these cases he veritably believed arose from stopping them from taking the various tonics prescribed for them by general practitioners who should know better. Strychnine, iron, and the hypophosphites were the favorite remedies. If such medication were stopped, and the patient was told to take plenty of rest, abstain from starchy foods, and live chiefly on meats and salads, the result would almost always be satisfactory.

Dr. Francis B. Bishop said that it had been his experience that neurasthenics were very prone to commit suicide, yielding to the influence of suddenly developed delusions. He was accustomed to apply the galvanic current to the sympathetic, as outlined in the paper, and, in addition, to make use of the static spray, surrounding the patient with what he had called the "ozone cage." This application was usually very soothing.

Officers Elected.—The election of officers of the association for the ensuing year resulted as follows: *President*, Dr. Ernest Wende, of Buffalo; *First Vice-President*, Dr. Fred. H. Morse, of Melrose, Mass.; *Second Vice-President*, Dr. D. R. Brower, of Chicago; *Secretary*, Dr. George E. Bill, of Harrisburg; *Treasurer*, Dr. R. J. Nunn, of Savannah. The next annual meeting will be held in Buffalo on September 9, 10, and 11, 1901.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 6, 1900:

	Cases.	Deaths.
Tuberculosis	261	152
Typhoid fever	104	15
Scarlet fever	87	2
Measles	30	4
Diphtheria	210	19
Laryngeal diphtheria (croup)	6	2
Cerebro-spinal meningitis	0	0

An Alleged Danger in Porcelain Ware.—The United States consul at Mentz quotes, in a report to the State Department at Washington, certain remarks of a journal published at Frankfort-on-the-Main regarding the silver-mounted porcelain cups, jars, vases, etc., which have recently been placed upon the market. The silver on these articles, the writer states, is applied by an electrical process, in baths which contain very large quantities of potassium cyanide. As glazed wares have innumerable hairlike cracks, this poison enters these cracks, and the articles become a menace

to the health of anybody using them, since it is impossible in the course of manufacture to remove this poisonous residuum. Only a short time ago, it is asserted, a nearly fatal case of poisoning resulted from the use of such ware.

A Paris Sewage Farm.—On August 12th some three hundred members of the Congress of Hygiene and Demography were conveyed by special train to the plains of Achères situated on the banks of the Seine close to the forest of St. Germain. This estate measures 10 km. in length and 1 km. in width. It is irrigated throughout with the crude sewage of Paris. A writer in *The Lancet* says that, in 1895, when the sewage from Paris was just beginning to arrive, the greater part of this plain seemed like a vast desert. The small brushwood had been cleared away and nothing had yet grown in its stead. "The contrast to-day is most remarkable. The barren plain is now verdant with luxurious vegetation. Beetroot is growing over a large part of the ground, but there are also many fields rich with golden grain. The avenues are planted with trees, mostly walnut. Of course they are still young and small, but they are healthy and flourishing. The greater part of the land is let out to cultivators, but the municipality has kept a portion in its own hands for experimental purposes and to lay out a few ornamental parks, and to plant orchards. It was at these spots that the members of the congress stopped so as to stroll among the flower-beds, admire the peaches and other fruits ripening on the trees, and above all to visit the ornamental waters; these were as clear as crystal. Fish darted rapidly about, and as the water came out of the earth in little jets glasses were filled and the water was eagerly drunk by nearly all the visitors. Yet this was neither rain-water nor spring-water: it was the water of the Paris sewers. What this meant was evident to all, for close by on the surface of the soil in countless little drains the black, foul sewage was exposed to view. But having fed the plants and having passed through more than six feet of sandy soil the water collected at the lower levels is found to be quite free from the sewage. The sewage, which contained 11,750,000 bacteria per cubic centimetre, retained but 2,350 bacteria in one part of the estate and only 188 in another part—that is, of course, after it had filtered through the soil. The purified sewage water at Achères is more free from bacteria than is usually the case with good spring water. In regard to organic matter, when the amount extracted from the sewage weighed 34.9 gm., after passing through the soil the same bulk of water retained only 1.8 gm." The sewage farms of Paris now cover an area of 5,000 hectares (approximately 12,355 acres), consisting of 900 hectares at Gennevilliers, 1,000 hectares at Achères, 2,150 hectares at Méry-Pierrelaye, and 950 hectares at Carrières-Triel.

Surgical Treatment of Hydatid Cysts of the Liver.—Prof. Thomas Jonnesco, of Bucharest, said in a paper read at the recent International Medical Congress at Paris, that at the present time four kinds of operations are performed for hydatid cysts of the liver: (1) Puncture, whether followed by parasiticide injections or not; (2) marsupialization; (3) incision followed by evacuation and suture of the cyst; (4) enucleation and extirpation of the cyst. The last operation, which is ideal, is so rarely applicable that it can hardly be taken into account unless as an exceptional intervention. Puncture should be given up as uncertain and even dangerous. Marsupialization, in view of the duration of the treatment, remains an operation of necessity applicable to suppurating cysts and to those in which the calcified adventitia no longer allows retraction of the pouch to take place. The operation of choice consists in incision of the cyst which is emptied of its liquid contents, daughter cysts, and germinal membrane, and suture. The pouch is left without drainage or fixation of the cyst to the abdominal wall. Jonnesco has operated in six cases of cysts, varying in size from that of a man's fist to a diameter of 20 or 30 cm., and always with success. The effusion of bile into the cyst is not a contraindication.

Cape Town Verdict on Food Preservatives.—Cape Town seems determined to have undrugged food, and recently a dealer has been fined for selling milk containing formaldehyde. Mr. C. F. Juritz, public analyst for Cape Town, has rightly described formaldehyde as a strong disinfectant which impaired the nutritious value of food, making it less digestible. Its use minimized the necessity of cleanliness and made it possible to sell old milk instead of new.—*British Food Journal.*

A Death from Sulfonal was reported recently in the daily papers. The deceased had taken 440 grains of the drug.

Medical Fees in China.—As Chinese affairs are very much to the fore just now, it may be interesting to mention that a doctor's fee is perhaps the smallest in the world, ranging from *2d.* to *5d.*, but this can be accounted for by the fact that any one can practise, it being necessary only to hang out a sign intimating the fact that the owner has some medical knowledge; and, although these are very numerous, they are, as a body, the most respected men in China.—*The Medical Press.*

The Medicine Habit in Great Britain.—George R. Sims, better known by his *nom-de-plume* Dagonet, has this to say upon the above subject in his journal, the *London Referee:* "We hear a good deal of the tobacco habit and the alcohol habit, but very little notice has been taken of a habit which is more common than either, viz., the medicine habit—which prevails to quite an alarming extent. It affects all classes, and when once it gets a victim in its clutches it never lets him go. There are hundreds of thousands of Englishmen who take medicine of some sort every day of their lives. They do not, as a rule, trouble the doctors—they doctor themselves. They take pills and draughts, patent medicines, and old-fashioned remedies with as much regularity as they take their meals. The habit is not confined to the class that read the advertisements of wonderful cures, and take the various remedies one after the other, even when they have nothing the matter with them. Every chemist has upon his books well-to-do customers who have mixtures made up almost every day. A doctor is called in and gives a prescription, say for nervous depression or for dyspeptic trouble. That prescription will live for years. The entire family will try it one after the other, and get at last to take it about once a week as a mere matter of habit. The system having been saturated with medicine craves for medicine. The victims of the medicine habit would feel miserable if they were not dosing themselves. Some habitual medicine-takers, who have had a long illness and many prescriptions, will, when they get well, have the prescriptions made up again one after the other, and go through the whole series three or four times a year for the rest of their lives. There are families to whom the chemist sends in his book weekly just like the butcher or baker. Some of the customers are not content with one kind of medicine at a time. I know one man who frequently takes doses from four or five different bottles during the day, and who, when he goes out of town for a fortnight, takes his favorite mixture with him in quart bottles. He also has a packet of about fifty prescriptions in his portmanteau in case of accidents."

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Original Articles.

SOME CONSERVATIVE JOTTINGS APROPOS OF SPINAL ANÆSTHESIA.

BY J. LEONARD CORNING, A.M., M.D., LL.D.,

NEW YORK.

WHENEVER propositions tending to modify the trend of current practice are brought before the profession they incur a twofold danger: (1) either they are received with an indifference born of former and manifold disappointments; or (2) they excite anticipations beyond their legitimate potentiality. In the first instance, the proponent may be compelled to wait a long time for an audience; or, if his proposals be not vital with truth of that insistent character which will not down, he may never obtain a hearing.

The fate of spinal anæsthesia, however, is unique in this, that while at first and for long its advantages in a larger, and more especially in a surgical, sense were disregarded, there came a time when recognition leaped, as it were, into the arena of professional life, driving thence such small adjuncts of scepticism as remained. And from this long waiting and this belated acclamation has come a buoyant expectancy, a kind of vaulting zeal which sets one a-trembling at the possible consequences of disappointment, misapplication, or bungling. Spasmodic hardihood, defective technics, and so on to the killing! A thousand pities by a false thrust or impossible exactions to relegate once more to the limbo of the forgotten a procedure which, be the limits of its usefulness ever so sharply drawn, must still—in view of what has already gone before—possess a unique and extensive field of usefulness!

Though a neurologist, and strange to the great and useful art of surgery, I venture at this time to utter an unostentatious word of caution, trusting that by so doing I may serve a useful purpose, yet not offend.

In the issue of this journal for October 13, 1900, Dr. George F. Shrady thus expressed himself editorially:

"The value of recording original observations as soon as made and prospecting their adaptability to given ends is well shown in the matter of spinal cocainization, concerning which so much is being written and said.

"Although fully fifteen years have elapsed since Dr. J. Leonard Corning, of this city, published his experiments on this subject, and notwithstanding it is only within a few months that his suggestions have been followed, no one can question his claims to priority in first calling attention to a method of anæsthesia which is now challenging a trial by numerous surgeons here and abroad.

"As the real one who first established the principle of the action of cocaine upon the cord, and who first demonstrated its practicability not only by actual trials upon the lower animals, but by using it for anæsthetic purposes upon the human subject, his name must necessarily be associated with that particular field of work, however it may be extended by other investigators."

Here is gallantry; here chivalric treatment. But, as if this were not enough, and as though kindness, in prodigal mood, were determined to eclipse herself, he reveals at one stroke, in the last paragraph, thanks to a happy mating of insight with expression, the basic principle of my discovery of 1885,[1] as it has never been revealed before. Up to the time of my first publication in the *New York Medical Journal*, the fact that the cord could be brought under the dominion of an anæsthetic was utterly unknown. What I then accomplished was to prove that this could be done by injecting deeper and deeper between the vertebræ till I had produced all the phenomena of what I then called "spinal anæsthesia," or, as some prefer to call it, "medullary narcosis," precisely as they are produced by others to-day.

Time sped on, and I continued to experiment; till, perceiving with full force the utility of penetrating the meninges, the better to come at the cord, I began to produce anæsthesia of the cord by deliberately puncturing the membranes of the latter in the lumbar region, and depositing a cocaine solution directly upon the cauda equina.

A full account of these undertakings may be found in my book on "Pain"[2] (1894), and in the first volume of "A Reference-Book of Practical Therapeutics," edited by Frank P. Foster (1896).[3] Very recently Dr. L. Marcus has reviewed the historical side of spinal anæsthesia; and his paper, published in the MEDICAL RECORD for October 13, 1900, is a worthy contribution to the subject.

All my work in this field, be it remembered, was done and published years before any one else entered the field.

So much for recorded history, which confers beyond all challenge not only priority in principle, but priority in method as well. But to appreciate this fully it is, of course, necessary to read what I have written.

I have frequently been asked of late by numerous correspondents for an expression as to what, in my judgment, are the essentials of technique. To comply as succinctly as possible with these requests, the better to save much waste of ink, I would set down the following:

(1) The needle may be from three and a half to four inches in length. It should be fine, but not overtempered. The bevel of the point should be short, so that the needle will not require to penetrate the membranes very far, in order to insure the deposit of the solution within them.

The needle may be made of gold or platina, which metals being bendable are not liable to break, even when the calibre is small.

There should be a small steel nut, transfixed by the needle, sliding freely upon it, and fixable at any point of its (the needle's) length by the aid of a small set-screw.[4]

[1] The New York Medical Journal, October 31, 1885. See also the author's book on "Local Anæsthesia," D. Appleton & Co., 1886, p. 85.

[2] "Pain," J. B. Lippincott Company, Philadelphia, 1894, p. 247 *et seq.*

[3] D. Appleton & Co., 1896. See more particularly p. 281 *et seq.*

[4] This needle was described by the author in the MEDICAL RECORD of March 17, 1888.

When the needle is thrust in, and a few drops of the cerebro-spinal fluid emerge, this nut is slid down till its lower aspect rests upon the skin. The nut is then fixed in place by tightening the screw, and a further entrance of the needle into the spinal canal effectually prevented.

(2) A syringe of glass, graduated up to thirty minims or more, and provided with an asbestos packing, is the best because it is so easily and thoroughly sterilized.

(3) I prefer to employ a short, delicate trocar (see Fig. 1), half an inch in length, to penetrate the thick skin of the back, subsequently passing the needle through the opening of the trocar. This permits of the use of a very fine needle. Many of the needles recently employed by others are too large. The comparatively large puncture which they make in the membranes allows too much of the cerebro-spinal fluid impregnated with the anæsthetic to flow out, after withdrawal of the needle. Moreover, the bevel at the point of the needle is often far to long, necessitating, as has been said, too great a penetration beyond the membrane.

(4) As to the operator: He who undertakes to penetrate the membranes of the cord should go about it with clean hands: an application of soap and water, followed by washing with alcohol, and a dip in a solution of bichloride solution (1 : 2,000), will suffice to insure the necessary asepsis.

(5) As to the patient: The back should be scrubbed with (*a*) green soap and water; (*b*) bichloride solution 1 : 2,000; (*c*) ether; (*d*) alcohol.

(6) Sterilization of syringe: Cylinder, piston (withdrawn from cylinder), and needle should be boiled before use; and, thereafter, the hot water should be forced through the needle several times.

Fig. 1.

(7) The anæsthetic: At present cocaine (the hydrochlorate) gives the most satisfaction. A two-per-cent. solution seems to be the favorite, though I myself have tried many other strengths.

For the purpose of sterilization many are accustomed to boil the solution, which may be conveniently done in a test tube over an alcohol lamp. To facilitate the filling of the syringe, the solution may be poured into a watch-glass, previously well sterilized by boiling. Care should be taken to expel all air from the syringe before use. The solution should be allowed to cool before being injected.

(8) To make the injection: If possible the patient should be placed in a sitting posture, inclining in a forward direction, so as to bend the spine, and thereby cause some slight separation of the vertebræ.

I have made the injection at various points along the lumbar and even the lower dorsal spine. At present there seems to be in some quarters a predilection for the space between the spinous processes of the fourth and fifth lumbar vertebræ. It is, perhaps, a little easier to enter the canal at this point; but, whether the deposit of the solution higher up and nearer the cord proper is not better practice from a physiological point of view is, to my mind, still an open question. Certainly, to puncture, as I did years ago,[1] between the second and third lumbar vertebræ, would cause the anæsthetic to arrive at the cord more quickly and in a more concentrated condition than when introduced lower down. As a consequence, anæsthesia is more rapidly induced than when the injection is made lower down. If it be decided to inject at this point, the relatively profound depression between the first sacral and fifth lumbar may serve as a convenient landmark. Thence the spinous processes may be counted backward till the spine of the third lumbar vertebra is reached. This should be marked with India ink or a blue crayon. Just anterior to this point, and a little to the right of the ligament, the needle is introduced at something of an angle. I advise those who contemplate practising spinal anæsthesia to take a look at the skeleton, especially the relations of the lumbar vertebræ. An intelligent glance of that sort is worth many words.

The needle should be introduced slowly, the direction being slightly from without inward and from below upward. Any obstruction of its lumen may, of course, be cleared with the stylet. The outflow of a few drops of cerebro-spinal fluid will tell of the penetration of the membranes. The syringe may now be attached, and the injection made.

Even though the needle be small it should not be withdrawn immediately after the injection has been made; but on the contrary it should be maintained in place till the advent of anæsthesia. By so doing the opening made by the needle in the membranes is effectually plugged, and hence the anæsthetic cannot possibly flow out till it has done its work.

It is obvious from these considerations that plunging hither and yon and sawing with the needle are to be avoided. Better withdraw the needle and begin *de novo*, than risk the tearing of the membrane. The most recent physiology favors the close reciprocal relations between the cerebro-spinal fluid and the circulation of brain and cord. This is neither the time nor place to discuss the evidence bearing on the point. We shall do better to admit the contention, and accept the corollary that the spinal membranes should be injured as little as may be, and as small an amount of the cerebro-spinal fluid allowed to flow out as possible. Because the immediate effects of a considerable withdrawal of fluid are not necessarily threatening is no reason why we should wantonly modify the natural conditions.

When the heart's action is feeble or irregular, a small dose of strychnine, nitroglycerin, and digitalin may be exhibited hypodermically a short time before the cord is anæsthetized.

At present from ten to fifteen minims of a two-per-cent. solution of cocaine at a dose seem to give satisfaction. In the old days, however, when I first began experimenting, I was accustomed to inject very much larger quantities. But "enough is as good as a feast"; and it would be poor practice to add unnecessarily to the vehemence of the physiological effects.

Great stress has been laid by recent writers upon the outflow of the cerebro-spinal fluid as a criterion by which to determine with certainty that the membranes have been pierced. To admit the value of this sign, however, is one thing, and to declare that it is the only means of knowing that the membranes are pierced quite another. The latter assertion is incorrect. It is feasible by thrusting a needle down to the point of the spinous process to measure the distance between the latter and the surface of the skin. To this add the maximum length attained by the lumbar spinous process (in adults), say 4 cm., taking the measurement from the posterior wall of the canal. Then add a little (say ½ cm.) for certainty's sake, and to compensate for the slight inclination of the needle; thrust in and slowly inject a little of the anæsthestic and wait a few minutes. If after the lapse of ten minutes there is neither tingling nor numbness, go a little deeper and inject a little more. Often it is possible to obtain complete anæsthesia in this way.

[1] Referred to in my book on "Pain," J. B. Lippincott Company, Philadelphia, 1894.

A large amount of solution is, however, unnecessary to success, and I do not recommend it now, but cite it merely to show that there is more than one road to Mecca.

Again, and better, a needle may be thrust down to the transverse process—the upper (dorsal) surface of which corresponds approximately with the upper (dorsal) edge of the vertebral foramen—and thus the distance between the surface of the skin and the edge of the foramen may be quite accurately determined. Add half a centimetre to insure penetration of the membranes; set the nut accordingly on the hollow needle; insert, and inject gradually as before described.

Of course there is no objection, but on the contrary, good reason to watch for the appearance of the cerebro-spinal fluid at the top of the needle, which, if it does not absolutely guarantee the success of the anæsthesia, is certainly of the best omen.

A preliminary measurement of this kind is of especial service for purposes of orientation when the needle becomes filled with blood, and the cerebro-spinal fluid is not immediately forthcoming.

In 1888 I described this method of ascertaining the distance between the surface of the skin and the upper rim of the vertebral foramen, and designed a long needle with a handle to execute the manœuvre.[1]

All the world is now familiar with the phenomena induced by such injections: the paræsthesia—tingling, numbness, "sleepiness"; the subsequent disappearance of sensibility to pain in the regions below the point of injection, as well as the familiar constitutional symptoms of the drug.

I have minutely described these phenomena in my very first paper (1885),[2] as well as in subsequent writings; and what has been published recently in the course of what might be termed the late renaissance of my ideas serves but to confirm my own observations of long ago.

And now a further word or two as to the danger of expecting too much from this discovery, and of bringing it once more into the neglect certain to follow in the train of disappointed hopes.

First and foremost, it is necessary frankly to look at facts and confess that there is nothing in those till now brought forward remotely to warrant the belief that the days of cerebral or general anæsthesia are numbered. Some curtailment in their use there may, ay, doubtless will be; but abdication of their broad dominion—never.

Again, it is absolutely necessary to remember that, despite all apparent conformity with the exactions of technique, spinal anæsthesia sometimes leaves one in the lurch. To what is this failure to appear ascribable? Is it due to the outflow of the anæsthetic through the puncture, or to a lack of proper distribution? I do not know, nor have I yet come upon a convincing explanation. In such cases, after all has been done that ingenuity can suggest, resort to general anæsthesia is, of course, imperative.

Equally disappointing, or nearly so, are the cases in which the subject quite naturally suffers the imagination of pain rather than its reality. Failure to appreciate this fact may lead not only to disappointment, but to wholesale and unmerited condemnation. Cases are of record, too, in which the anæsthesia was not of sufficient duration, and the injections had to be repeated, always a deplorable circumstance. Future development of the technique may, however, render such supplementary injections either less inconvenient than they now are, or even altogether unnecessary. Just now experiments are being conducted with various anæsthetics, but cocaine still holds, and is likely to hold, the field. I know of no facts in physiological chemistry capable of explaining the discrepancy in the local effects of different anæsthetics, when used about the cord.

Often the anæsthesia, both in quality and duration, leaves absolutely nothing to be desired; and this without notable modification of technique or any other apparent departure. Such facts, it seems to me, should urge all concerned to studious attempts to solve the physiological riddle of this perfection, the better ultimately to attain constancy of result.

Uncouth needles, with a long bevel at the point, are of all things to be avoided. Only imperfect results are to be anticipated from such clumsy implements, as,

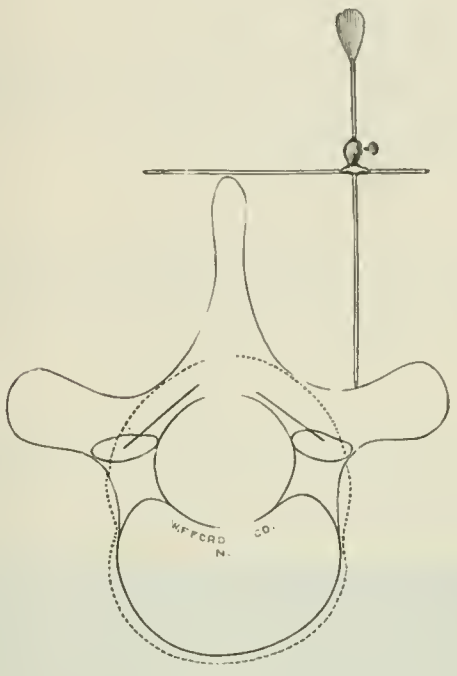

FIG. 2.

on the one hand, an overplus of penetration is requisite to insure the entry of the fluid below the membranes; and, on the other, an immoderate outflow of cerebro-spinal fluid—and hence of the anæsthetic—is inevitable after withdrawal of the needle.

The comparative value of injections made at different points along the dorsal and lumbar spine should also be carefully tested. I know very well that something has already been done in this direction, and I myself have had, in times past, a hand in such undertakings; but this phase of the question, simple though it may appear at first view, is, in my opinion, not yet conclusively decided.

Every one at all conversant with the serious results inevitably following infection of a serous cavity must be profoundly impressed with the necessity of a rigid asepsis. This point has been insisted upon by most if not all recent writers. Yet I foresee that amid the indiscriminate slitting by irresponsible persons, sure to follow in the wake of the conservative achievements of the judicious and the competent, there is likely to be a neglect of those necessary and elaborate rules of antisepsis so necessary to the safety of the subject. Then a procession of gory tales; and a great and useful principle cast into shadow by the misadventures of a herd of venturesome empirics.

There has, it is true, been a singular immunity from fatality till now—not a single death, I believe; but the history of innovation in the realm of anæsthesia does not countenance the hope that this can go on indefinitely. No; there will be fatalities, but let there

[1] The MEDICAL RECORD, March 17, 1888.

[2] The New York Medical Journal, October 31, 1885.

be a concerted effort by the invocation of every known precaution to keep the percentage of mortality as low as possible. Let there be less rivalry of the knife—less endeavor of one to outslit the other—and more attention to improvement of method by the invocation of the good offices of experimentation and the creative imagination.

Again, I repeat, I am no surgeon; but, as a neurologist, I tremble for the cord. In view of such solicitude, may I be forgiven this preachment—the only bit of strenuous didacticism, so far as I can recollect, of which I have been guilty during my entire professional career.

Finally, the author desires to express his sincere acknowledgment of all the kind things which have been said of the method, both by his confrères and the medical press. It would, however, be a sorry misinterpretation of its significance were the author to regard all this eulogy as a personal compliment. On the contrary, he is fully aware that the applause is for the idea as a part of the heritage of American medicine, and not for himself.

53 West Thirty-eighth Street.

THE TREATMENT OF NECROSIS OF THE ENTIRE SHAFT OF A LONG BONE; WITH REPORT OF A CASE.

By J. SHELTON HORSLEY, M.D.,

El Paso, Texas.

Acute osteo-myelitis is responsible for the largest portion of the diseases of the shafts of long bones, so its importance to the surgeon can hardly be overrated. It usually follows a definite and typical pathological

Fig. 1.—The Patient after Operation.

course, though the symptoms are not so well defined, especially in the early stages, when the diagnosis is frequently confounded with that of rheumatism or typhoid fever. It is practically only for necrosis as a sequela of this disease that shafts of long bones have to be removed subperiosteally, for after severe injuries the periosteum is destroyed with the bone, and in malignant diseases it is involved.

The time required for separation of dead bone may be from four weeks to a number of months. Living bone immediately adjacent to necrosed bone undergoes rarefying osteitis, softens, and becomes gradually converted into granulation tissue. Suppuration occurs where the dead and living bone are in contact. New bone is being constantly formed from the periosteum and from the granulations which have separated the sequestrum; and this new formation, constituting the involucrum, is necessarily thoroughly infected with pus organisms, as it is constantly bathed in pus during ossification.

But however definite the pathological course that leads to necrosis of shafts of bones may be, the process of repair after operation is not so well defined. Occasionally bone will not be reproduced either from whatever remaining bone there may be left or from the periosteum. In March, 1899, I saw in consultation with Dr. J. F. McConnell, of Las Cruces, N. M., a middle-aged man of excellent physique and good general health, who had had a circumscribed area of necrosed bone in the upper epiphysis and adjacent portion of the shaft of the tibia. This had been thoroughly removed, and a few weeks later the walls of the resulting cavity were curetted. The wound followed an aseptic course as a result of these operations, yet with the exception of a few isolated patches of insignificant granulations there was, during the course of more than six months, no attempt at reproduction of bone; and this in spite of the fact that decalcified bone chips and numerous other measures had been patiently tried. The man finally committed suicide, rather than lose his leg.

Every surgeon of much experience in emergency surgery has had at least one case of ununited fracture that would unite by no known method of treatment. This frequently occurs in young or middle-aged patients who have had excellent health and are without a trace of constitutional or hereditary disease. Age modifies reproduction of bone. It is a well-recognized fact that in the young bone is reproduced much more rapidly than in the old. Swoboda,[1] after a study of osteomyelitis in infancy, finds it more acute and necrosis of bone more rapid than in adults. Epiphyseal separation, he says, is also more likely to occur. Reproduction of bone in infancy unquestionably requires a shorter time.

When we consider that bone and periosteum are abundantly supplied with blood, and that they belong to the connective-tissue group, a comparatively low grade of tissue histologically, we cannot help wondering why reproduction of bone is so uncertain and irregular. Wounds in much more highly constructed tissues, except in central nerve matter, are almost invariably repaired more or less perfectly. Yet with comparative frequency we find injuries of bones—a pure connective tissue—followed by no attempt at repair, even after the most careful and skilful treatment.

So in a small proportion of cases failure will result, but in the vast majority of instances the periosteum alone is fully capable of reproducing the entire shaft of a long bone when reproduction is at all possible. Dr. H. W. Cushing, of Boston, reports a case[2] in which the entire shaft of the tibia was removed, and another regenerated from the periosteum. He attributes the successful result largely to the time at which the operation was performed, when the periosteal osteoblasts were in the most active regenerative stage, but before an involucrum had formed. An in-

[1] Wien. klin. Woch., vol. x., 1897.
[2] Annals of Surgery, October, 1899.

volucrum always contains pyogenic germs that may live in its small foramina and crevices almost indefinitely. For this reason and on account of the denseness of bony structure, it is wellnigh impossible to disinfect it.

In necrosis of the entire shaft of long bones, not only the sequestrum but the involucrum should be completely removed, the periosteum being carefully preserved. After removal of a sequestrum, the involucrum consists of a mass of badly formed bone, impossible of being rendered aseptic, and containing a cavity which, under the most favorable circumstances, is difficult of closure. If the periosteum is carefully stripped off, the wound can be treated as in

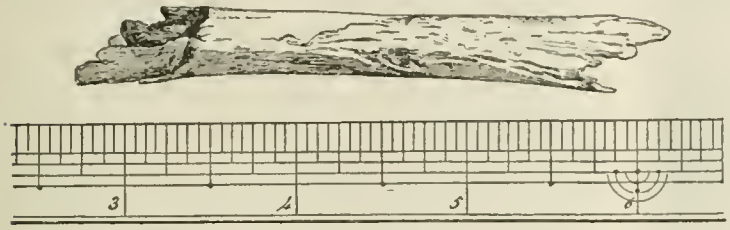

FIG. 2.—The Sequestrum Removed.

the case of Cushing by sutures, leaving buried in the leg "a solid cord of bone-producing tissue," or if the periosteum itself is infected, may be lightly packed with gauze, as in the case here reported. In either event, the reproduced shaft will more nearly correspond in both shape and quality to the natural diaphysis than is possible than by leaving a clumsy, infected involucrum surrounding a large dead space. The following case of necrosis of the entire shaft of the tibia serves to support this view:

B. E——, girl, aged one year and eight months; German-American parentage; has three brothers, all healthy. Family history of no importance. About September 1, 1898, she commenced suffering from pain and some swelling in both legs. The right leg recovered, but the left grew worse, and finally an abscess formed near the upper end of the shaft of the tibia. This was opened by Dr. J. F. McConnell, who found a movable mass of dead bone at the bottom of the abscess. On October 30, 1898, he referred the case to me for operation, with a diagnosis of necrosis of the shaft of the tibia. On the following day I operated, with his assistance. A long incision, the length of the shaft of the tibia, was made over its interior surface near the anterior border. Attempts at involucrum formation at the upper third of the shaft were poor, and resulted in only a few bony spicules, but in the lower and middle thirds a thin layer of soft, cheesy bone had formed. After the periosteum was raised, the front of this was removed, and a sequestrum exposed. All of the remaining involucrum seemed infected, so it was removed with a sharp spoon and periosteal elevator, leaving at the lower part of the leg a small strip that was closely united to the lower epiphysis and apparently healthy. The upper epiphysis was badly infected, but a Volkmann spoon thoroughly removed its diseased bone. The upper part of the periosteum was gently scraped, and the wound lightly packed with iodoform gauze. It was dressed every third day. Recovery progressed slowly but satisfactorily. Two small sinuses existed near the upper end of the incision for ten months, but finally closed. The leg is now useful, and a slight bowing of the tibia seems not to interfere with its function. The photographs showing the leg were taken in June, 1900, twenty months after the operation.

Supra-Orbital Neuralgia.—Castor oil two or three times a week, to be kept up at less frequent intervals after pain ceases.—N. O'D. PARKS.

TREATMENT OF THE PATIENT DURING THE WEEKS PREVIOUS TO EXPECTED CONFINEMENT.

BY EDWARD P. DAVIS, A.M., M.D.,

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WE shall best understand the treatment needed by the pregnant woman during the later weeks of gestation by reference to the condition of the patient during this time.

If she be healthy, the mother's nutritive processes are well performed. The anæmia of early pregnancy has given place to the plethora of its later stages. The patient's excretion is often better than at seven or eight months. In those who are overtaxed, ill-nourished, and living in unfavorable surroundings, the later weeks of pregnancy find them with a threatened toxæmia which may lead to eclampsia. In neurotic women and those who habitually excrete badly, it is also true that the later weeks of pregnancy form a period of increasing danger.

In women of normal shape and tissues, the pelvis undergoes changes during the later weeks of pregnancy which fit it to give passage to the child. Its joints become more filled with synovial fluid, and its articulations more elastic and capable of distention. This is an important factor in securing that accommodation so essential to the normal mechanism of labor. Uterine contractions become more pronounced at this time, and, aided by the action of the abdominal muscles, cause the entrance of the fœtus into the brim of the pelvis in primiparæ and its presentation at the pelvic brim in multiparæ. Observation shows that a very important function in securing accommodation is that of the voluntary muscles, as seen in cases in which pregnant women in the later months of pregnancy take exercise and thus assist in causing the child to descend.

Mammary changes during the later weeks of pregnancy prepare the breasts for nursing by the accumulation of colostrum, and warn us to see to it that the nipples are brought into condition for this function.

To estimate the perfection of the patient's assimilation and to detect failure in excretion, we must study the clinical symptoms of toxæmia, and by examination ascertain chemically, so far as possible, the condition of the excretory processes. Attention has long been drawn to the violent frontal headache, lassitude, disturbance of vision, and high pulse tension which often precede eclampsia. There are other symptoms, however, which mark the pre-eclamptic state and whose recognition is of importance. The persistent presence of gas in the intestines, with a furred and coated tongue, points to deficient elimination. Neuralgia, disturbance in the rhythm and frequency of the heart beat, changes in temperament, slowly progressing loss of appetite, deficient action of the skin with, in many cases, eruptions, vague headache frontal in character but not extremely severe, failing excretion by the kidneys, liver, and bowels, form a clinical picture not difficult to recognize if the attention be directed to it. In rare cases uterine hemorrhage is a most important symptom of profound toxæmia.

In examining the urine, we ascertain its quantity, its amount of solid material, and the presence or absence of débris from the kidney as of primary importance. Of secondary value is the presence or absence of serum albumin and of lactose.

To ascertain the solid waste, the specific gravity of the urine should be taken, and the last two figures of this number multiplied by 2.33 give approximately

the number of grams of solid matter in one thousand cubic centimetres of urine. Haines' modification of Haeser's method consists in multiplying the last two figures of the specific gravity by the number of ounces voided in twenty-four hours and the product by 1.1.

The estimation of the amount of urea is valuable not only to assist us in measuring the quantity of solid matter excreted, but also because the presence of urea in considerable amount indicates that assimilation is well performed and that nitrogenous food is well digested and is not broken up into irritating and poisonous compounds. Hence the estimation of urea during pregnancy is an important clinical resource, the value of which experience has fully confirmed. A number of convenient forms of apparatus are readily available for this purpose.

It is sometimes difficult in dealing with patients to induce them to measure accurately the quantity of urine passed and to send specimens regularly for examination. In most cases, however, the patient cooperates willingly in the physician's attempt to give her accurate care. Kidney débris may be obtained by the use of the centrifuge or by sedimentation. The character of the epithelia, the degree of degeneration present, the number and character of casts found, and the presence or absence of blood give reliable information as to the condition of the kidney.

Serum albumin when present in excess is accompanied by kidney débris and indicates a seriously impaired condition of the renal epithelium. Unless, however, kidney débris is present and the solid waste is poorly eliminated, serum albumin alone is of little significance as an indication of danger. Anæmic multiparæ are sometimes seen with much swollen legs, who have considerable quantities of serum albumin in the urine but who excrete well in other ways and pass through pregnancy without danger.

The presence of various forms of sugar in the urine suggests interesting problems. Lactose is naturally referred to the activity of the mammary glands. Other forms of sugar may be seen in highly nervous women who have ravenous appetites and eat very largely. In a case now under observation, at the fourth month of pregnancy, a highly nervous multipara had for some time in the urine an average of one per cent. of sugar which was not lactose. This was accompanied by polyuria and excessive appetite. Sugar is now absent from the urine without especial modification of the diet or medical treatment.

The treatment of the toxæmia of pregnancy is too large a subject to occupy us extensively at this time. Experience constantly proves that physicians must not be deceived by supposing that serum albumin is the most important indication of failing excretion. The part which the liver plays in the production of poisonous compounds causing eclampsia is recognized more and more. The physician must satisfy himself that the liver, intestines, kidneys, skin, and lungs are doing their part in digestion and excretion.

The diet of the patient should be as nearly as possible milk, fruit, and bread. If heartburn be annoying, milk may be diluted with any carbonated water with advantage. In some cases it should be partially peptonized. Buttermilk is exceedingly useful with those who can take it. In my experience the majority of women in comfortable circumstances can limit the consumption of meat during the latter two-thirds of pregnancy to once daily with advantage. Fish, oysters, white meat of poultry, and mutton or lamb are to be preferred when meat is taken. The alkaloids of tea and coffee check excretion very markedly with some women. Coffee is especially injurious to those who suffer from chronic intestinal indigestion. Alcohol in toxæmia is not indicated but injurious. The mistake must not be made in dealing with these patients so to limit the diet as to reduce strength. It often requires considerable perseverance and attention to induce the patient to take sufficient milk. The skilful preparation of milk foods such as junket, koumiss, and milk puddings is of great assistance. When thoroughly ripe fruit is not available, fruit should be stewed or baked, and when fresh fruit cannot be obtained, dried fruits and those put up with little sugar should be used.

The use of water in toxæmia deserves especial mention. At least one quart should be taken internally daily, and this may be any pure water agreeable to the patient. Externally, water should be used in a cool sponge bath in the morning and a warm tub bath at night. The evening bath is our best reliance in diminishing the irritability and insomnia which often annoy these patients. Water may also be used in flushing the colon and by injection into the bowel. In cases of obstinate constipation when the bowel has been emptied, a daily flushing with one gallon of decinormal salt solution followed by the injection of two quarts of sterile water is of great advantage. A skilful nurse can usually succeed in this treatment by turning the patient on her left side with her hips raised and by introducing a long rectal tube with patience and gentleness.

The patient must spend as much of the day as possible in the open air, and her house must at all times be well aired.

The choice of drugs in the treatment of toxæmia is in my experience a limited one. Salines should be selected for their freedom from potassium. Sulphate of magnesium in some form is especially valuable. Carlsbad salts taken in hot water upon rising answer exceedingly well in many cases. In others, a mineral water, rich in sulphate of magnesium, may be selected. Those patients who are annoyed by the presence of gas often complain that salines increase the gas in the intestine, and this statement is borne out by careful observation.

I know of no drug which so efficiently influences the throwing out of solid waste in the body as calomel. In doses of $\frac{1}{20}$ of a grain night and morning or in much smaller doses, $\frac{1}{100}$ of a grain three times daily, in my experience it is most successful. I have continued this for several weeks without signs of mercurial irritation. It is sometimes necessary to supplement this by salines, while others do well upon this drug only. Under its use the percentage of solids in the urine increases, the percentage of urea is distinctly increased, the pulse tension is lessened, the patient's symptoms are much improved, and her condition is very greatly benefited. I know of no other drug which is of essential value in this condition. If the patient complains of insomnia, restlessness, and headache, the practitioner would natually be tempted to give sedatives, notably bromides. This in my experience is a mistake, as treatment addressed to increasing elimination causes the disturbance of the nervous system speedily to cease. If a sedative is needed in toxæmia, chloral or some derivative of it, gives the best promise of success.

Up to the present time, I have been uniformly successful in the treatment of toxæmia during pregnancy by the methods described. An illustrative case is the following: The patient was in her sixth pregnancy. The first was followed by a miscarriage upon violent exertion. During the second, she was exposed while yachting to severe cold, followed by a sharp attack of nephritis, from which she was rescued with difficulty. Her next pregnancy was followed by an abortion at six months. In the next pregnancy at eight months, albuminuria developed rapidly and labor was induced with the birth of a living child which survives. At the next pregnancy, she had

eclampsia and labor was induced, followed by the birth of a child which soon died. She came under observation when one month pregnant for the sixth time. The patient was in other respects strong and robust and had in previous pregnancies strictly followed the general hygienic precautions which her physicians had ordered. Her case had been very carefully and thoroughly studied during previous pregnancies. The examination of her urine showed it to be normal. Owing to the bad previous history, pregnancy was considered most hazardous by the physicians consulted in the case. When seven weeks of pregnancy had elapsed, hyaline and granular casts with a trace of albumin were found in the urine. The amount of solids excreted continued good. The interruption of pregnancy was declined by the patient, who preferred to make a further effort to secure a second living child. Accordingly between the tenth and twelfth week of gestation the patient was put upon a diet from which meat was omitted and nitrogenous food reduced very largely. Examinations of the urine were made most carefully each week, and the patient was seen frequently by her attending physician. The only medication employed was calomel in $\frac{1}{20}$-grain doses and a saline taken in the morning. The patient gave up her entire life to the continuation of the pregnancy, and in addition to restriction of diet and medication, followed strictly other precautions in maintaining her general hygiene. She was warned that in the later months of pregnancy labor might come on rapidly, and as pregnancy progressed and elimination began to decrease, her urine was examined daily. At about eight months, she suddenly expelled a living child weighing five pounds fourteen ounces. This child survives in excellent condition and is still nursed by its mother. Both have made an excellent recovery. The placenta in this case was highly degenerated, a large portion being filled with white infarcts. In this case, the fact that the husband is a physician and that she was so closely watched made the continuance of pregnancy possible. Every preparation was made to empty the uterus should the patient fail at any time during the pregnancy. In view of the fact that she had taken most careful precautions regarding diet and in other ways during previous pregnancies which had resulted disastrously, the success of the last pregnancy may be thought to be owing not only to general precautions but to the use of calomel under the observation of her husband, at intervals during the later months.

While the descent of the fœtus into the pelvic brim is a spontaneous process, it may be aided by the voluntary acts of the mother. Such exercise as causes the muscles of the lower extremities and of the abdominal region to contract while the patient is erect or bending forward is most efficient in furthering the descent of the fœtus. To utilize the muscles of the upper portion of the body, the patient must contract them while in the kneeling or squatting posture. Scrubbing a floor or stairs while kneeling is most efficient. Such exercise, however, is not available among those well to do. Walking is also useful and is the most available exercise for all classes of patients.

The arrangement of the patient's clothing is not without influence in furthering or hindering the accommodation of the fœtus. It is possible by extreme compression of the abdomen to force the child down upon the pelvic floor, as seen in cases of illegitimate pregnancy, in which the mother laces tightly to hide her condition. Long-continued compression, however, so weakens the abdominal muscles that accommodation is imperfectly secured in spite of the downward pressure exerted. To bring about the desired result, the patient should be advised to remove all constriction from the abdomen, to allow the uterus to assume as nearly as possible its natural situation. The bowels should be kept open and the patient urged to take exercise. Should the abdomen be pendulous and the uterine wall stretched, it may be necessary to apply a well-fitting abdominal supporter or bandage.

The presence or absence of accommodation is to be ascertained by palpation and the comparative test of fitting the child's head into the pelvic brim. If the head has entered the brim, this will be detected by grasping the head between the thumb and fingers of one hand placed above the pubes or by grasping the head with the two hands pressing deeply into the tissues parallel to Poupart's ligaments upon each side. A vaginal examination will confirm the diagnosis, and inform us of the degree of descent present. Attention must be called to the fact that the child's head may lodge at the brim of the pelvis, and strong lateral flexion taking place, may force down one of the parietal bones, giving a very deceptive impression to the finger of the examiner. Mistaking the parietal eminence for the vertex, he may imagine that descent has begun when the head has not entered the pelvic brim. In cases in which the induction of labor must be accepted or rejected, if there be difficulty in making an examination, an anæsthetic should be employed. In patients who take ether badly, chloroform may be used with great comfort to the patient and convenience to the physician. With anæsthesia, the physician can make a bimanual examination of the position of the head, fitting it into the pelvis with one hand while the fingers of the other study its position and relation to the pelvic brim. It must not be forgotten that success in such an examination requires that the bladder be empty, and that it is well to catheterize a patient who is under an anæsthetic, because the nervous apprehension of anæsthesia often results in a free, sudden secretion of urine, thus distending the bladder with but little warning. Aseptic precautions should be observed in this as in all other manipulations during pregnancy.

For disproportion and disease threatening life, the induction of labor is clearly indicated.

I can allude but briefly to the most recent papers upon the induction of labor and its results. Heymann[1] reports one hundred and seven cases of induced labor. For disproportion he chose the thirty-third or thirty-fifth week of gestation; 64.3 per cent. of the children survived. The shortest antero-posterior diameter of the pelvic brim in his cases was 7 cm. He could trace no mortality among the mothers which he could fairly assign to the induction of labor. He failed in some cases to rescue the mother from a dangerous condition by induced labor. Aside from disproportion, he induced labor most frequently for threatened eclampsia, lesions of the heart, and tuberculosis. His method was that of Krause: the introduction of an aseptic bougie to excite uterine contractions. In Schauta's "Festschrift"[2] Skorscheban reports forty-four cases of induced labor, eleven of them for contracted pelvis. He chose the thirty-fourth to the thirty-eighth week and secured 91.7 per cent. of living children. There was a large mortality among these children during the first year of life. The mothers had no mortality traceable to the operation. In thirty-three patients he induced labor three times for osteomalacia, in fourteen for lesions of the heart, in seven for nephritis, in three for pernicious nausea, in five for tuberculosis, and in one for paratyphlitic abscess. The mortality was six per cent. among the mothers; 79.4 per cent. of the children were born living. The success of induced labor is emphasized by Grusdew's

[1] Archiv für Gynäkologie, Band 59, Heft 2, 1899.

[2] Monatsschrift für Geburtshülfe und Gynäkologie, Band 11, Heft 1, 1900.

report.[1] He terminated pregnancy in this way nine times in one patient. A new method of inducing labor is advocated by Spinelli.[2] He carries a strand of gauze soaked in ichthyol and glycerin between the membranes and the wall of the uterus. A plea for the revival of Kiwisch's method of inducing labor by vaginal douches is made by Sarwey.[3]

Disorders of the blood during pregnancy become most pronounced in the later months and demand recognition and treatment. An examination of the blood will reveal the nature of the disease and give us valuable information as to the severity of the process. If leucocytosis is well marked, we may suspect some chronic inflammatory process with the development of a focus in the pelvis, which may occasion septic infection after confinement. If the patient is highly anæmic and the corpuscles are much disintegrated the danger of hemorrhage during and after labor will be considerable. In the treatment of these conditions, the action of the intestine must be stimulated by gentle but thorough purgation, and arsenic, iron, and bitter tonics employed liberally. The abundant use of milk is especially valuable with these patients.

One of the causes of anæmia in pregnancy is syphilis, and search must be made for this disorder in all highly anæmic patients. The treatment of syphilis during pregnancy must be not only constitutional but local, and thorough disinfection with green soap, mercurial solutions, and lysol or carbolic acid is demanded. The danger of septic infection following labor in syphilitic women having an active lesion in the vagina or cervix is so great that heroic measures may be justified during pregnancy. The use of strong antiseptic mixtures, such as carbolic acid and iodine upon these lesions, or even the application of the cautery may be demanded.

In the later months of pregnancy, infection by gonorrhœa must receive attention. The free use of douches of tincture of green soap and water, followed by bichloride injections, gives good results. The region of the urethra and meatus must be thoroughly cleansed and disinfected by suitable measures.

Cancer in the later months of pregnancy may increase with distressing rapidity, causing hemorrhage and threatening the life of the patient. If the cervix be extensively diseased, it is better to extract the child by Cæsarean operation, removing the entire womb.

The possibility of autogenetic infection is of great interest in connection with the responsibility of the physician to prevent sepsis by the disinfection of the patient before labor. At the recent Paris Congress, Doléris, Menge and Krönig, and Pestalozza read papers upon this subject, distinctly reiterating the belief which has been held by many, that previous infections may leave a patient during her pregnancy with infectious germs within the birth canal. While in perfectly healthy women the birth canal is aseptic and its secretion antiseptic, if this canal has been invaded by gonorrhœa, syphilis, cancer, or other mixed infection, in pregnancy subsequent to this infection the patient must be considered as capable of autogenetic sepsis. It is the duty of the physician in the later months of pregnancy to know whether his patient has a vaginal discharge indicative of infection. If possible, a bacteriological examination of suspicious discharges should be made, and such disinfection practised as the results of the examination indicate. Certainly no obstetrician could be held entirely responsible for puerperal septic infection in the case of a patient who at the time of labor was known to be suffering from a pre-existing infection. So difficult is it to thoroughly disinfect the birth canal that our efforts to do so are not always attended by success. That this effort must be made is evident, but we must also remember in such cases so to conduct labor as to give the least opportunity for infection, and we must recognize the danger of infecting others from such a case.

During the later weeks of pregnancy the drawing out of the nipples, the cleansing of their surfaces, and the healing of cracks and fissures in the epithelia should receive attention. Sterile cocoa butter or olive oil, subnitrate of bismuth and castor oil, and a borated lanolin or oxide-of-zinc ointment are all useful. Congenital fissures of the nipple expose the patient to added danger, because the epithelium is often thinner than usual upon these surfaces.

Abnormal conditions of the fœtus may often be diagnosticated during the later weeks of pregnancy and demand attention. The coiling of the cord about the child's neck may be recognized by the murmur which accompanies it, and warns the obstetrician not to permit the labor to continue indefinitely lest pressure upon the cord and asphyxia should result. Abnormal presentations may often be corrected in the very first stage of labor and threatened danger avoided. Polyhydramnios may require the rupture of the membranes at the later portion of the first stage, with compression of the abdomen and uterus in the interests of mother and child. Rapidly increasing polyhydramnios calls for the interruption of pregnancy, and the patient must be warned that sudden rupture of the membranes may occur at any time.

During the later weeks of pregnancy occur those hemorrhages from partial separation of the placenta which are so dangerous to mother and child. In cases in which direct violence is present as a cause, the accident is sufficient to warn the obstetrician. An abnormal position of the placenta can often be detected by auscultation and palpation, and thus the physician can be warned of the danger of hemorrhage at the very beginning of labor. The presence of a serious heart lesion in the patient, of advanced kidney disease, and of any condition interfering seriously with the circulation of the blood through the abdominal viscera, predisposes to hemorrhage in the later months of pregnancy. The detection of this condition must put the obstetrician upon his guard.

By placenta prævia we understand such an attachment of the placenta that it is separated from the uterus when dilatation of the womb begins. If the placenta be as low in the womb as the lower uterine segment, it is, properly speaking, a placenta prævia. It is not infrequently possible to diagnosticate such an attachment if the placenta be upon the anterior wall of the uterus. The recent papers of Ponfick[1] and Fraenkel[2] describe recent investigations into the anatomy of placenta prævia which illustrate the point in question. In the treatment of this condition the diagnosis of central placenta prævia at any time during pregnancy must be followed by the immediate termination of the pregnancy. This may be done by the gauze tampon or the elastic bag as recommended by Von Holst[3] in a recent paper. If the patient be near term and the child viable, if the conditions for operation are favorable, some urge delivery by Cæsarean section. Experience in this application of the Cæsarean operation is not yet sufficient to warrant a positive recommendation. The treatment of placenta prævia by rapid dilatation and version is not without danger as illustrated by Schutze's case,[4] in which rupture of the uterus followed delivery in placenta prævia by

[1] Centralblatt für Gynäkologie, No. 17, 1900.
[2] Arch. Ital. di Gin., 1898, December 31st.
[3] Archiv für Gynäkologie, Band 60, Heft 3, 1900.

[1] Archiv für Gynäkologie, Band 60, Heft 1, 1900.
[2] *Ibid.*, Band 59, Heft 3, 1899.
[3] Centralblatt für Gynäkologie, No. 46, 1899.
[4] *Ibid.*, No. 19, 1898.

rapid dilatation and version. The use of elastic bags may lead to accident as in Jardine's case.[1] In inducing labor for contracted pelvis and placenta prævia, a De Ribes bag was introduced as a dilator. The bag burst and the fluid which it contained rapidly separated the placenta, causing sudden and severe hemorrhage.

The later weeks of pregnancy give opportunity for a most useful study of the pregnant patient, by which the possibilities for spontaneous labor may be ascertained, abnormalities detected, complications foreseen, and such measures taken as to conduct the woman and her child safely through the perils of parturition. A physician loses a great opportunity not only to enhance the welfare of his patient, but to increase his own knowledge and skill if he neglects this period of gestation.

SOME APPLICATIONS OF STATIC ELECTRICITY IN DERMATOLOGY.[2]

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Static electricity as a therapeutic aid was first employed in America by Benjamin Franklin, about one hundred and fifty years ago. He placed patients on an insulated stool, charged them from a simple frictional machine, and drew sparks from various parts of the body. He also charged large Leyden jars, and discharged them through the patient. With this technic he benefited temporarily or permanently a few cases of paralysis. Others, both in America and abroad, employed static electricity to a limited degree, extending somewhat its range of application.

The voltaic cell, however, came into notice as a therapeutic agent and gained many adherents, in consequence of the simplicity of its operation, and static electricity was relegated to the background. The earlier types of cell—zinc-platinum (Grove) and zinc-carbon (Bunsen), both employing porous cups and strong acids—were inconvenient, insomuch as it was necessary to dismantle and clean them immediately after use. The Smee (zinc-platinized silver) and the Grenet (zinc-carbon), each requiring but a single fluid, rapidly displaced the Grove and Bunsen types, and shared the popularity accorded the Daniel cell and its modifications. An efficient apparatus, however, adapted to general use, required a battery of from twenty to forty cells, capable of generating a current of from twenty to eighty volts, according to the type of cell employed. The current from such a battery flows continuously in one direction.

The studies of Faraday later led to the introduction of a new type of electrical apparatus which is frequently called after his name. This consisted essentially of one or more voltaic cells, a soft iron core and hammer, and two concentric coils of copper wire, insulated from each other; the outer coil having a longer and finer wire than the inner. The circuit from the cells traversed the inner coil, and being broken by the interrupter, generated or induced a current of higher voltage in the outer coil. Instead of using voltaic cells to generate the primary current, the constant direct current from a dynamo may be conveniently employed as I have formerly shown (*New York Medical Journal*, July 11, 1891). Instead of the magnetic interrupter, the initial current may be broken by some mechanical device, as a toothed wheel revolved at a rapid rate by an electro-motor. If Leyden jars or preferably flat condensers be added to the installation and properly connected up as in the Ruhmkorff, a current of still higher tension is obtained. If again, instead of the apparatus being actuated as above, the initial current be taken from a dynamo giving an alternating current, the magnet, and hammer, and the toothed wheel may be dispensed with, and the apparatus be both simplified and rendered more energetic. Some ten years ago Tesla developed this phase to a higher degree than any of his predecessors. In other words, he produced an apparatus that yielded a current characterized by an exceedingly high frequency of alternation, and of a voltage or tension that was a surprise to the world. Concerning the current he wrote as follows: "We operate a coil either from a specially constructed alternator capable of giving many thousands of reversals of current per second; or by disruptively discharging a condenser through the primary, we set up a vibration in the secondary circuit of a frequency of many hundred thousand or millions per second, if we so desire; and in using either of these means we enter a field as yet unexplored."[1]

This field has now been quite thoroughly explored from a physiological and therapeutic standpoint by d'Arsonval, Apostoli, and others. Briefly the effects of this H. F. (high frequency) and H. P. (high potential) current on the human system are an increased utilization of oxygen, an increased elimination of carbonic acid, and an increase in the general metabolism. In other words, it acts as a tonic, or, as I would prefer to term it, an energizer. This statement has been borne out by both clinical experience and scientific experiment. The local effects of this current I shall not allude to here, as those who are sufficiently interested can delve into the ample literature of the subject.

The distinguishing features of the Tesla current are the extreme rapidity of the reversals or oscillations of the current, so great indeed as to defy measurement and almost to defy computation, and accompanying the high frequency the potential is raised to a point and that seems incredible. This type of current, however, was already known to the world through the labors of Dr. William J. Morton, who first drew attention to the "static induced" current in various affections, and thus established a new era in electro-static therapeutics.[2]

Some have endeavored to detract from the credit due Morton in respect to the use of this current, claiming that generations ago its existence had been demonstrated. Be that as it may, it was certainly Morton who first used it systematically in the treatment of disease, and made public the fruits of his experience. Thousands of people had seen steam issuing from the spout of the tea-kettle, but the world waited for a Watts to harness this powerful agency and adapt it to so many useful purposes.

The physiological effects of the ordinary "faradic machine" consist in little more than localized muscular contractions, accompanied with more or less pain, but so far as I have been able to observe, the current possesses but little constitutional influence.[3] With the static induced current, on the other hand, one may obtain simultaneous tetanization of a large number of muscles with little or no pain, and constitutional effects similar to those obtained with the H. F. and H. P. currents derived from the D'Arsonval apparatus.

Static electricity and high-frequency currents have for some time been successfully employed in the treatment of certain cutaneous affections, more perhaps in

[1] Glasgow Medical Journal, January, 1898.

[2] Read at a meeting of the New York Dermatological Society, September 25, 1900.

[1] "Experiments with Alternating Currents of High Potential and High Frequency," New York, 1892.

[2] MEDICAL RECORD, April 2, 1881.

[3] I am not unmindful of the claims made in behalf of Beard's "general faradization."

Europe than in America; and I am enabled by personal experience to corroborate in great measure the claims that have been made in their behalf.

Desiring to use in dermatologic practice high-frequency currents of even higher potential than those of the static induced current, my thoughts turned to the use of the Tesla oscillator, which would involve the installation of an alternating dynamo, condensers, and an up-step transformer. Tesla, however, states, as already quoted, that his H. F. and H. P. currents may be obtained by "disruptively discharging a condenser through the primary of a coil." All that would be necessary, therefore, would be to connect the coarse inner wire of a suitable coil in series with the static induced current.

Mentioning my requirements to Dr. Harry F. Waite, of this city, he constructed an up-step transformer that has yielded the most satisfactory results. The transformer itself consists of an inner coarse wire, the terminals of which are connected to the outer coatings of the Leyden jars of a large static machine. A long coil of fine wire surrounds the inner coil, and the whole is very thoroughly insulated by a modification of the Tesla insulation. The outer case measures seven by seven by twelve and one-half inches. From one side project the terminals of the primary, and from each end the terminals of the secondary coil. The Leyden jars are twelve inches in height and four in diameter, and the inner and outer coatings extend to within two inches of the top. If the static machine be now brought into action, with the sliding poles separated so as to give a spark gap of two or three inches, electric streams issue from the terminals of the secondary coil. If the hand be brought to within about two inches of either terminal, a spark appears to leap forth and pierce the skin. The impact, however, is absolutely painless, in fact barely perceptible to the senses, in this respect quite unlike other static sparks. If fifty or a hundred of these sparks be directed to one point, the skin becomes slightly reddened, and the blush remains for several hours or even a day or two. The same phenomena appear whichever terminal is approached. If one terminal is grasped firmly with the hand there are absolutely no sensation and no muscular contraction, and the same is true even if both poles be grasped, one in either hand. It would seem almost beyond belief that an alternating current, with its millions of oscillations per second and its immeasurable voltage, also (by calculation) in the millions, should thus traverse the body without affecting it to a degree appreciable to the senses. Yet such is the case. Whether this current produces any physiological, constitutional, or metabolic effects, I have not determined, as my observations thus far have been confined to a study of its local effects on cutaneous lesions.

The most convenient way of applying the current is by means of special electrodes. One of these is a metallic point with insulated handle, and the other a closed glass tube about five inches long and three-fourths of an inch in diameter, with an inner coating of tin foil. This also has a long, well-insulated handle. The electrodes should be connected to the terminal of the secondary coil by means of a well-insulated cord, and when in use kept free from any possible conductor, as otherwise a portion of the current will be dissipated. From the character of the current it may be conveniently termed a high-tension oscillating current, or briefly H. T. O. As the term "secondary," however, has been applied to the static induced current, the one here described may, with equal propriety, be termed tertiary.

My use of this tertiary current has been chiefly in connection with chronic infiltrated eczema, rosacea, acne, localized pruritus, pityriasis capitis, the localized so-called "eczema seborrhoicum" and seborrhœa oleosum, in all of which resolution of the lesions has been accomplished more rapidly than by any means previously at my command.

Addendum. It has already been stated that if the terminals of the secondary coil of the transformer be grasped, one in either hand, there is absolutely no sensation or apparent muscular action. If, however, one hand be removed, say half an inch from one of the terminals, muscular contractions immediately ensue. This led me to intercalate Ranney's device for regulating the spark gap, and by means of it, generalized contractions can be controlled with the utmost nicety; ranging from those barely perceptible up to those that are hardly bearable. If asked concerning this current, "*Cui bono?*" my only present reply must be "*Quien sabe.*"

As a further experiment I placed the Ranney regulator in series with the primary coil of the transformer, and obtained a current apparently more energetic than when it was in series with the secondary, but both sparks and muscular contractions were more painful, and the cutaneous reaction was greater. It reminds me, in fact, of the effects obtained with a high-frequency machine in which an alternating dynamo is the source of energy; in other words, of the Tesla current. I have not as yet made any therapeutic use of this modification of the current, but would not be surprised if it should prove useful in some of the profounder lesions of the skin.

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OBSERVATIONS ON THE SURGERY OF THE GALL TRACTS.[1]

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The surgery of the gall tracts may be said to have begun about twenty years ago. In 1879, Lawson Tait did his first cholecystostomy for removal of gall stones. This marks the opening of this field to the operations of the surgeon. Its development has been slow when compared with other departments of abdominal surgery. The complicated apparatus for storing and discharging the bile, together with much that was obscure as to its properties and uses, gave rise to many complicated problems in diagnosis and operative procedure, for solution by the surgeon. These difficulties have made progress slow and hesitating. These questions have engaged the attention of a multitude of workers all over the world and not only among surgeons. Their solution has been contributed to largely by the work of the physician, the physiologist, and the bacteriologist. Chemistry and pathology have lent their aid. The complete solution of any of them cannot yet be said to be an accomplished fact. A very great deal of work still remains to be done. The subject still remains a live one. As its investigation has been pushed along by a multitude of isolated workers, so it must be carried to something like finality in the same way.

Each year gives an added importance to the biliary apparatus as a factor in disease, as we understand it. Next to the appendix and the uterine appendages, it is the avenue by which serious disease most often enters the abdominal cavity.

Disease of this part mimics many other troubles. Many dyspeptic symptoms, nausea, vomiting, gastric pain, and discomfort are often traceable to this cause.

[1] Read before the Oregon State Medical Society, June 26, 1900.

Chills and fever simulating malaria are produced by infection here. Visceral cancer, as well as disease of the appendix and of the right kidney, is imitated.

In arriving at a diagnosis in cases of digestive disorders, in abdominal cases having localizing symptoms in the upper half of the abdomen, and in fevers of obscure origin and causation, disease of the biliary tract needs to be considered and excluded.

The clinical picture in disease of the gall tracts is very variable. The symptoms are numerous and their combinations almost infinite. The most constant symptom is tenderness on pressure over the location of the gall bladder. During the quiescent period no symptoms are present. The gall bladder might be filled with calculi, which would give no indication of their presence till one of them became engaged in the duct, and then there would be developed the symptoms of biliary colic.

As severe symptoms may be caused by the presence of a single stone as by that of a hundred. During an attack the pain may be widely diffused over the upper part of the abdomen or referred to the stomach, but the point of maximum sensitiveness on pressure will be over the gall bladder. There, too, will be the location of greatest muscular rigidity.

The attack may be so moderate, the pain of such a character and location as to be referred to the stomach, while the attendant nausea and vomiting seem to point to a gastric rather than a biliary cause. The differential symptom will be that the point of greatest tenderness on pressure will be over the gall bladder. If, during the attack, the common duct should be obstructed, jaundice will appear if the obstruction continues sufficiently long. If the obstruction lasts but a short time this symptom will be absent or so slight as not to be certainly recognized. Then another symptom is available. If the urine secreted during the attack or immediately after it be examined it will give the reaction for bile. This is an exceedingly valuable means. It can be used to advantage in certain cases of suspected biliary attacks, which from any reason cannot be personally observed by the surgeon. It will occasionally convert a well-grounded suspicion into a diagnostic certainty.

Not to be too curious as to first causes, I would say that gall stones are the cause almost invariably of the troubles we are now considering. Of course there must be a cause for the stones.

In operating on cases that have a history extending over a long period of time, quite often calculi are not found. Yet it is almost certain that they have been present, and by their presence and the traumatisms they have inflicted have worked changes in the biliary tracts attended by the most serious consequences. Stricture of the ducts causing permanent jaundice; or obstruction to the proper drainage of the gall bladder giving rise to overdistention, etc.; ulceration and erosion of the lining mucous membrane, changing the character of its secretion, making it thick, viscid, and difficult of discharge, and affording a culture medium for pathogenic bacteria, with the complex train of disturbances that an infection of these complicated passages implies—these are some of the consequences referred to.

In our operative procedures, it is not difficult generally to give relief, at least temporarily. The operation of Tait (cholecystostomy) will do this, and is the operation attended by the least risk. It will give permanent relief in many cases. In some, it will be followed by permanent fistula, in which case the relief will be permanent also, but with the annoyance of an external discharge. The closure of the fistula may be followed by a return of symptoms, a relapse, notwithstanding at the time of operation every stone was removed from the gall bladder, and the ducts were cleared. Other stones may form, or permanent changes in the bile passages, referred to before, may be present which will again cause trouble. I have at present under observation three patients who either have permanent fistulæ, or they suffer relapse when the fistulæ close.

We are extremely anxious to give permanent relief, and if possible by a single operation. This will be most certainly accomplished by permanent drainage of the gall bladder, by means of a cholecystenterostomy, after removing all stones from the bladder and ducts. This is most easily and rapidly done by means of the Murphy button. The button has the disadvantage that not infrequently it is not recovered. It is either retained or escapes observation when passed. In about half the cases in which I have used it, it has not been recovered. In none of these, however, have I noticed any evil consequences from it; nevertheless its recovery is always a source of satisfaction, and removes a certain anxiety as to the patient's future. When the common duct is free, the connection is best made, in my opinion, with the colon. This serves the purpose of draining the gall bladder, which is all that is necessary, and with the least disturbance of the natural arrangement of parts as they are in relation with each other. When the common duct is obstructed, then the connection should be made with the duodenum if the difficulties are not too great, otherwise with the small intestine high up.

Should it be demonstrated, as some assert to be the case, that the bile is excrementitious material and has no function to perform, then the colon will be the best point of attachment in all cases.

The ducts can be palpated throughout their whole course, by introducing one or two fingers though the foramen of Winslow. They can thus be engaged between the fingers and thumb, and any stones within them can be felt.

Judging from my own experience, and the published reports of others, patients with long-standing disease of the gall tracts are poor subjects for surgical operation, and surgical interference is attended by considerable risk. In such cases I believe it to be wiser to do first a cholecystostomy, the simplest operation, and the one attended by the least risk, leaving more radical treatment for another time, should it become necessary.

I would emphasize the following points:

1. The diagnostic value of the point of maximum tenderness on pressure, which is over the gall bladder at or near the costal margin of the ninth rib. This point in disease of the gall tracts corresponds in importance with McBurney's point in disease of the appendix.

2. The diagnostic value of the presence of bile in the urine excreted during or immediately after a very brief obstruction of the common duct.

3. Disease of the gall tracts is of very common occurrence, and is liable to be mistaken for other troubles which it closely imitates.

I would urge upon the physician the importance of these troubles and of their early recognition. He should familiarize himself thoroughly with their symptomatology, and train himself to recognize them promptly. The time is not very remote when it will be as much a matter for censure to fail to recognize the presence of disease of the gall tracts as it now is to overlook that of the appendix.

Bites.—Dr. K. Shimizu recommends the local application of an infusion of cassia occidentalis in insect and snake bites. He also praises "good ripe kaki" (persimmon) in obstinate vomiting of pregnancy and in diarrhœa.—*Medical Brief.*

THE SOLDIER'S RATION IN THE TROPICS —ITS USE AND ITS ABUSE.

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LATE SURGEON FIRST U. S. V. ENGINEERS.

In the great race for the survival of the fittest, wars are inevitable. Temporary checks may at times be brought about by the influences of civilization, and peace conferences may for the moment gratify the optimistic fancies of a visionary age. But the great truth remains that the natural termination of animal life is tragedy. In pre-historic and savage ages, this applied to the human as well as the lower animals. Civilization, in a measure, temporarily modified this through the influences of church and state and the conquests of medicine; to nothing, however, so much as to the science of medicine, which, since before the time of Hippocrates, has been steadily fighting and conquering the most terrible devastating enemies of humanity. Medicine has done far more than militarism. It has conquered or mitigated plagues and pestilences, which in single epidemics have destroyed more lives than the total of the combined armies of the world. In one outbreak of cholera in China thirteen million victims succumbed to this disease. History commits no greater injustice than the mention of a thousand generals to one physician. But what great purpose have the conquests of science attained for our armies?

Europe, to-day, is one vast military camp, the resources of each country taxed to the utmost limit to support the great living plants for human destruction, the armies and the navies; and America is not far behind. Thousands of millions of dollars are annually expended by the civilized nations of the world in the maintenance of great military schools and arsenals, for the education of men in the art of war, and in the manufacture of machines of human destruction, while comparatively little is being done in the study of those equally important subjects, preventable diseases in armies and the preservation of the health of "the man behind the gun." We go blundering on, expending over a million of dollars a day in our effort to destroy our human foes, while the more formidable adversary in the ranks, which history has shown to be five times more deadly than the bullets of an enemy, is left comparatively unheeded. Even the demand for the expenditure of a single million, or the cost of running our army for less than a day, for experimentation in the study of preventable diseases, and in the solution of dietary problems, so necessary for the preservation of the soldiers' health and energy, would be howled down by the short-sighted representatives of the people.

And what is the logical result of such mental myopia?

In the late Spanish-American war, fourteen men died of disease for every one that was killed by bullets.

Every death from preventable disease is an insult to the intelligence of the age. When it occurs in an army, it becomes a crime. The first responsibility of a government in times of war or peace, should be the proper care of its guardians. The state deprives the soldier of his liberty, prescribes his exercises, equipment, dress, and diet. It should, therefore, give him the best sanitation and the best medical supervision that the science of the age can devise. The morals of most wars are *cash*. From a moral then, as well as from an economical standpoint, the state should guard the soldier's health, for nothing is more costly in war than disease, and, after war, than the pension claims.

A personal experience in two of the latest tropical wars, and a study of the statistics of others, led the writer to the conviction that the cause most prominent in bringing about the conditions most favorable for the development of preventable disease in both these wars resulted from the misuse of food. And that this object-lesson may not be without its advantage to other lands is the *raison d'être* of this paper.

Attributing to climate the diseases of the tropics is an error due to ignorance and custom. The vast majority of ailments accredited to climate have their origin in the use of improper foods, in over-feeding, or in the abuse of stimulants.

During the past two years, it has been my misfortune to see two great armies, one in my own southern country in Cuba and Porto Rico, and one in the Philippine Islands, largely invalided through errors in improperly subsisting the troops, and through hyperalimentation. When whole regiments were suffering from stomach and intestinal catarrhs, diarrhœas, and kindred ailments (and I have seen over seventy-five per cent. of an entire command in this condition at one time), they were subsisted on a ration of rich meats, pork, beans, tomatoes, and other foods, that aggravated the diseases, crowded the hospital tents, and left the men weak and emaciated, so that their return to health was a prolonged struggle.

By this method a vicious circle was established, the diseases grew by what they fed upon— the utter unsuitableness of the ration creating the trouble and intensifying conditions which often resulted fatally, and which were always to the detriment of the soldier. Taps, and the last volley, were often the only reward many a poor soldier received for his patriotism.

From an extended observation of the commissary service of nearly every army of Europe, and those of China, Russia, and Japan, I believe that the ration served to the American soldier in the tropics was the richest, most expensive, and by reason of its richness the most unsuitable. The potential energy of this ration as represented in caloric units was 4,448; that issued to the British soldier in a temperate climate is but 2,800, while the caloric units in the ration of English prize-fighters, as given by Gillespie of Edinburgh, is but 2,200. It is an old saying that "The ration wins the battle." As furnished to the army, it was an excellent winter food, rich in nutritive and caloric power under a low temperature; but for a tropical land, the excess of carbon furnished by it to the lungs, over and above that which they could dispose of, imposed upon the liver and kidneys additional duties of elimination, producing congestions, fermentation and catarrhs, dyspepsia and lithæmia, glycosuria and phosphaturia, interfering with metabolism, and creating conditions favorable to bacterial development, together with almost the entire train of disease which crowded the army hospitals. In phosphaturia, especially, the nervous system is deprived of the salts necessary for its proper functions, which deprivation to the soldier not infrequently resulted in mental disturbances that in many instances ended in suicide or insanity. How little the climate was responsible for these cases may be inferred from the extreme rarity of sunstroke in the tropics. The writer, after years' experience, has yet to see his first case of this nature there, although he has numerous friends, English, German, French, and American, residing between Bombay and Shanghai, who have lived in those lands for periods varying from twenty to forty years, and who have maintained excellent health throughout the entire time, simply by regulating their foods and exercise. They could have lived equally well in the arctic zone by following similar precautions.

Dr. Ordronaux, a prominent surgeon of the American army in the war of the Rebellion (1861–64), said: "By a proper disposition of his diet, man lives as healthfully under the equator as under the pole. The East Indian with his rice and yams, and the Esquimau with his seal blubber and putrid fish, are both

healthy enough in their respective climates, but let them once change residences without changing their diet, and what would be the consequences? The Esquimau would be attacked with putrid fever, and the West Indian would die of inanition.

"We perceive from this the absolute necessity of modifying all forms of diet in such a way as to accommodate them to the physiological requirements of the varying seasons. For habit is not acquirable as against the laws of chemical combination, and no man can become habituated to doing that with impunity which, being a violation of the physiological laws of his system, is by its frequent admonitions of pain notifying him of the evil about to overtake him."

"Habit is not acquirable against the laws of chemical combination." The soldier cannot disregard these laws, even under orders. An army regulation may provide a ration which violates nature's law, but no human power will permit a soldier to subsist on it and maintain his health.

The experiences of the British in Burmah and the West Indies, and the French in Algeria, forcibly illustrate this. In the first Burmese war, for six and a half months the troops were subsisted on salt ration almost exclusively, and forty-eight per cent. of them perished within ten months, principally of scorbutic dysentery, while in the regiment of Cameronians seven hundred out of nine hundred were invalided from the same cause in two months. In both instances these diseases were induced by an almost exclusively salted diet, which not only irritated the intestines, but did not furnish sufficient nutriment to the system. It was observed in the West Indies, in the Leeward and Windward Command, that after an issue of salt ration five days in the week, the mortality was twenty per cent. When the issue was reduced to two days per week the mortality fell to two per cent. An excess of fresh meat also produces intestinal derangement. This was strikingly shown by Lamaran in the French campaign in Algeria, when the men ate excessively of captured mutton, and rapidly succumbed to intestinal disease. The same condition prevailed in the American army during the Civil War. It was noticed that immediately following a raid in the enemy's country and the capture of quantities of live stock, which was given to the men in excessive amounts, an epidemic of intestinal catarrh or dysentery invariably followed.

Simple catarrhal affections of the stomach and upper intestinal tract, not resolving rapidly, will lead, under an unsuitable dietary, to congestion of the liver, with all the dangers attached to such a state in a climate where the natural antiseptic of the intestine is of such paramount importance. The reduction of quantity in bile will lead to auto-intoxication and extension of the processes of inflammation, until the entire intestinal tube may be involved; and jaundice, duodenitis, enteritis, or colitis is developed, conditions which offer an open door for the entrance of micro-organisms.

The pathological features of the cases on which I was fortunate enough to hold autopsies, whether the causes of death had been pronounced intestinal catarrh, hepatitis, duodenitis, typhlitis, enteritis, enteric or typhoid fever, colitis, dysentery or diarrhœa associated with malaria, presented many similar characteristics. The liver was almost invariably congested. The mucous membrane of the intestine was pale, and covered with a thick, tenacious, adherent mucus; the mucosa was hypertrophied, often deeply congested and ulcerated; in two instances these ulcerations almost encircled the entire intestine. The toughess of the opaque secretions obliterated the intestinal glands, causing atrophy and thus interfering with absorption and metabolism. The solitary follicles stood out with prominence, and the patches of Peyer were distinct, often with minute ulcerations on the surfaces, notwithstanding many of the cases in which they were found presented no characteristic typhoidal temperatures, and during life failed to respond to the Widal reaction.

From earliest history, experience has shown that, in time of war, disease was a far more deadly foe to an army than were the bullets of an enemy. In the war of the Crimea the French lost in killed twenty-one thousand, and from disease one hundred thousand, or about one from bullets and wounds to five from disease. The proportion of losses of the British from disease in that campaign ran a little higher—six having died from disease for every fatality from bullets and wounds.

In the American war with Mexico nearly the same proportions were maintained—five fatalities being ascribed to disease for every one resulting from bullets or wounds. So too, in the war of the American Rebellion, lasting four years, the rate of five to one remained unchanged. In round numbers five hundred thousand perished in hospital wards from the more fatal enemy disease, and one hundred and one thousand fell on the field or died as the result of wounds.

But it has been reserved for the Spanish-American war in the tropics to cause a blush of indignation at the apathy that permitted preventable diseases to play such havoc with its army. In a campaign, the actual hostilities of which lasted from July 1st to August 18th, about six weeks, the mortality from bullets and wounds was two hundred and sixty-eight, while that from disease reached the appalling number of thirty-eight hundred and sixty-two, or about fourteen to one. With proper subsistence and sanitation, these proportions for such a short service, and with men recruited after rigid examination and accepted on account of their splendid physical development and health, should have been reversed.

In the limited scope of this paper it is not purposed to discuss the various ration tables of the armies of the world, or the relative merits of each article of diet. This may be found in the elaborate works of Parkes, Yeo, Carpenter, Ranke, Atwater, Rattray, Eijkman, Mourson, Cohnheim, Notter and Frith, Church, Duncan, and others who are authorities on foods. But I wish to call attention to the dangers in tropical environment resulting from overtaxing the digestive system of healthy men from temperate climes, by the excessive use of meats and fats, which require more oxygen in their metabolism, and thereby create more heat through the activity imposed upon the internal organs in their digestion and elimination.

In addition to tissue repair the ingestion of food is to accomplish two results—the development of body heat, and bodily motion or energy. The mutual relation of income and expenditure has been calculated to a fine degree of exactitude. Ranke's well-known tables show that one-sixth of the total income of food is expended in mechanical force, and five-sixths in producing heat. Carpenter on this question (the lesser production of body heat where the external temperature is high, as in the tropics) says: "Every change in the organic components of the body in which their elements enter into new combinations with oxygen must be a source of the development of heat, and as a considerable portion of the carbon dioxide and water exhaled in respiration is formed within the body by the metamorphosis of its own tissues, and since the metamorphosis is promoted by the active exercise of the nerve-muscular system, it follows that in animals whose habits are peculiarly active, living in climates in which the surrounding temperature is high enough to prevent any cooling influence, the combustive process thus maintained may be adequate for the maintenance of the temperature of the body at its own normal standard. Hence, it appears that we do not want to provide for the heat of the body in the tropics, but

only for the work done when there is a peculiarly active life."

Carpenter says: "The general experience of inhabitants of warm climates is in favor of a diet chiefly or entirely vegetable, inasmuch as such diet affords an adequate supply of albuminates in combination with the other classes of foods without affording more fuel than the system requires."

These statements have an especial interest when considered in conjunction with the highly nitrogenous and heat-producing elements of the United States field ration, which contains nitrogen 18.12 gm., protein 113.26 gm., fats 218.26 gm., and carbohydrates 489.08 gm., and represent in caloric units 4,448.

The average of four dietaries of natives in the tropics when at hard labor (of the West Indies by Maurel, the Abyssinian soldier by Labicque, the cooly in British India by Church, and the Malay by Eijkmann, brought up for comparison to the common standard of body weight, 145 lbs., of the European by Munson, in an admirable essay on this subject) was found to contain of nitrogen 12.18 gm., protein 76.18 gm., fats 40 gm., carbohydrates 560.01 gm. and represented in caloric units 2,900.

Compared with the above average the United States ration represents an excess of nitrogen 5.94 gm., protein 36.08 gm., fats 178.26 gm. and of caloric units of 1,548, while in the principal and easiest energy-liberating element, the carbohydrates, there is a deficiency of 80.93 gm.

Life in the tropics is found to produce the following conditions:

1. Increased body temperature, amounting on an average to over 0.5° F.

2. Loss of body weight due to imperfect oxygenation and the destructive effect of continued heat, amounting to over eight per cent. in the first year.

3. Diminished cardiac action due to low arterial tension and the relaxed state of the capillaries, resulting from the loss of fluids by increased perspiration.

4. Lower pulse rate amounting to three per cent.

5. Reduced pulmonary endosmosis on account of the rarefaction of the atmosphere and the low arterial pressure.

6. Diminished urinary secretion owing to increased perspiration, amounting to thirty-three per cent.; and a higher specific gravity of the blood in consequence.

7. Diminished excretion of urea by the kidneys amounting to ten per cent.

8. Increased secretory activity of the liver caused by the irritation resulting from the loss of fluids and relaxation of the capillaries, and the decreased elimination of urea by the kidneys. This increased activity frequently amounts to congestion, which, if continued, soon becomes chronic with danger of impaired function.

9. Diminished secretion of saliva, mucus, gastric and pancreatic juice, and bile, in consequence of increased perspiration and the higher specific gravity of the circulating fluids.

10. Dependent on these are dryness of the throat and fauces, exaggerated thirst, weakness of appetite, and impaired digestion.

In order to cope successfully with these conditions it is necessary to relieve the digestive apparatus of all superfluous labor. The food should be well cooked to prevent alimentary fermentation, and should contain as little of the albuminoid principles taken from meats and fats as is compatible with the repair of the system. Meat, in the fresh state, being the most perishable of all foods, should, for campaign requirements, be replaced as largely as possible with dried and smoked varieties. The creosote in smoked beef being a gastric stimulant and intestinal disinfectant, when proneness to diarrhœa exists, is a decided advantage. Salt and tinned meat is objectionable. The nutritive value of salted meat is reduced over one-third owing to the solution of the albuminates by the chloride of sodium, and is rendered less digestible through the hardening of its muscular fibre; and tinned meats produce after continued use impairment of digestion. On the contrary, smoked meats are not prone to decay, they retain their nutritive qualities, are easily digested, concentrated, and far more portable for field use.

The energy of the system should be derived as largely as possible from easily digested carbohydrates, instead of from meats and fats. The metabolism of both nitrogen and fat produces much unnecessary heat, through the splitting up of the proteids and the emulsification of the fats. Carbon necessary for nutrition can be provided either in the form of fats or carbohydrates.

Fats are more suitable for tissue growth and repair than carbohydrates alone. A large proportion of fat, however, is as a rule not well tolerated by the digestive organs for continued use, except under conditions of climate like that of the Arctic regions.

Dujardin-Beaumetz regards the average daily allowance of fats as 55 gm. The great purpose of fat in the food is to diminish albuminous metabolism, and it is, therefore, regarded as an albumen-sparing food.

As stated by Baumer, "If flesh alone be given, large quantities are required in order that nutrition and waste may balance one another, but if fat be added the demand for flesh is less."

External temperature influences the metabolism of the hydrocarbon and therefore the amount of carbon excreted. The lower the temperature, as long as that of the body itself is maintained, the greater the metabolism of non-nitrogenous foods and the greater the amount of carbon discharged from the body. In higher temperatures the reverse conditions prevail—there is less metabolism and less carbonic acid exhaled; therefore, excepting for the actual necessities of the system, fats should be avoided in hot climates.

Natural appetite or instinct prompted the avoidance of fatty food by the troops in Porto Rico, Cuba, and the Philippines. Their aversion to bacon, the best form in which fat can be supplied for campaign use, led practically to a waste of this article, except as it was used for culinary purposes.

Carbohydrates, while having much in common with fats, have additional advantages. They serve the same purpose of checking albuminous waste, and, like the fats, they are resolved by combustion within the body into carbonic acid and water. They also yield heat and energy, but do not enter into the structure of the tissues. All carbohydrates are converted into glucose before absorption, and in this form are more readily metabolized than fats or albuminates. Bauer showed that carbohydrates, even when administered in great excess, are almost completely destroyed within the body. He maintains that, owing to the facility with which they are metabolized, they protect other foods from destruction. Owing to the ease with which they are oxidized (as they contain hydrogen and oxygen in the proportions to form water), the carbon is easily liberated for the purposes of energy, and with less production of internal heat. For this reason they are our most valuable factor for the production of energy in the tropics, as they impose less labor on the organs of digestion.

Of the cereals which must supply a portion of the carbohydrates, those indigenous to the tropics are better than those grown in temperate zones, as they contain less nitrogen. Of these maize, rice, and the native lentil, when well cooked, are preferable. In a mixed diet in which fat and albumen are supplied from other sources, rice, on account of the easy digestibility of its starchy components, is especially valuable.

Napoleon, commenting on the terrible trials of the

Moscow campaign, mentions that of all his army the Italian troops withstood the hardships best. They were subsisted on a ration made up almost exclusively of vegetables and cereals. Leonidas and his little Spartan band defended the passes of Thermopylæ on a diet of lentils. The winner of the late international race at the Olympian games at Marathon trained on the same food, the lentil. All were carbohydrate fed.

The advantages of sugar are only now beginning to be appreciated. When energy is to be liberated rapidly with the least tax upon the digestive system, sugar, an almost pure soluble carbohydrate, would seem to be the ideal food for the purpose.

Nature's prodigal supply of sugar-cane, and low-heat-producing but nourishing fruits in tropic lands, would seem to indicate their peculiar adaptability for the particular requirements of inhabitants of hot zones.

The bee and the colibri, whose marvellous endurance is the wonder of the physiologist and philosopher, derive their power almost exclusively from sugar. Every one who has seen the humming-bird suspended in space for hours, with wings moving with lightning rapidity, flying from flower to flower, drawing from the chalice the sweetened dew, must have wondered at the marvellous conservation and correlation of force that enabled it to perform such sustained effort; the motive power was sugar.

In the Philippines the cavalry horses imported from America became emaciated and refused to eat, until it was discovered that molasses or sweetened water sprinkled on the coarse grass or hay made it palatable. When fed to them in this form they flourished and grew sleek and fat. A soluble pure carbohydrate, sugar, had supplied the deficiency. Among the troops in Porto Rico and the Philippines whose appetites and digestions had become impaired, there was a craving for candies and sweets which was astonishing, all due to the same physiological reason, the instinctive desire for an easily metabolized, energy-producing food which these articles supplied. Cyclists, on long "tours de force," have demonstrated what can be accomplished on a ration containing little else than carbohydrates. In these record-breaking trials, extending over periods of many days, the expenditure of energy is nearly continuous. The intervals for rest or sleep are very short, and exhaustion can be counterbalanced only by the most easily metabolized diet. Experiments with the ergostat have demonstrated, by the use of sugar, the rapid liberation of energy following a state of extreme exhaustion. Sugar relieved fatigue more rapidly than other foods.

The excessive use of sugar, however, with a mixed diet, interferes with the digestion of proteids, in diminishing the secretion of hydrochloric acid; but, when the supply of meat and fats is restricted, hydrochloric acid is not required to such an extent, and consequently sugar can be used more liberally. In comparison with other foods, sugar could be regarded as a refined fuel for the system, just as alcohol would be if used for fuel for an engine. In their easy metabolism they liberate energy, and in their perfect combustion they leave no ash or waste products.

Tea and coffee contain the identical alkaloids, theine and caffeine; but for campaign purposes tea has many advantages. When compressed in cakes it is concentrated and easy of transportation. Two minutes are sufficient for its infusion, and if taken in a weak solution, as it always should be, the large quantity of palatable sterilized water introduced into the system forms not only a refreshing beverage but stimulates the processes of digestion, and increases remarkably the soldier's power of enduring great fatigue in hot climates.

Curry is a valuable addition to the usual condiments (pepper, salt, and vinegar). It aids digestion in stimulating intestinal secretion, and acts as an anti-fermentative.

A liberal ration for the soldier in the tropics could be supplied in the following articles:

Fresh meat 10 oz. or its equivalent in dried and smoked beef, bacon 2 oz., flour 12 oz., rice, lentils, or maize 4 oz., succulent and green vegetables 14 oz., dried fruits 2 oz., sugar with chocolate 4 oz., tea and condiments including curry, salt, pepper, and vinegar 3 oz.

This allowance represents about 40 grains of protein, 15 of nitrogen, 83 of fat, and 540 of carbohydrates, and equals 3,300 caloric units, or more by 400 than the average given in the dietary quoted by Munson for men at hard labor in the tropics.

From this list an extremely light, portable travel ration could be selected. By doubling the quantity of sugar, the bulky carbohydrates (the vegetables, fruits, and cereals) could be omitted, and the energy-supplying quality of the ration maintained at almost its full standard.

If supplemented by an occasional indulgence in fruits and vegetables to be found *en route*, to supply vegetable salts and acids, an army could subsist for months under severe physical strain, and maintain its health and vigor. The pea sausage, as used by Kitchener in his campaign from Khartoum to Omdurman, has amply demonstrated this.

A consideration of this topic by the International Congress may not seem pertinent to its members; but just now, with the allied armies of Christendom gathered in a foreign clime for a common purpose, with the Caucasian arrayed against the yellow races—the Occident against the Orient, the temperate zone against the tropic, and the prestige or preservation of modern civilization the tremendous issue—the study of these problems, on the successful solution of which victory or defeat may depend, becomes of paramount importance.

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Subarachnoidean Injections of Cocaine as a Substitute for General Anæsthesia in all Operations Below the Diaphragm; with Report of Nine Cases.—John B. Murphy says that an American, Dr. Leonard Corning, demonstrated in 1884–85 that anæsthesia could be produced in this way. Oberst, Bier, and others later took up the matter, but the man who really advanced it as a practical anæsthetic is Tuffier. The advantages of the procedure are: ease of application; thorough analgesia of all the tissues below the diaphragm; the retention of the sense of touch; absence of the reflexes; consciousness of the patient; avoidance of the primary intermediate and secondary sequences of the anæsthetic, as cardiac phenomena, pulmonary lesions, and renal disturbance. Whether the cocaine will be found to interfere with the function of other organs time alone must determine. Tuffier, in his extensive experience from last November to the 10th of August, has had no untoward results of any kind, and has secured complete analgesia in every case. Hysterectomies, salpingectomies, nephrectomies, pylorectomies, cholecystostomies, and operations of that class are performed by him regularly in accordance with this method. The author gives the technique of the method, and reports nine cases of his own.—*The Chicago Clinic*, September, 1900.

Venomous Snakes, their Bites, and How to Treat Them.—Joseph McFarland says that, briefly outlined, the treatment of snake bite is (1) immediate interruption of the circulation of the bitten member, so as to prevent absorption of the poison; (2) free incision

and enlargement of the fang wounds and forcible suction to extract the poison; (3) hypodermic injection of three to six drops of a fresh ten-per-cent. watery solution of chloride of calcium into about a dozen different areas about the wound; (4) strychnine given hypodermically to stimulate the respiratory centre; (5) immediate and frequently repeated hypodermic injections of 10 to 20 c.c. of the antivenomous serum, or, as Calmette calls it, "antivenene." The most urgent need of the patient is for the immediate, unlimited administration of antivenene. It would be a wise precaution for persons whose travels or occupations keep them in continual danger of snake bites to provide themselves with the remedy and carry it with them. There are many whose occupations of berry-picking, lumbering, mining, hunting, engineering, etc., carry them into wild and snake-infested countries, to whom the possession of a snake-venom antitoxin with even a limited application would come as a boon.—*International Medical Magazine*, September, 1900.

Permanganate of Potassium as an Antidote to Opium Poisoning.—W. K. Gatewood saw a negro child, aged eighteen months, one hour after taking an overdose of laudanum, exact quantity not known. The child was cold and clammy with slow and feeble respiration. The stomach was washed out and one-quarter grain of the permanganate was injected into the thigh. In half an hour there was marked improvement in respiration and circulation. In another hour strong coffee could be taken, while in the course of twelve hours the child was out of all danger and able to walk. Gatewood does not believe that stomach washing alone would have saved the case.—*Richmond Journal of Practice*, August, 1900.

Hemorrhage Occurring after the Menopause.—E. C. Davis writes that at the time of the menopause atheromatous changes are likely to take place in the blood-vessels, malignant diseases make their appearance, and the atrophic changes of the tissues become observable. After menstruation has ceased, any hemorrhage from the uterus is always pathological, the causes of hemorrhage at this time being granular endometritis, atheroma of uterine blood-vessels, vasomotor relaxation, uterine polypus, uterine myofibromata, and carcinoma of the uterus. Of this last new growth, hemorrhage is the danger-signal which, if appreciated by the physician, may result in years of comfort and health to the victim. If neglected, however, a horrible death awaits the patient. During the early history of carcinoma, the tumor is local and circumscribed, but later becomes hopelessly disseminated. The cervix is the most frequent seat and epithelioma the most common form of malignant tumor. The history of hemorrhage after the menopause with offensive discharge is almost pathognomonic of malignancy. The most rational treatment is complete removal of the diseased uterus, with appendages, before extension has taken place into the surrounding tissues.—*Obstetrics*, September, 1900.

An Anomalous Case of Central Hemorrhage, Connected with Increased Pressure in the Ear due to Violent Coughing.—Macleod Yearsley reports the case of a woman aged fifty-four years, who two weeks previous had a violent attack of coughing, during which she experienced vertigo, deafness, tinnitus, and loss of memory. Vertigo continued twelve hours. The next morning there was some weakness of the right arm and leg, and slight left facial paralysis. Symptoms gradually abated, and when she was seen by the writer the deafness had almost entirely disappeared, while the vertigo persisted to only a slight degree. Tinnitus persisted only in the left ear. The tuning-fork on the vertex was heard better by the left ear; Rinne's test was positive on both sides. Bone conduction was impaired on both sides, about twenty-five per cent. being lost. Both membranes were dull, opaque, and indrawn, but there were no signs of either old or recent rupture. Movement to the pneumatic speculum was good on both sides. Treatment consisted in counter-irritation and dilute hydrobromic acid in drachm doses three times daily. Gradually all evidences of the attack disappeared until only very slight deafness remained.—*Journal of Laryngology*, August, 1900.

Chorea and Leukæmia as Indications for the Induction of Labor.—According to Merttens severe chorea occuring during pregnancy is a sufficient cause for the induction of premature labor; in confirmation of this opinion he reports a case of the utmost gravity which was undoubtedly saved by this means. Chorea intervening in the course of gestation is undoubtedly of reflex origin and emanates from uterine disturbances, hence the necessity for prompt treatment. Not every case requires such a heroic measure; but when the convulsive seizures continue during the night and prevent sleep, which is unusual in the ordinary forms, abortion is indicated. Another condition justifying the premature emptying of the uterus is a complicating leukæmia. In the case reported, however, the author was not so successful as in the preceding one, and death occurred soon after the operation, which might have saved life if it had been performed earlier. —*Monatsschrift für Geburtshülfe und Gynäkologie*, September, 1900.

On the Accentuation of the Second Sound in the Pulmonary Area; Skoda's Sign.—J. F. O'Carroll thus states the views of Skoda on the point named in the title: "In many cases of disease involving the left side of the heart, the second sound is heard with marked clearness and even accentuation at that spot on the chest wall at which the pulmonary artery comes nearest to the surface. The sound is therefore in the pulmonary artery. Disease of the valves of the left heart induces a tendency to more or less delay in the circulation through the lungs: the pulmonary system is in fact over-full; there is, therefore, a condition of engorgement of the pulmonary artery, and consequent slamming, so to speak, of the pulmonary valves, indicated by an exaggerated noise or accent." O'Carroll objects to the statement that a vascular murmur heard at the surface is necessarily produced by that vessel which happens to be most superficial at the point of observation. With regard to the engorgement of the pulmonary vessels he states that, other things being equal, the loudness of the diastolic note will be in proportion to the amplitude of the recurrent wave from the periphery in the pulmonary artery. But in mitral incompetence or stenosis the pulmonary artery tends to be still fuller than it is in health, and in health it is, as the physiologists teach us, somewhat distended or over-full. In disease of the mitral valve, therefore, the artery wall is stretched in the presytolic period nearer to its limit of elasticity, and therefore its range of post-systolic recoil is more limited. That is to say, the amplitude of the recurrent wave will be less than normal, and the intensity of the second sound should be correspondingly diminished. Practically the accentuation is absent in many cases in which, according to the theory, it ought to be present. It is present, on the contrary, in many cases in which there is not the slightest reason to suspect either heart disease or tendency to delayed pulmonary circulation. Finally there are certain cases in which the accentuated sound is produced probably in the aorta, and not in the pulmonary valve at all.—*Dublin Journal of Medical Science*, September, 1900.

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THE INCREASE IN SUICIDES.

SELF-DESTRUCTION has probably been practised from the very earliest times. The popular belief is that the Romans and Greeks held the view that a man had a right to end his life if he so wished, and that, regarded from a moral aspect, he was not only absolved from blame, but in terminating an existence tiresome to himself and useless to the community at large, performed a meritorious and courageous action. Cicero was an upholder of this doctrine, and said that it is living according to nature in a wise man to take his leave of life when he is in the midst of abundance, and that he is a fool to prolong it if he is miserable. Other famous Romans and Greeks spoke to the same effect. Notwithstanding these examples, there is no complete evidence that suicide was looked upon with favor by the mass of the inhabitants of ancient Greece and Rome, or indeed even by the greater portion of their celebrated men. Horace, Lucretius, and Plato all declaimed in eloquent language against suicide. There is, however, little doubt that in latter and declining days of Rome, when her richer citizens, sated with luxury and enervated by every kind of indulgence and vice, and above all upheld by no religious sentiments, tired of life, sought a refuge in the oblivion of the tomb. Mr. G. Styles, of Union City, Mich., who contributed to the *American Journal of Insanity* for July last an article on suicide, refers to the fact that in a former age the city of Marseilles kept constantly prepared a hemlock mixture, so that any one tired of life might obtain it at the public expense, the only condition being that the intending self-murderer should appear before the council of the six hundred, and give an account of the reasons why he desired to die. Christianity has always set its face against suicide, and thus when the Christian religion supplanted the old faiths of European countries, and when those who killed themselves were adjudged guilty of a heinous crime, self-destruction decreased. Unfortunately, however, within recent years the number of suicides has enormously increased and is still increasing. The cause of this weariness of life is undoubtedly to be found, to some extent, in our advanced civilization, which has enlarged our ideas of enjoyment at a more rapid rate than it has supplied us with the means of gratifying them. Progress in education is another powerful adjuvant to the general feeling of discontent, insomuch as the poorer classes have learned sufficient to be dissatisfied with their lot. But the decay of religious sentiment—which is to be observed in all those countries which are in the foremost rank as regards knowledge—and especially the growth of scientific knowledge have perhaps conduced more to the spread of suicide than has any other single cause. That the decadence of orthodox belief is an important factor in the increase of self-murder is demonstrated in great cities like Paris, Berlin, and Vienna, where agnosticism is rampant, and where the greatest number of suicides occur. Dr. Ireland traces the greater portion of the causes of suicide to severe strain upon the nervous system which may be the outcome of a multiplicity of causes. Among these causes may be mentioned the increased strain of modern life upon the nervous system. Again, the contagious effect of crime, fostered by the newspapers or, as *The Lancet* puts it, operating upon those whose "pithecoid imitativeness" is part of their "retrocedent organization," is sufficiently established to enhance the regret that lay journalism within its undoubted province of describing current events inevitably panders to the morbid craving, of which the said imitativeness is an expression, and neutralizes most of its undoubted benefit by helping to diffuse the criminal contagion. The psychological factor of vanity must surely be taken into account in discussing suicide, and this human weakness is greatly influenced by the modern newspaper. The following are the mean annual rates per 1,000,000 population of some of the European countries. Saxony, 1861–70, suicides 281; 1871–80, suicides 325; 1881–84, suicides 370; 1885–88, suicides 333. In Denmark during the same periods 283, 266, 249, 259. In France, 129, 161, 189, 212. In Prussia, 127, 153, 198, 204. In Belgium, 61, 81, 107, 116. In Sweden, 80, 86, 96, 110. In England and Wales, 66, 70, 74, 78. In Norway, 82, 70, 68, 66. Italy, 27, 37, 37, 48, 48. It will be observed with the exception of Norway the suicide mortality rate has increased, and in most countries very considerably within recent years. The diminution in Norway is attributed, says the *Nineteenth Century Review*, to the energetic attack which the Norwegian government has made on alcoholism. The same journal says that, in the case of Italy particularly, emigration accounts to some extent for the low rate prevailing there. It is evident that emigration provides an outlet for a great deal of misery and constitutes a hopeful alternative to suicide. Most persons would naturally suppose that the season of winter would be most prolific of suicides. It is the season of great difficulty for the poorer classes, often of bitter distress. Contrary, however, to this expectation, the months of May, June, and July are the ones in which the largest number of suicides occur. The connection of sex and suicide is an interesting study, and, as might be imagined, many more men take their own lives than women, the proportion being four to one. Marriage exercises a most beneficial effect in curbing the desire of self-destruction, the probability of bachelors committing suicide being 2.7 times that of married men of same age. Soldiers are more prone to self-destruction in all countries of Europe, France alone excepted, than those engaged in civil life. The rate of suicide mortality in the United States is

1 in 35,000. Dr. D. R. Dewey finds that in the New England States since 1860, suicide has increased about 35 per cent. In Massachusetts it has increased in thirty years, 1860-90, from 70 to 90 to the million living, and in Connecticut from 61 to 103 per million. A steady increase of self-destruction is common to the whole civilized world.

THE MALARIA PROBLEM.

Malaria is perhaps the most deadly disease that attacks man. In tropical countries it certainly claims more victims than does any other disease, and according to some authorities it kills as many persons as do all the other tropical maladies put together. For these reasons and for the especial reason that the white man is invading and making his home in the tropics to a greater extent every year, it is of the utmost importance that means of successfully combating malaria should be devised at once. The solution of the malaria problem will go far toward paving the way to render residence in the tropics not only harmless, but even healthy to the person of Caucasian race. The first step to be taken in fighting any disease is to discover its origin. This endeavor, owing to the researches of a long line of investigators commencing with the American scientist King and ending with the British Manson and Ross, has culminated in a great success. There can now be but little if any doubt that to the anopheles species of mosquito is mainly if not entirely due malaria in whatever part of the world it may occur. Attention was drawn in the Medical Record, October 6th, to the further substantiation of this theory by negative proofs in the Roman Campagna and by positive proofs by inoculation experiments in London. The next step in the battle against this disease, seeing that its etiology has been made plainly evident to the satisfaction of most scientific men, is to initiate methods to protect against the attacks of the malaria-bearing mosquito, and what is of far greater import, to extirpate these insects if possible. The means of protection at night, at least, is easily procurable, and consists in using a mosquito net, so made and arranged that no insect can bite through its meshes or enter through casual openings in its structure. The question of extirpating the anopheles mosquitos is, of course, one of infinite difficulty, but it should be remembered that it cannot be insurmountable. Situations which have seemed to present as many and as great problems have been cleared by the genius and inventiveness of man. This country in her newly acquired tropical possessions, and in some of her Southern States, has territory in which malaria flourishes, and is in consequence directly interested in the successful solution of the malaria problem. Dr. Manson, referring to this fact, makes the following statement published in the *New York Herald*, Sunday, October 7th: "When I suggested six years ago that malaria could be carried in the proboscis of a mosquito, American scientists were the first to grasp the reasonableness of the idea and believe in it. The gratification I have consequently always felt has been brought forcibly home to me in the light of our recent demonstrations. In fact, America herself has now to grapple with an evil which has baffled the authorities in England's tropical possessions. While this is a matter of regret and deep concern, it is a promising phase of the situation from our standpoint. We believe that inventive American enterprise, now that that country has an incentive of its own, will manifest itself in a practical scheme of mosquito extermination. Thus far we have contented ourselves with prevention and defence, but the results have necessarily been doubtful. The evil cannot be eradicated save by radical measures. There must be a positive campaign against malaria-breeding conditions, and fame and fortune await the man who will devise either machinery or a system of disinfection which will spell death for the mosquitos." Of all civilized countries, Italy is the only one that suffers within her own borders to any extreme degree from the ravages of malaria, but if accounts may be relied upon, the malady is an absolute scourge to a large portion of that peninsula, and one of the most potent causes of the grinding poverty prevalent among its people. M. Emile Bertaux, writing in the *Revue des Deux Mondes* on the subject, goes into the matter at length, and after giving a series of statistics from various sources demonstrating the mortality and sickness in Italy due to malaria, proceeds to remark: "To-day London, Paris, and Berlin have no anxiety on the subject of malaria, except for colonists and soldiers sent out to the establishments in South Africa or Asia. But since the annexation of Naples to the kingdom of Italy, and the placing of the capital in the midst of the Agro Romano, the disease, which for England, France, and Germany remains a colonial disease, has become for the kingdom of Italy a national disease. Sad destiny for an energetic and ardent people, whose sobriety up to the present time has preserved it from the ill effects of the drunkenness which the populations of the north did not know how to resist. The malaria alone produces the same ravages in Italy that the swamp fevers produce in Tonkin and Madagascar, and which alcoholism produces in France." Therefore it is Italy who will benefit in the first instance and most greatly if the outcome of the experiments amidst the Pontine marshes can be put to a practical use. The Roman Campagna was once a fertile tract of land and able to support a large population; it is now entirely, through the agency of malarial fever, a region of barren desolation, whose stricken inhabitants drag out a weary, wretched existence. If the sanguine expectations of those who are firm believers in the malaria mosquito theory are fulfilled, the Campagna and those other parts of Italy to which the fever has brought ruin may once again be restored to their pristine prosperity. At any rate, as pointed out by the London *Times*, the experience of the English fen districts shows that the ague-carrying anopheles disappear before drainage and cultivation, and when it has once been shown that cultivation can be securely practised under a condition no more onerous than that of sleeping in a mosquito-proof hut, there can be no doubt that Italian capital and enterprise will speedily avail them-

selves of the great opportunity which will be afforded them, and that a tract of land, which roughly measures ninety by forty miles and is scarcely used except for autumn pasture, will be reclaimed for all the purposes to which it can be applied.

There can be no doubt that, when an effectual method has been found to destroy the pernicious mosquitos wholly, the greatest drawback to life in the tropics will be removed, and that a new era of progress in all the arts of civilization will be inaugurated. In the MEDICAL RECORD for some considerable time an effort has been made to impress the American men of science and physicians with the paramount necessity of establishing a school in this country at which the tropical diseases will be taught. Dr. Manson admits that the inventive genius of the American is more likely to evolve a practical scheme for the extirpation of malaria than that of any other people. It is urged that scientific investigators, as well as men of practical experience, should discover effectual means of destroying the mosquito pest, both for the honor and in the material interests of their own people and for the sake of humanity at large.

THE PLACE OF MEETING OF THE INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

IT has been generally supposed that the International Congress of Gynæcology would meet in London in 1902. The congress had received a unanimous invitation of the British Gynæcological Society to do so. Upon the suggestion of Dr. Engelmann, president of the American Gynæcological Society, and of Dr. Mendes de Leon, of Amsterdam, Prof. A. R. Simpson, of Edinburgh, was requested to preside, and had expressed his willingness to act in that capacity. In the mean time, however, the council of the British Gynæcological Society had communicated with the London Obstetrical Society, asking it to co-operate in a joint invitation, and received the answer that the council of the latter society deemed it inadvisable that such a course should be pursued. Dr. Engelmann then wrote to Dr. Macnaughton Jones as follows: "May I ask you again, semi-officially, as to the present state of your societies in relation to the International Congress? As a member of the International Committee, I understand that an invitation has again been extended on the part of the British Gynæcological Society. I can but repeat what I said to you in London, that I deem it most desirable that the coming meeting be held in an English-speaking country. London would be to the best interests of all interested, but I believe that I voice the sentiments of those I represent when I say that the feeling is general that the invitation could be accepted only and the congress be a success only, if the two great societies of Great Britain are united in their desire to see the congress in their midst, and I sincerely trust that some understanding has been arrived at. May I ask you unofficially if such is the case, and what is the present status?" To this letter an answer was sent to the effect that the invitation of the British Gynæcological Society had been accepted; that steps had been taken to secure the co-operation of the London Obstetrical Society, but with negative results. A committee of organization was then established with the necessary officers, at a meeting of which committee it was resolved that Dr. Macnaughton Jones be authorized to approach Professor Simpson with a view to the nomination of a London president of the obstetrical section of the 1902 congress, and that Professor Simpson be requested to communicate this resolution to Dr. W. S. Playfair. Closely following on this meeting the past and present teachers of obstetrics and gynæcology at the metropolitan medical schools met, and as a result a letter to the International Congress of Gynæcology and Obstetrics appeared in the medical journals enclosing a copy of a letter to Professor Simpson, and explaining that the objection of the signatories—who include the past and present teachers of gynæcology and obstetrics in the metropolitan medical schools now practising in London—was not to the election of Professor Simpson as president personally, but to the manner in which he was elected. In the letter to Professor Simpson himself the position taken by the London obstetricians and gynæcologists was phrased thus: "As past and present lecturers and teachers of obstetrics and gynæcology in the London medical schools, we wish to explain to you, and especially to such of our foreign colleagues as might contemplate attending such congress, that those who have issued this invitation have assumed a representative position to which they are, in our opinion, not entitled, and which we find ourselves unable to recognize." On the receipt of this communication Professor Simpson wrote to withdraw his nomination as president. The British Gynæcological Society then wrote to Dr. Jacobs, secretary to the permanent committee of the International Congress of Gynæcology and Obstetrics, explaining how matters stood, and similar letters were sent to Dr. Engelmann and Dr. Mendes de Leon. A letter was also addressed to the same medical journals which published that of the teachers of obstetrics at the metropolitan medical schools, defending the action of the British Gynæcological Society. Dr. Jacobs in his reply said that, "on the advice of a number of the founders, I think the proper course is to ask you to postpone any decision till after the meeting of the congress at Paris on August 2d."

The fact will be gathered from a perusal of the preceding résumé of the affair that matters are at a standstill, and that unless the two British societies resolve to sink their differences and come to an understanding, the International Congress is not likely to be held in London in 1902. It would be, of course, absurd to designate a body as representative of the gynæcologists and obstetricians of Great Britain which did not include the leading London specialists; but at the same time, without in the least presuming to pass an opinion upon the merits of the case, we cannot but think that it would have been wiser on the part of both societies if, rising above jealousy, they had cordially co-operated in the endeavor to make the proposed meeting in London a success, and in presenting

a united front to the world. It would seem that the action of the British Gynæcological Society in sending an invitation to the International Congress of Gynæcology to meet in London, without having been first assured of the co-operation of the London Obstetrical Society, was premature and perhaps somewhat ill-advised.

PROTECTIVE INOCULATIONS AGAINST TYPHOID FEVER.

Although the evidence is not final and conclusive, such as is accessible rather points to the utility of inoculation with sterile cultures of typhoid bacilli in the preventive treatment of typhoid fever. Thus, the official statistics with regard to the results obtained in the beleaguered military garrison at Ladysmith, as cited by Wright (*Lancet*, July 14, 1900, p. 95), show that among 10,539 non-inoculated individuals there occurred 1,489 cases of typhoid fever—a proportion of 1 : 707; with 329 deaths—a proportion of 1 : 329 of the whole number, and of 1 : 4.52 of the number of cases; while among 1,705 inoculated individuals there were 35 cases of typhoid fever—1 : 48.7; with 8 deaths —1 : 213 of the whole number, and 1 : 4.4 of the number of cases. Briefly stated, the figures demonstrate an almost sevenfold reduction in the morbidity and in the total mortality among the inoculated, with little alteration in the case mortality, but this latter fact may be in some degree dependent upon the small number of cases dealt with. It has further been reported that the disease pursued a milder course in the inoculated than in those not inoculated. There was no reason to believe that the remaining conditions to which inoculated and uninoculated were respectively exposed exerted any noteworthy influence upon the result.

News of the Week.

Saratoga County Medical Association.—A number of physicians of Saratoga county met at the Worden Hotel on September 28th, and unanimously voted to form the Saratoga County Medical Association. They organized by electing officers as follows: *President*, Dr. F. J. Sherman, of Ballston; *Vice-President*, Dr. G. F. Comstock, of Saratoga; *Secretary*, J. F. Humphrey, of Saratoga; *Treasurer*, Dr. W. E. Swan, of Saratoga. The association then formally adopted the code of ethics of the American Medical Association, and passed a resolution requesting the council of the New York State Medical Association to accept the new organization as a subordinate county association.

New York State Medical Association.—The annual meeting of this association was held in the New York Academy of Medicine on October 16th, 17th, and 18th. A very full and interesting scientific programme was provided, the chief features of which were three formal discussions, participated in by eminent physicians from this city and elsewhere. On the afternoon of the 16th there was a discussion on obstetrics, and on the evening of that day one on the blood. On the afternoon of the 17th, Prof. Victor Vaughn, of Ann Arbor, Mich., opened the discussion on tuberculosis.

J. M. Da Costa Memorial Laboratory of Clinical Medicine.—The faculty of Jefferson Medical College has recommended to the Board of Trustees the establishment of a laboratory of clinical medicine in honor of and to be named after the late distinguished Dr. J. M. Da Costa.

College of Physicians of Philadelphia—Section on General Medicine.—At a stated meeting held October 8th, Dr. A. O. J. Kelly read a paper on "Splenic Anæmia," reporting a case. Drs. M. H. Fussell and J. D. Steele presented a report of two cases in which the signs of mitral stenosis disappeared as cardiac compensation was re-established.

Large Bequest to a Hospital.—By the will of the late Charles Edward Orme, of Philadelphia, an estate of $50,000 is devised to the Episcopal Hospital, to maintain as many free beds, to be known as the "Charles Edward Orme Free Beds," as the income will support, after the death or remarriage of the widow.

University of Pennsylvania.—It has been announced unofficially that the wife of Dr. S. Weir Mitchell will present to the University of Pennsylvania, in memory of her daughter, either an addition to the present hospital building or a separate structure for the treatment of those suffering from contagious disease.

Medico-Chirurgical College of Philadelphia.—Hon. Edward M. Parson, ex-chief justice of the supreme court of Pennsylvania, has been elected president of the Medico-Chirurgical College of Philadelphia. It is expected that the nine representatives of the faculty and the one representative of the Alumni Association on the board of trustees will withdraw, so that the board shall be constituted of fifteen laymen.

Pathological Society of Philadelphia.—At the annual meeting held October 11th, the president, Dr. F. A. Packard, read the annual address; the treasurer, Dr. T. S. Westcott, made his report for the year; and the following officers were elected: *President*, Dr. F. A. Packard; *Vice-Presidents*, Drs. Joseph McFarland, C. W. Burr, Alfred Stinzel, Simon Flexner; *Secretary*, Dr. J. Dutton Steele; *Treasurer*, Dr. Thompson S. Westcott; *Curator*, Dr. W. Wayne Babcock.

Typhoid Fever at Newport.—Quite an epidemic of this disease exists at Newport, R. I., and it is reported that there are over fifty cases in the city. The hospital accommodations are overtaxed, and the board of alderman has appointed a committee to arrange for the establishment of an emergency hospital. Newport has no regular board of health composed of medical men or sanitarians, the aldermen acting in that capacity, and on this account it is much harder to deal with such cases.

The Hospital Ship "Maine."—The American ladies' committee in London has received a cable despatch from Wei-hai-Wei, China, dated Wednesday, October 10th, reporting the return there of the American hospital ship *Maine* from Taku with many invalids on board, of whom two officers and sixty-nine men are Americans. Eighteen of the latter belong to the Ninth Infantry. The *Maine* sailed for Nagasaki on October 11th.

The Psychological Laboratory at Columbia.—Many improvements in this laboratory, made possible by a gift of $100,000 from Mr. John D. Rockefeller, have now been completed, and the space and facilities of the department have been materially increased. The new arrangement gives Columbia facilities for psychological work that are said to be unequalled by those of any university, with the possible exception of that of Leipsic.

Health Conditions in Guam.—Surgeon-General Van Reypen of the navy does not approve of Guam as a naval station, his objection being based upon sanitary grounds. In his annual report to the secretary of the navy he says that typhoid fever is practically endemic in the island, owing to the pollution of drinking-water in shallow wells near cesspools and to the very common lack of any provision whatever for the receipt of refuse matter. The disease appeared among the United States sailors soon after their arrival on the station, as access to contaminated water was under the circumstances unavoidable. During less than five months there were twenty-five cases and four deaths from this cause in a force of one hundred and forty-three men. The climate, he says, is debilitating after a protracted residence, but is not in the main bad. The mean annual temperature is above 77° F., but in the winter months, though the days are hot from the larger amount of sunshine, the nights are sufficiently cool for blankets. At this season the humidity is lessened. From June to November or December the rainfall is heavy and almost constant, but during the rest of the year the climate is very agreeable. Leprosy is not common and the disease is not increasing. There are only fourteen cases known to be on the island at this time. The surgeon-general thinks it would be better to establish a station on Cabras Island, which is uninhabited and consequently uncontaminated, in place of the present one at Agana. As Cabras Island is not inhabited, its soil is free from infection. Its natural drainage is excellent, and it is reported that there is at hand an ample supply of potable water.

Yellow Fever.—One hundred and thirteen new cases of yellow fever were reported in Havana during the first twelve days of October. During September there were fifty-two deaths from yellow fever in that city. There were sixty-four cases among Americans and one hundred and eighty-six among Spaniards. Of the former five died and of the latter thirty-seven. The Americans there say that now is the time to have the disease, when the cases are working out a low death rate. The average death rate is 25.68. This is considerably better than for any September in the last ten years with the exception of that month last year. The health authorities under Major Gorgas are making six hundred house inspections daily, with a view of enforcing cleanliness. In a recent interview, Governor-General Wood is reported to have expressed the belief that the disease is propagated by means of bites of insects, either fleas or mosquitos. This is the theory long since promulgated by Dr. Carlos Finlay, of Havana, but which found little support until the agency of mosquitos in the spread of malaria became an established fact. Yellow fever is epidemic at Vera Cruz and other ports on the lower Gulf coast of Mexico, but Tampico is declared free, there having been but two cases there this summer. A report that the disease had made its appearance at Monterey has been officially denied.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended October 12, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Nome	October 7th	1*	
Kansas, Wichita	September 29th to October 6th	1	
Ohio, Cleveland	September 29th to October 6th	10	
Pennsylvania, Philadelphia	September 29th to October 6th	4	
* In barracks.			
Smallpox—Foreign.			
Austria, Prague	September 8th to 15th	1	
Brazil, Pernambuco	August 24th to 31st	..	4
England, Liverpool	September 15th to 22d	1	
London	September 15th to 22d	2	
France, Paris	September 15th to 22d	..	3
St. Etienne	September 1st to 15th	1	1
Germany, Konigsberg	September 8th to 15th	2	
Mexico, Vera Cruz	September 22d to 29th	..	1
Russia, Odessa	September 15th to 22d	11	2
St. Petersburg	September 8th to 15th	9	5
Scotland, Glasgow	September 21st to 28th	22	3
Yukon Territory, Dawson	September 8th	Present.	
Yellow Fever.			
Colombia, Barranquilla	September 16th to 23d	..	1
Cartagena	September 1st to 14th	3	3
Cuba, Havana	September 22d to 29th	..	19
Mexico, Vera Cruz	September 22d to 29th	..	10
Plague.			
Paraguay, Asuncion	July 21st to 28th	..	2
Scotland, Glasgow	September 15th to 22d	3	2
Wales, Llandoff	October 5th	..	1*
* Imported from Rosario.			
Cholera.			
Straits Settlements, Singapore	August 11th to 25th	..	1

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 13, 1900. October 8th.—Passed Assistant Surgeon T. W. Richards detached from the *Indiana* and ordered to the *Alabama*, October 16th. October 9th.—Passed Assistant Surgeon L. Morris ordered to the naval academy. Assistant Surgeon D. H. Morgan detached from the *Vermont* and ordered to the Pensacola navy yard. Assistant Surgeon J. A. Murphy detached from the Pensacola navy yard and ordered to the Asiatic station for duty on the *Don Juan de Austria;* to report at San Francisco, Cal., October 30th, for passage on the *Solace*. October 10th.—Assistant Surgeon H. H. Haas detached from the *Don Juan de Austria* and ordered home and to wait orders. October 12th.—(Orders issued by commander-in-chief of Asiatic station.) Passed Assistant Surgeon G. A. Lung detached from the *Monocacy* and ordered to the

Cavite naval station. Assistant Surgeon J. C. Thompson, detached from the *Monocacy* and ordered to the Cavite naval station.

The Plague.—An official bulletin has been issued in Glasgow announcing that the outbreak of plague in that city has been completely checked. All the suspects have been released, and the reception houses were closed on October 11th. On that date twenty convalescents were still in hospital. When the bubonic plague appeared in Glasgow, Dr. A. H. Doty, health officer of the port of New York, ordered a quantity of plague serum from the Pasteur Institute, at Paris, as a precautionary measure for use at quarantine in the event of the plague being brought to this country by a steamer from the infected port. The serum arrived some days ago, and is now in the quarantine laboratory.

Obituary Notes.—Dr. Crawford Irwin died at Hollidaysburg, Pa., on October 7th, at the age of seventy-six years. He was president of the Medical Society of the State of Pennsylvania in 1875 and 1876.

Dr. Jacob P. Russel died at Philadelphia on October 7th, at the age of sixty-four years. He was graduated from the Medico-Chirurgical College in 1887.

Dr. William M. Caterson died at Philadelphia on October 7th, at the age of seventy years. He was a graduate of Jefferson Medical College.

Dr. Ross Richardson Bunting died at Philadelphia on October 10th, at the age of sixty-six years. He was a graduate of Jefferson Medical College and of the École de Médecine of the University of Paris.

Dr. Joseph L. Cutler died at his home in Bolivar, N. Y., on October 14th, at the age of seventy-one years. He was born in Moravia, N. Y., graduated from the University of New York in 1850, and the same year located in Bolivar. He served ten months as assistant surgeon of the One Hundred and Thirty-fourth Regiment New York Infantry during the Civil War.

Dr. Franklin Smith, seventy-six years old, died at his home in this city on October 9th, after a short illness. He was born in this State, and for over a quarter of a century had been a resident of this city. He was a graduate of the Medical Department of the New York University in 1865. He was a member of the Medical Society of the County of New York. Three daughters and one son, Dr. Charles Smith of this city, survive him.

Dr. Benjamin Hussey West, one of the old graduates of Harvard University, died at Neponset, Mass., on October 11th. He was born in Nantucket, November 10, 1814, and was the son of Paul West, a lieutenant in the British navy and commander of the ship *Cyrus*. He graduated from Harvard in 1835 in the class with the late Bishop Williams of Connecticut, Judge E. R. Hoar, Amos A. Lawrence, John A. King, and others who have been prominent in public life. Only five survivors of the class remain. He was graduated from the Harvard Medical School in 1838 and commenced professional life at Pawtucket. In the early forties he went to California, where he remained for several years, being a member of the committee of safety during 1849. Later he was for many years head surgeon of the Pacific Mail Steamship Company.

Progress of Medical Science.

New York Medical Journal, October 13, 1900.

The Future of Specialties.—In a general consideration of the relationship of post-graduate instruction to special work in medicine and surgery, C. B. Kelsey says: "The advice of every specialist to those who are desirous of coming into his special field, no matter what his own course may be, is invariably now: fit yourself for a surgical specialty by first learning general surgery. The result will be that a man who has once studied general surgery will never be a narrow specialist. Some one branch of work he may prefer, and that branch may in time come to him to the exclusion of others; but arbitrary lines will not limit him so closely as they have done in the past. We can all remember when gynæcology consisted practically of plastic work upon the uterus and vagina. It will never go back to it. The specialty to which I have devoted my own life is still thought by many to consist properly of piles and fistulæ, but it will never again be separated from gynæcology and genito-urinary surgery. Since, for success in any specialty, a broader education will be necessary, this will be acquired before special work is begun. There will be fewer men who have begun as specialists and have never done general practice, or men will commence special practice after more years of preparation. But specialists will not disappear, for the very same reason that they ever came into existence, which is that the whole field of medicine is too large to be covered by any one man, no matter how hard the exigencies of life may induce him to try; and those who have devoted the most study to any one field and acquired the greatest experience in it will always be sought after by the public to practise in that field."

Dilatation of the Colon.—H. G. Marxmiller gives the following clinical history of a case and illustrates his paper with some excellent photographs. He regards the condition as undoubtedly secondary to a tertiary lesion of the spinal cord, which at last accounts was responding slowly to specific treatment. His patient was a machinist aged fifty-two years, a man of medium build. He had contracted syphilis twenty years before, for which he had received treatment. Ten years after the initial lesion had appeared, several specific leg ulcers were observed. He had been apparently well up to three years ago, when, while working in a machine shop on a cold November day, he was seized with an attack of chills accompanied by fever. There was also severe pain in the dorsal region, which by morning had become inflamed. There was no suppuration or necrosis. Ten days after the acute symptoms had subsided, a marked angular curvature of the spine was observed, and a week later dilatation of the colon.

On the Employment of the Upright Position in Ether Operations upon the Nose, Throat, and Ear.—By means of some excellent photographs T. R. French illustrates his method, which consists in bringing the patient partially under the anæsthetic, as usual, and then placing him in the specially devised chair used, and gradually bringing the latter from a position of being tilted far back to an upright position, the patient being fastened to the chair. By the time the upright position is reached the patient is sufficiently under the anæsthetic for the operation to begin. No bad results have been experienced, and French claims for the upright position the threefold advantage of reduction in amount of blood lost, better nasopharyngeal drainage thereby lessening the liability to ear complications, and finally the ease, thoroughness, and accuracy with which operations can be done in the shortest time by the retention of the usual relationship between operator and patient.

Hypertrophy of the Turbinated Bodies and their Relations to Inflammation of the Middle Ear, with a Report of 1,500 Operations.—By C. R. Holmes.

The Present State of Our Knowledge Concerning the Cause, Nature, and Treatment of Asthma.—By W. A. Wells.

The Etiology of Pulmonary Tuberculosis, its Course and Termination.—By S. A. Knopf.

Boston Medical and Surgical Journal, October 11, 1900.

Breast Feeding.—A. Worcester says that both for the mothers' sakes and the babies' sakes physicians are in duty bound to urge the vital importance and the otherwise

unattainable advantages of breast feeding. Much to this end can be done during pregnancy in teaching women what to expect. When the baby is first put to the breast, the physician's largest chance of service comes in. His unstinted time and patience are then needed. Nature's indications should be followed, and the child not stuffed with food in the first three days of life. It will then be hungry enough to ease the aching breasts when there is a supply of milk. No washes are to be used on the nipples, but olive oil or lanolin, with tallow and beeswax, or the raw white of egg for a protective dressing. Cracks and excoriations will then be infrequent. If they occur, disinfection with a boracic-acid lotion (five per cent.) should be followed by anæsthetizing with cocaine and treatment with a ten-per-cent. solution of silver nitrate. The part is then dried by pressure of absorbent cotton and painted over with egg albumen. For the next few nursings a glass-bell nipple shield should be used.

Home Modification of Milk.—Charles W. Townsend thus concludes his article: The modification of cow's milk, with a knowledge of the percentages, is preferable to guesswork feeding of infants. Percentage feeding can be carried out by a milk laboratory or by home modifications. Milk laboratories are unavailable to many, and, in the experience of the writer, do not agree with infants as often as home modifications. Laboratory modifications are necessarily subjected to more handling and transportation than home modifications. Milk that is fresh, clean, and from cows free from tuberculosis is preferable uncooked, or, in other words, pasteurization and sterilization, although sometimes essential, are to be avoided if possible. The method of home modification and of calculating percentages should and can be made extremely simple, and such modifications are sufficiently accurate and uniform. The addition of cereals to the milk in the form of barley or oatmeal water is generally advisable after the seventh month, and is desirable before that age in some cases as an aid to the digestibility of the milk.

Lesion of the Chiasm.—S. A. Lord reports a case of this disease occurring in a laboring man aged thirty-two years, born of consanguineous parents, with a family history of gigantism and neuropsychopathic tendencies, this individual himself presenting evidences of gigantism and signs of degeneracy, and of defective development. There is no doubt of the existence of a chiasm lesion, the trouble having first involved the fasciculi of the left optic nerve, and subsequently, in succession, the fasciculus cruciatus and fasciculus lateralis of the right. The presence of a tumor is rendered probable by the facts that other conditions causing these visual symptoms can be eliminated, that the headache, vertigo, tinnitus, and momentary loss of speech, and the irritative optic-nerve symptoms can be better explained as tumor symptoms than otherwise. There is at least one focal sign, slight in itself, but extremely suggestive of tumor—strabismus. Various arguments point to the probability of a tumor of the hypophysis.

The Modification of Milk in Milk Laboratories.—By T. M. Rotch.

Philadelphia Medical Journal, October 13, 1900.

General Summary of the Cases of Typhoid Fever Treated in the Johns Hopkins Hospital for Ten Years.—William Osler makes the following report of the 829 cases of typhoid fever which have been under his care or that of his assistants to May 5, 1899: Sex—631 were males; 198, females. Race—729 were white; 100, colored. As to nationality the Americans predominated, numbering 348, Germans, 200; the remaining number being Irish, Bohemians, English, Poles, etc. Age—393 were between twenty and thirty years of age, the largest number in any one decennary. Mortality—7.5 per cent., there being 63 deaths in the 829 cases. Treatment: (1) A careful and thorough system of nursing; (2) diet, milk diluted with limewater and egg albumen form the standard diet of the febrile stage; abundance of cold water; (3) hydrotherapy, either the full tub at 70° F., or, if occasion requires, ice-cold sponges; (4) drugs: as a rule no medicines are given. If the pulse becomes rapid and feeble, he gives alcohol in the form of good whiskey, and strychnine, if necessary, in full doses. No antipyretics and no intestinal disinfectants are to be given. Special complications require and receive appropriate treatment. The rash—Rose-spots were present in 666 cases. Diarrhœa—There was diarrhœa at the onset in 322 cases before the patient entered the hospital. In 163 of the 829 cases, *i.e.*, nineteen per cent., there was diarrhœa at some time or other in the course of the disease, and in 290 cases, thirty-four per cent., there was constipation. Relapse—We are still really without full knowledge of the causes of relapse, but the frequent occurrence is a positive indication that immunity in typhoid fever is slowly acquired, and not reached at the period of apyrexia. There were 86 relapses, a little more than ten per cent. Under complications and sequelæ are mentioned hemorrhage from the bowels, perforation, hæmatemesis, phlebitis, pneumonia, albuminuria, tube casts, acute nephritis, orchitis, and herpes.

Concerning Calentura.—Frank W. Foxworthy states that in tropical countries the term "calentura" embraces anything from pernicious malarial fever to a simple pyrexia, and the natives often designate any febrile condition as calentura. It should, however, be strictly limited to that fever occurring usually during the months of December, January, and February, which exhibits the symptoms of a simple continued fever with a small mortality. There is generally a sudden rise in temperature to 104°, 105°, or even to 106° F., with headache, malaise, furred tongue, anorexia, pains in the back, chest, and legs. The differential diagnosis from dengue is difficult. But the terminal fever and the ever-present eruption and desquamation of dengue are entirely absent. Variola, however, with its high initial fever and the sharp lumbar pains, also is much like calentura. Typhoid fever will not be diagnosed in a case of calentura, on account of the temperature chart, absence of epistaxis in calentura, absence of abdominal pain and borborygmus and of the typhoid eruption. Phenacetin or antipyrin in large doses seem specific. Cool baths are given. The fever is rarely fatal in the Philippines. Whether ths fever will be designated as one of the obscure varieties of malarial fever, or will be known as a distant relation of "influenza," which it simulates often in epidemic form, or whether it will continue to be one of the many unclassed fevers of the tropics with only a local appellation, time and the microscope will decide.

A Review of the History of Cardiac Pathology, with Especial Reference to Modern Conceptions of Myocardial Disease.—By Alfred Stengel.

Appendicitis: Pin in Appendix; Abscess of Liver; Purulent Peritonitis; Death.—By E. H. Trowbridge.

Rupture of Symphysis Pubis during Parturition, with Report of a Case.—By G. A. Himmelsbach.

Some Phases of the Tuberculosis Problem in Colorado.—By S. G. Bonney.

Fracture of the Carpus.—By G. G. Ross.

Medical News, October 13, 1900.

A Consideration of Finger Infection with Special Reference to the Joints and Tendons.—Ellsworth Eliot, Jr., at the close of his paper on this subject cites several cases, one of which especially is of unusual interest. It is that of a man aged thirty-two years, in the palmar surface of whose right middle finger, over the junction of the first and second phalanges, a small fragment of glass became embedded. This the patient removed with an old razor, and several hours later there were unmistakable signs of infection. Infection was introduced a short distance only beneath the skin, and from this point, notwithstanding early and extensive incisions, the infecting material was carried not only into the tendon sheath, but also into the joint. The separation of necrotic tendon required several weeks longer than usually is the case; in fact, at one time it was hoped that notwithstanding the suppurative tenosynovitis the viability of the tendon might be preserved. The arthritis behaved in a very peculiar way. The second phalanx was double its normal size and denuded through a considerable part of its extent. Yet exfoliation did not take place *en masse*, although that there must have been some gradual loss of bone is demonstrated by the permanent shortening of the finger. The thickened condition of the phalanx persisted months after healing was complete. The occurrence of secondary hemorrhage was an indication merely of insufficient drainage of the abscess cavity. This demanded the joining together of the incisions on the anterior aspect of the finger and lower palm of the hand—a procedure which is usually necessary before the abscess cavity will heal. In the majority of cases of joint infections a stiff finger results which greatly impairs its future utility, even if the finger is not actually in the patient's way. In these cases the question of amputation is one for the patient, not the surgeon, to decide.

The Prevention and Treatment of "Colds."—W. Scheppegrell declares that coryza is of such frequent occurrence and plays so important a rôle in the development of other affections, that the subject merits the most careful attention, especially as the most diverse opinions exist as to its etiology and treatment. Prophylaxis is of the first importance. Overheated rooms should be avoided. The clothing should not be too heavy or warm. The cold shower bath is an excellent preventive. The nasal passages should be kept in normal condition. The writer affirms that his personal experience and observation have convinced him that there are but few constitutional remedies of any value in this condition. When coryza is due to a uric-acid diathesis lithia is sometimes effective. Un-iced water is also beneficial. A brisk saline purgative within the first twenty-four hours is most useful. Cocaine should

rarely be used and never be prescribed. It has enormous possibilities for evil. The nostrils may be bathed with a warm one-half-per-cent. salt solution. It should be applied by some sort of douche, gently, and the nose should not be blown for ten or twenty minutes. When the general condition is kept in good trim, coryza will be very infrequent.

Cocaine Anæsthesia by Lumbar Puncture: Two Cases of Hysterectomy.—J. Riddle Goffe writes that the success which has attended the intraspinal injections of cocaine for producing anæsthesia was considered one of the prominent advances in surgery at the recent International Medical Congress. The credit of demonstrating the advantages of this method is due to Professor Bier, of Kiel, but Tuffier, of Paris, and Kreis, of Bucharest, have used it in a greater number and a wider variety of cases. So far, no detriment to the patient has attended the procedure; complete analgesia is produced during operations extending over a period of two hours, the benumbing effect gradually wearing off in three or four hours, as a rule. The amount of the drug used varies from gr. 1½ to ½. The analgesic effect extends usually from the toes to the umbilicus, and operations may be performed with immunity to pain on any parts below the latter point. The writer then describes his two cases, one of which was a vaginal hysterectomy, the other an abdominal hysterectomy. The results were most favorable.

Treatment of Rheumatism and Some Phases of Indigestion; Gouty Diathesis.—By Charles E. Page.

Journal of the American Medical Ass'n, Oct. 13, 1900.

A Study of the Inoculation Theory of Malarial Fever.—Albert Woldert states that one may devise either of two methods in studying the relation of mosquitos to malarial fever; first to search for the anopheles in its native haunts, and then for the case of malarial fever; or secondly, to find the case of malarial fever and afterward look for the anopheles. According to observations made by different scientists in various parts of the world, it has been demonstrated that not all genera of mosquitos are capable of inoculating man or birds with malarial fever. This power so to do appears to rest solely with the different species of the genus anopheles. Studies of the human blood reveal the presence of certain small, round, actively motile intracorpuscular organisms. These grow to full development at the expense of the red blood disc, and subsequently rupture, setting free a number of hyaline bodies that at once re-enter other erythrocytes. These results therefore go to show that the sporozoa or plasmodia of Laveran require for their complete existence two biological cycles, one being completed in the body of man, the other being completed in the tissues of the mosquito. Should the mosquito be the only agent in disseminating malarial fever, the destruction of the larvæ or pupæ of that insect would be only one way of getting rid of the disease. Manson suggests the following methods: (1) To begin by administering quinine for long intervals in all cases of malarial fever, since a single man is a source of infection to a whole locality; (2) to cause all persons suffering with malarial fever to sleep under mosquito netting; (3) to compel all the uninfected to sleep in mosquito-proof houses or beds; (4) to kill by different culicicides all mosquitos entering houses; (5) to destroy all the mosquito larvæ before they reach maturity or the biting stage—to which might be added the destruction of the adult mosquitos in their places of hibernation; (6) the combination of all these methods."

The Atrophic Pharynx.—Ralph W. Seiss writes that all types of simple chronic inflammation of the pharynx tend to progress into the atrophic form. What might be called the average type of chronic pharyngitis is characterized by the enlargement of the lymph glands, giving the so-called follicles, by dilatation of the superficial blood-vessels, and especially by the formation of small masses of granulation tissue, which are usually situated immediately behind the posterior half arches of the palate. Atrophic areas, showing as sunken, glistening, light-colored spots, occur in the central portions of the pharyngeal wall. Such a throat may remain *in statu quo* for half a lifetime, but in certain cases the greater portion of the pharyngeal surface is infiltrated. The pathological process is identical with fibrosis elsewhere. The etiology is almost unknown. Gouty subjects are more prone to it than others. Treatment so far as restoring function is concerned must always be unsatisfactory. Stimulant and alterative sprays, such as oil solutions of gaultheria, cinnamon, thymol, and the like, are certainly of benefit. The physician should apply them, and only to a membrane which has been carefully cleansed by an alkaline spray. The massage effect of properly chosen atomized fluids when driven with a pressure of from fifteen to eighteen pounds is very decided and most beneficial. In the irritable cases much less can be done. Pigments seem to give more definite results than nebulæ. Thymol solution in alcohol and glycerin, tincture of sanguinaria and glycerin and copper sulphate, are favorites with the writer; iodine is sometimes useful. Too much must not be hoped for, and patients must be frankly told that the condition is not definitely curable.

Systematic Cleansing of the Nasal Cavities before Operations which Involve Opening of Eyeball.—J. A. Lippincott describes his method as follows: A few hours before operation in every case, a spray of potassium permanganate, 1:2,000, is thoroughly applied to the nostrils. In some cases the spraying is repeated immediately before the operation, and when there is decided evidence of nasal disease each of the three or four days succeeding it. The permanganate spray has potency enough to destroy a large proportion of the organisms with which it comes in contact. This procedure has been carried out in one hundred and fifty-two operations in which the globe was penetrated, and there was not only a complete absence of any sign of suppurative inflammation, but there was an unusual degree of freedom from inflammation or irritation of any kind, although a number of the cases were of an unfavorable nature. The wounds healed with less than the usual degree of redness, and convalescence was more speedy than in previous experiences.

Cellulitis Succeeding Contusion of Leg; Extensive Sloughing; Skin Grafting; Recovery.—Henry W. Sawtelle reports this case. The lesion occurred in a Danish seaman aged twenty-four years. He was struck on the inner side of the left leg by a piece of lumber, apparently only a slight contusion resulting. Chill, fever, and intense headache followed in a few hours. The injected area in the leg was incised, evacuating much pus. Two days later a second incision was made. Sloughing followed, despite careful antiseptic treatment. As soon as the wound allowed, skin grafting was performed with happy results. The lowered condition of the constitution probably accounted for the history of the infection.

Epithelioma.—Charles J. Whalen reports two cases, the first that of a man aged eighty-five years, who was afflicted by this growth for twenty-one years before he died. The second case was of a man aged forty years. The writer removed this growth, which was on the right side of the nose just at the point where the nose-rest of the glasses rests. Nearly four years later the patient was enjoying the best health. These seeming warts and dry fissures in people past middle life are always suspicious.

The Present Status of Our Knowledge Concerning the Bacteriology and Serum Treatment of Diphtheria.—By Samuel E. Allen.

Pathology of Malarial Fevers, Structure of the Parasites, and Change in Tissue.—By Jesse W. Lazear.

A Case of Coloboma of Each Lens without Coloboma of the Iris or Choroid.—By James Moores Ball.

What Amount of Visual Defect Should Disqualify in Railroad Service?—By Frank Allport.

The Health and Wealth of Benguet Province, P. I.—By J. C. Minor.

Facts Regarding Criminal Abortion.—By Denslow Lewis.

Operation for Secondary Cataracts.—By Peter A. Callan.

The Lancet, October 6, 1900.

Aneurism of the Renal Artery.—H. Morris regards aneurisms at this site as among the very rare lesions seen in the human subject. Two varieties may be found after injuries: (1) Small sacciform aneurism, the walls of which are formed by some or all the coats of the artery; and (2) large, false aneurism, the walls of which are composed of the condensed fibrous tissue developed around the extravasated and coagulated blood, and with which the surrounding organs and tissues become more or less firmly matted. The latter may develop in three ways: (1) By the giving way of a small, true aneurism, which may be either of spontaneous or traumatic origin; (2) by the yielding of a thrombus which temporarily closed a ruptured artery; and (3) by the immediate outpouring of blood from a ruptured artery. From the analysis of quite a large number of cases he summarizes the symptoms as tumor, and contrary to the usual rule in this affection without pulsation, a possible bruit, pain, and hæmaturia, with such constitutional symptoms as might be expected from loss of blood and pressure. The urine, except for the blood and a little albumin between the attacks of bleeding, is normal. The only treatment offering any satisfactory result is nephrectomy and the removal of all or a part of the aneurismal swelling.

The Limits of the Heart Dulness in Cases of Anæmia and Chlorosis.—R. Wybauw says that if the cardiac muscle loses its strength because its nutrition is impaired, contraction will become impossible and dilatation will occur. This condition arises when the relation between the pressure of the blood, especially in the ventricle, and the strength of the muscle is no longer normal, the latter being unequal to the former. It may be that in chlorosis there is

a general infiltration of the tissues by effused blood serum. The heart muscle would be affected the same as other muscles and cause a diminution of force leading to dilatation. As the quality of the blood is improved by appropriate treatment, this effusion is gradually lessened and the force of the cardiac muscle increased with a consequent return to normal conditions. Illustrative cases are given.

A Case of Acute Albuminuria (Acute Renal Congestion) with Uræmia; Recovery.—The case is reported by F. C. Evill, and is of interest in view of the extremely short period elapsing (three days) between the patient's being in perfect health and his passing through the usual renal symptoms into a distinctly uræmic condition with restlessness and a convulsion. No unusual symptoms in kind were noted. Great relief followed free venesection at the critical period of the attack, and oxygen was administered with much benefit. The patient made a good recovery. S. West, who saw the case in consultation, adds notes of two similar cases from his own practice.

A Case of Anthrax.—Reported by E. F. M. Neave. The source of infection was bone dust which the patient had handled. He died on the fourth day after his initial symptom. The temperature did not rise above 100° F. The lesion was situated on the breast where he had scratched himself, and there was an entire absence of pain, severe constitutional disturbance, and feeling of distress.

Early Researches Leading up to the Antiseptic System of Surgery.—The Huxley lecture, by Lord Lister.

The Future of the Medical Student.—Address by H. S. Collier.

Case of Supra-Hepatic Hydatid Cyst.—By G. W. Davis.

Address on Science and Practice.—By G. V. Poore.

British Medical Journal, October 6, 1900.

An Address on Some Problems of Tropical Medicine.—Sir William MacGregor in his address touches on the following diseases: Sporadic cases of typhoid fever have been met with in Polynesia since 1875, but there is a form of continued fever which simulates typhoid up to the ninth day, when it culminates suddenly and the patient recovers in a few days. The disease of yaws has been from time immemorial endemic in Polynesia. It is, like most other diseases in the torrid zone, parasitic. Venereal disease was not known to the Pacific Islanders nor to the Papuans till taken to them by Europeans. In the islanders the soft chancre often developed into a great spongy mass, easily bleeding. Sometimes the ulcer penetrated the abdominal wall. Syphilis was slower in its processes. Gonorrhœa was all but incurable in native women. Measles was introduced into Fiji by one of Her Majesty's ships of war. The epidemic which followed destroyed between one-third and one-fourth of the whole population. The itch in British New Guinea also spread like wildfire at first in its most virulent form. Dysentery in its epidemic and contagious forms was unknown in British New Guinea ten years ago. In recent years it has caused many deaths there. It probably causes more deaths than any other disease in tropical countries. No other malady is so universally distributed and of such constant occurrence. To the tropical European, the most important study is probably that of malarial fever. The parasitic cycle in malarial fever is undoubtedly proved by demonstration. Now we require to know how and why certain conditions bring on an access of fever long after possible infection and in spite of long-continued and large doses of quinine. Koch is convinced that a practical inoculation against Texas fever can be arrived at. Elephantiasis is very common in Fiji. There seems to be no connection between this disease and malaria as some have supposed. Phthisis was not known to the Papuan. The natives of New Guinea are, however, very subject to a form of pleuro-pneumonia. The first case of diphtheria that occurred in Fiji was about twenty years ago. The disease was brought from Sydney. Lupus exedens is very common in New Guinea, but it is always clearly distinct from cancer. Tetanus has been known in British New Guinea. Tinea imbricata has made a steady, stealthy progress. Ankylostomiasis is indigenous in the Pacific. In New Guinea there is a curious multiple tumor as large as a walnut which is met with. It is probably parasitic, but has not been investigated. The Australian and New Guinea dingoes are free from rabies. The "jigger" should be carefully studied. The whole subject of leprosy requires to be studied exhaustively in the light of the new pathology. The quarantine is necessary in the colonies. The author then emphasizes the importance of becoming expert in the examination of water.

The Causes and Treatment of Non-Malignant Stricture of the Rectum.—Frederick Charles Wallis believes the most common cause of rectal stricture to be septic ulceration, primarily started either by some septic discharge from the outside, attacking an abraded portion of the mucous membrane, or post-operative sepsis. Protracted labor is another cause. Patients suffering from rectal ulceration are apt to have attacks of acute synovitis. The author describes his operative measures in two cases, the latter of which is as follows: A primary inguinal colotomy was performed. Some months later the rectal operation was performed. The patient being placed in the lithotomy position, the sphincters were stretched as much as possible. An incision was then made all round the anus at the muco-cutaneous margin, and the mucous membrane gradually separated from the sphincter by scissors, and the separation continued right up to the stricture. Great care had to be exercised at this point, but after the stricture had once been passed the mucous membrane was quite healthy. The peritoneal cavity was opened on both sides, particularly on the right; these openings were closed again by sutures. The bowel was divided above the stricture through healthy mucous membrane, and the lower parts with the stricture were removed; the cut edges of the healthy bowel were brought down to the skin margin by gentle traction and sewed to it by a large number of interrupted sutures of chromicized catgut. No vessels were ligatured. The subsequent course of this operation was uneventful. A few weeks later the colotomy wound was closed. The patient is now in the best of health.

On the Best Method of Removing Large Stones from the Bladder: with Notes of a Case.—S. H. Burton states that the advantages of suprapubic lithotomy are that the bladder can be opened freely and examined fully, in an almost bloodless manner, and a stone of any known size extracted with least disturbance to the patient of any operation, and in the case of enlarged prostate these advantages are accentuated. The disadvantages are that the wound may be long in healing, and sometimes phosphates may crust on the scar, reproducing another stone. The advantages of perineal lithotrity are that the bladder wall is not cut, and the neck of the bladder is incised only enough to admit the finger, and afterward the lithoclast, and the opening into the bladder is dependent. The disadvantages are many: frequent instrumentation during the operation; disturbance of the neck of the bladder by removal of stone fragments; the bruising of the vesical mucous membrane by the lithoclast when the bladder is contracted around a large stone; the impossibility of examining the bladder with the finger in the case of a big man with a deep pelvis, and the difficulty, when there is a large prostate, of manipulating the instrument easily, and of removing all the fragments, and lastly when the kidneys and ureters are diseased, owing to chronic dilating and infective changes, the danger of setting up acute pyelitis and nephritis is increased in proportion to the manipulation. The author believes the suprapubic operation to be the best one for large stones.

A Case of Obstructive Jaundice due to Gummatous Infiltration, Involving the Head of the Pancreas, Duodenum, and Gastro-Hepatic Omentum, in which Cholecystocolostomy was Performed with Complete Cure.—H. Betham Robinson reports this case, in which he performed an exploratory laparotomy, draining the gall bladder. Potassium iodide was ordered, and the further history was most satisfactory. The progress of the case after the operation leaves little doubt that the lesion causing the jaundice was an extensive gummatous infiltration radiating from the head of the pancreas. Such a manifestation of visceral syphilis must be extremely rare, and hence unsuspected. The length of time during which the improvement continued, with the marked increase of weight, are conditions which cannot be accounted for by the laparotomy alone, or from the relief of the bile obstruction.

The Etiology of Phlyctenular Affections of the Eye.—Sydney Stephenson regards phlyctenular disease, generally speaking, as due remotely to the tuberculous diathesis, and immediately to an eruption of eczema upon the surface of the eyeball. Anything tending to lower general resistance, as measles or imperfect hygienic surroundings, or local resistance, as slight injuries to the eyeball, may induce the disease in a predisposed subject. It is important to bear in mind that eczematous inflammations may involve mucous membranes other than the conjunctiva, and that such changes when found may help to elucidate the etiology of an otherwise obscure corneal ulcer.

A Discussion on the Methods at Present Available for the Treatment of Simple (Subcutaneous) Fractures.—By William H. Bennett and others.

Pyloroplasty for Cicatricial Contraction of the Pylorus and for Gastric Ulcer.—By Leonard A. Bidwell.

A Discussion on the Treatment of Chronic Glaucoma.—By F. Richardson Cross and others.

On Fifty-Three Operations for Stone in the Bladder (Illustrated).—By P. J. Freyer.

A Discussion on Subdiaphragmatic Abscess.—By Rickman J. Godlee.

The Huxley Lecture.—By Lord Lister.

Berliner klinische Wochenschrift, September 17, 1900.

A Case of Chronic Diffuse Œdema of the Skin.—H. Rosin reports the case of a woman aged forty-two years, presenting swelling of the face, upper portion of the chest, backs of the hands, and knuckles. It came on without apparent cause and did not seem to be associated with any internal disturbance. The skin was not so stretched that it could not be lifted up in folds. The thyroid was not enlarged. No history of any exanthem could be obtained. There were no glandular enlargements, no fever or sensory disturbances. The pulse was normal. Differentiation was called for between erysipelas, myxœdema, Graves' disease, scleroderma, and nephritis; but all these could be excluded. The condition was regarded as due to some disturbance of the circulatory apparatus taking the form of an abnormal permeability of the vessel walls. The condition of the patient was stationary when the report was made.

An Additional Case of Polyneuritis following Malaria.—C. A. Ewald's patient was a man aged thirty-one years, who suffered from what was regarded as a malarial attack, though no organisms were found in the blood. On admission to hospital, he showed a paresis of the lower extremities, while the patellar, skin, and periosteal reflexes were completely lost. His gait was weak, and he had to be supported, but showed no typical ataxia. The speech was rather stumbling, and he found it difficult to continue conversation, as his mind seemed blunted. Electrical reactions were normal for both currents. The spleen was large, urine normal. The case was regarded as a form of polyneuritis due to malarial infection.

Polyneuritis after Malaria and Landry's Paralysis.—In this article R. Baumstark reviews the literature of the conditions named in the title and discusses the differential diagnosis of the two diseases.

Doubling of the Left Index Finger and a Threefold Division of the Right Thumb.—By Dr. Joachimsthal.

A Metrical Visual Disturbance in Hemianopsia.—By H. Liepman and E. Kalmus.

Deutsche medicinische Wochenschrift, Sept. 27, 1900.

Observations on a Case of Multiple Typhoid Periostitis.—Conradi discusses the interesting question of how much significance attaches to the presence or absence of the Gruber-Widal reaction in determining the nature of post-typhoid suppurations, especially those involving the bones. In a case observed by the author five months after a typhoid infection, which ran its usual course, the bacillus typhosus was isolated and cultivated from pus obtained from periosteal lesions in several parts of the body, and its specificity and virulence were positively determined. A positive Widal reaction, however, was not to be obtained from the blood serum, and this observation leads the author to several noteworthy conclusions. The first of these is that in metastatic typhoid lesions the agglutination reaction is not to be relied on as an index of the origin of the trouble. The conditions which make it possible for the bacillus to maintain its vitality in remote portions of the organism, after the disease has run its course and the body is supposably thoroughly charged with immunizing bodies, afford a rife topic for speculation. It is well established that the bone marrow participates in every typhoid infection as constantly as do the spleen and intestine; how is it, then, that it is only the latter two that are able completely to dispossess the invaders, in spite of the fact that the bone marrow itself is one of the most prolific sources for the manufacture of the anti-typhoid protective substances? Furthermore, why are not other tissues also attacked? We must take it for granted that owing to its reactive changes the body has become at least an unfavorable dwelling-place for the bacillus, and that in order to keep its foothold it must greatly adapt itself to the new conditions, and so parts with a large measure of its virulence, becoming locally active only when the system is again invalidated by exterior conditions, other infections, trauma, etc. Most authorities accept the belief that suppurative processes due to the typhoid bacillus do not differ clinically or pathologically from those produced by pyogenic cocci, and in the author's opinion local manifestations are caused by it only when it has been deprived of its specific characteristics and can generate only the irritative poisons common to many bacterial forms.

The Diagnosis of Tuberculous Peritonitis.—H. Löhlein comments on the many difficulties in the way of diagnosticating this affection, and describes three signs that he has found of use. In over one-half of the cases operated upon by him during the last year it was found that very appreciable differences both on palpation and percussion existed in the two lateral regions of the abdomen. It is especially the change in the percussion note that is significant, and an increase in dulness on the left side, while not pathognomonic, yet gives strong presumptive evidence in favor of the existence of the disease. A logical explanation of the phenomenon may be found in the theory that the diseased mesentery naturally contracts in the line of its oblique attachment, and therefore draws the intestinal coils to the right side, leaving the other free to receive the major portion of the exudate. It has been observed and well substantiated that the site of predilection for the tuberculous deposits is found in the most dependent portions of the peritoneal cavity, and hence the lining of Douglas' cul-de-sac is nearly always invaded. By rectal palpation it is almost invariably possible to note the presence of tubercles in this region, which give to the examining finger the sensation of numerous hard nodules of varying size. The last method is a corollary from this one, and consists in making a slight opening in the posterior fornix sufficiently large to facilitate the digital examination or even to remove bits of suspected tissue for microscopical investigation, while in cases adapted to treatment by a simple cœliotomy the therapeutic indication may equally well be met by allowing this intravaginal opening to take the place of an abdominal section.

The Treatment of Scabies.—Richard Sachs, in view of the irritative or toxic properties often manifested by many of the scabiosa in use, such as balsam of Peru, styrax, sulphur, and beta-naphthol, was induced to make experiments with a new synthetic product to which the name of peruscabin has been given. This is a compound of cinnamein, styracin, and cinnamic acid, and represents the active constituents of balsam of Peru. By a long series of comparative tests, made by bringing various agents into direct contact with the parasite removed from the body, it was determined that styrax, beta-naphthol, and peruscabin possessed the greatest parasiticide power, and inasmuch as the last of these has the advantages of being odorless, of not staining the clothing, and of being free from all damaging effect on the skin or internal organs, it ought, on theoretical grounds, to be the most preferable. The drug was tried in thirty-five cases with a positive result in each, while, although in ten instances there were complicating lesions such as eczema and dermatitis, no secondary irritation was produced. The method of application is as follows: The patient takes a bath and is then anointed from head to foot with a mixture (1:3) of peruscabin and castor oil. The inunctions are repeated three times in thirty-six hours, at the end of which time the underwear and bed linen are changed. In three or four days the cure is completed by another bath, which it is well not to give too early in order that abundant time may be allowed for the remedy to reach even the deeper-seated parasites. No disagreeable symptoms whatever were caused, even though many of the patients were children, and one an infant four months old.

The Pathology and Therapy of Abscess of Douglas' Space in Perityphlitis.—By J. Rotter.

An Unusual Case of Purpura Rheumatica.—By Paul Edel.

Scottish Medical and Surgical Journal, October, 1900.

On the Surgical Treatment of Aneurisms by Excision.—Thomas Annandale urges the following advantages for this operation. If successful, the result is a complete cure. The ligatures are applied to the ends of the divided vessels, and not to them in their continuity. Even if the corresponding vein be divided and a portion of it removed, the risk of gangrene is not great. All the advantages of the antiseptic treatment can be obtained in connection with the successful healing of the wound and closure of the vessels when divided. Inflammation and suppuration of the sac or rupture of it cannot occur in connection with this method. Although as yet more experience is required, it seems likely that certain aneurisms, such as the subclavian, will in the future be treated more successfully by this method. The author believes that in the near future the treatment of all aneurisms of the limbs, provided they be tolerably circumscribed and free from complication, will be most effectively carried out by excision; and that aneurisms of a diffuse nature, owing to rupture of the sac or from other causes, will be best treated by laying open the sac and ligating the vessel at its point of communication, either by an incision through the walls of the sac or by exposing and ligating the vessels immediately outside the sac.

A Résumé of Our Knowledge of Diseases Transmissible from the Lower Animals to Man.—Theodore Shennan says that the most important of these diseases are tuberculosis, diphtheria, scarlet fever, glanders and farcy, anthrax, plague, foot-and-mouth disease, and rabies. Ten to twenty per cent. of all cows are tuberculous. Muscular tissue is rarely affected by tuberculosis, but the meat is usually infected after death, the butcher having to cut through diseased lymphatic glands. Boiling or roasting destroy the germs on the surface. Milk tuberculosis can

be prevented by boiling the milk. Merely raising it to boiling point, 100° C., and allowing it to cool is usually sufficient to render it safe, and does not injure the flavor of the milk. Diphtheria may also be conveyed in milk, and so may scarlet fever. The author takes up each disease in detail, showing how it may be transmitted to human beings by various animals.

A Case of Perforated Gastric Ulcer with Recovery after Suture.—John Shaw McLaren reports a case, and urges immediate operation in all similar ones. Infiltration anæsthesia is to be preferred to the use of chloroform or ether; the incision should be made in the middle line; the ulcer should not be excised, but simply tucked in wholesale, with first one and then a second row of sutures. If the stiffness or friability of the wall makes suturing impossible, one can drain with gauze or tube, or make artificial adhesions. When such measures are impracticable or would consume a dangerous amount of time, the stomach might be rapidly stitched to the wound and packed. The detail and extent of washing out the peritoneum with saline solution will depend on the amount of soiling and peritonitis. The solution should be very hot. Rectal feeding should be the rule for a day or two.

Jaw Jerk and Jaw Clonus.—Alexander James has found by investigation of the reaction time of the jaw jerk as compared with the knee and ankle jerks in the same individual, that the time of these muscle or tendon jerks varies directly with the distance between the muscles concerned and their nerve centres in the cord or medulla. Although differences due to individual conditions may occur, we find that the ankle clonus is slower than the knee, the knee than the hip, etc. The jaw clonus is the most rapid of all.

Clinical Lecture on Undue Adhesion of the Membranes as a Complication of the Third Stage of Labor.—By D. Berry Hart.

Clinical Lecture on Cardiac Failure (Conclusion).—By A. M. Stalker.

Some Simple Surgical Appliances.—By Charles W. Cathcart.

The Plague.—By W. Leslie Mackenzie.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

GENERAL ELECTION—WAR HOSPITALS—TREATMENT OF PRISONERS AT PRETORIA—PLAGUE AT GLASGOW—PRECAUTIONS THROUGHOUT THE COUNTRY—EXPERIMENT WITH MALARIA-INFECTED MOSQUITOS—TYPHOID.

LONDON, September 28, 1900.

WE are now in the midst of a general election, and medical questions are for the most part relegated to a back seat. The one which most frequently intrudes on conversation is the war-hospitals inquiry, but even this is less exciting than it was. The most curious point in regard to this is the tenderness with which Mr. Burdett-Coutts has up to now been treated in his own constituency, where one might have supposed political opponents would have made the most of the accumulated contradictions with which his allegations have been met. He has said that he told only the truth, but the evidence of Lords Roberts, Kitchener, and Stanley, to say nothing of numerous other witnesses, is irreconcilable with his statements. Still there seem to be some persons who accept Mr. Coutts at his own valuation, but when asked for proof of his charges they have to call up a very different class of witnesses and very singular facts. Thus I am told an audit officer in Natal spoke of a deficiency of bedsteads, but my informant should have remembered that this, if true, had nothing to do with the facts at Bloemfontein. Again, I am assured two persons had stolen patients' comforts and are in prison for the crime, but this is no proof that the Royal Army Medical Corps was to blame. Once more, I am assured that Reuter's agents are prejudiced and do not forward the evidence of all the civil surgeons; to which I reply that the agency at any rate does not suppress the evidence of Lords Roberts, Kitchener, and Stanley, and their statements satisfy most people—to which there is no answer.

Mrs. Dick Chamberlain's spite against the doctors for excluding her from the hospital at Wynberg will perhaps abate now that she finds that this was in obedience to an order of Lord Roberts himself—rather an amusing revelation even for her own set.

Another woman who was to expose a scandalous condition on the hospital ships has been before the commission, but her evidence seems likely to recoil on herself. She declared that three hundred sick and wounded men had nothing but bread and tea. On this Lord Romer said it was "impossible," they would have all died; then asked "How many did die?" Nurse Roberts replied "none." She also said the wounds were cauterized with nitric acid (!), and made other equally intelligent statements. The civil surgeon on board flatly contradicted her evidence, and told the commission she had been "dismissed as incompetent." He was corroborated by other witnesses.

Dr. A. Morison was to have produced a sensation. He had written letters to the papers alleging various things. Summoned to the commission to give evidence, he sent a letter pleading that ill-health prevented—a course which only produced the remark from the president that no medical certificate accompanied the letter.

A Mr. Edmonds, who has written letters to *The Spectator*, had to admit that he had only hearsay and no facts for his allegations, whereupon his evidence was ruled out. Some other contradictory evidence has been given—in fact, too much to epitomize. I have selected the foregoing as illustrating the kind of campaign against the hospitals that was started, and as showing that those attacked may be content to await the report of the commission.

I have already mentioned the severe condemnation passed on Dr. H. P. Veale by Lord Roberts, as the result of the inquiry into the treatment of the British prisoners of war at Pretoria. Such a verdict on a member of the profession is to be regretted. But a careful perusal of the report seems only to confirm its justice; for his own evidence seems to consist chiefly of a repudiation of his responsibility and an inability to remember the purport of letters addressed to him by the resident doctors—some of which, however, he declared he had not received.

There is no advance of the plague in Glasgow. Another case developed after my last letter. The number of patients in hospital is now twenty-two, and there are two doubtful cases. The "contacts" have been reduced to forty, showing that many have been dismissed after passing the period of isolation. The outlook is therefore encouraging, and the confidence of the sanitary authorities has been justified. But they are not relaxing their precautions, and in some respects are improving them.

The medical officers of health throughout the country seem to be wide awake and are seizing the opportunity to arouse the sanitary authorities. They are supported, too, by the local government board, which has issued an order making plague a notifiable disease, and requiring any case that may occur to be immediately reported to the sanitary authority of the place, whether urban, rural, port, or riparian. They are also to send circular letters to all legally qualified practitioners in their several districts, informing them of their duties under the regulation. The order of the board is being carried out by the various local authorities.

Stress is being laid on the mildness of the disease as seen in Glasgow, but however satisfactory this may be with regard to individual cases, it is no assistance from a preventive point of view. Rather the reverse, for in the mildest forms the idea of plague would scarcely occur unless it were known that the patient had been exposed to infection. This has been the case with some of those occurring during isolation, and it is easy to see that in such cases the danger of spreading the disease is greatest.

Above sixty persons known to have been in contact with plague patients have been treated with Yersin's serum. Two of these had very mild attacks of the disease.

You know that the experiment of residing in the most malarial locality of the Roman Campagna, carried out by Drs. Sambon, Low, and Terzi, has been so far successful. Their mosquito-proof huts have afforded them protection from the danger, and they are all well. A similar experiment under Professor Grassi has been equally successful. Now comes the complement to this method of experimenting. A son of Dr. Manson, who had never had malaria, allowed himself to be bitten by mosquitos collected by Bignami and Bastianelli, under whose care the insects had been fed on malarial patients, and forwarded to London. He has undergone an attack of tertian, the parasites appeared in his blood, and the spleen enlarged. This confirms the experiments of Grassi and Bignami which were made in Rome. As that is a malarial district, Mr. Manson has carried the proof another step.

Typhoid is on the increase in London. The cases admitted to the fever hospitals during the last five weeks have numbered respectively 33, 40, 38, 57, 89. The deaths from this disease last week fell to 14 from 23 in the previous week.

Typhoid has been for a long time, in fact all through this year, prevalent in Merthyr. The death rate has been 0.5 per thousand—about double that of the neighboring districts.

In London scarlet fever is on the increase, as seen in the number of admissions in the last four weeks successively —176, 213, 243, 269.

SUMMER VACATIONS FOR THE POOR.

To the Editor of the Medical Record.

Sir: During the last summer fourteen weekly parties of women and children were taken to "Sea Breeze," the home on Coney Island of the New York Association for Improving the Condition of the Poor. I examined these parties with a view of eliminating possible cases of contagious disease.

Among these women and children, some fifteen hundred in all, not one case of diphtheria, scarlet fever, measles, or communicable disease of like nature was found. At "Sea Breeze" one case—of pertussis—was developed during the summer. A great many children (about ten per cent.) had conjunctival inflammation; of these more than half had granular lids.

Many of the children, especially the infants, needed greatly the change from the air of the tenements to that of the sea. With pale, sallow faces, which had clammy sweat upon them, and with eyelids half closed, they were listless and without the energy characteristic of healthy children. The causes of disease especially manifested at these examinations were irregularity in feeding, and overclothing. As regards the feeding the following are specific instances: One child, who (so the mother said) was suffering from "stomach trouble," held in its fist most of a cracker. Its mouth was full of half-masticated food. It was given food "whenever it wanted something to eat," so that its digestive apparatus was almost never at rest. The baby was thin, weazened, and had a clammy sweat on its face. It looked senile. It was bottle-fed; and the bottle was given it "whenever it cried." One child during the inspection gorged himself upon a huge cruller; the mother explained, "I keep him quiet that way." Several children lunched without intermission all the while they were seen.

As regards the clothing: On one very hot day the suffering from over-much clothing was especially conspicuous. They (the babies) were almost never without heavy "belly-bands." Prickly heat was very rife among them. Almost all of them cried piteously, no doubt because they were over-clothed. They were reeking with perspiration. Six thicknesses of clothing, more than half of which were woollen, were the average. One mother had had four children die of "bronchitis" (probably pneumonia). Therefore she had the baby's thorax heavily covered with woollen garments. The baby thus clothed had its chest contracted, and normal, free action of its lungs was made impossible. The sweating caused by the superabundant clothing put it in a condition to be chilled by a chance draught. No doubt this child will go the way of the others, if it has not since then done so. Another child had a reddened face and it puffed laboriously. The mother wanted to know why it had prickly heat. Its clothing was removed. There was a heavy flannel binder, next two woollen garments, next a cotton shirt, and lastly a thick woollen cloak.

Many of the mothers were greatly in need of change and rest. There were a number of large families. One mother, thirty-seven years old, had had nine children, of whom three had died. Another of the same age had had eleven, eight of whom had died. Another, thirty-one years old, had had ten, etc. One woman had had eight children, of whom but two were living. She wept over "a beautiful baby with lovely gold hair," that died when but a few days old. The other five had died almost at the same time of diphtheria and scarlet fever, which "had been brought into the house." This woman's dissatisfaction with the part allotted to her in the universal scheme was not because of the number of children she had borne, but because they had been taken from her care. These poor women seemed much more worthy of respect than many in other social strata who—as medical men know too well—seek to forego the dignity and honors of motherhood and to avoid its perils and responsibilities.

There were a number of old women who went to "Sea Breeze." Their visits no doubt benefited them greatly. Their afflictions were those of advanced life; not a few had just come from treatment or operation in hospital.

Following are some disjointed data: A very much emaciated woman had been married at sixteen; her first child was born before she was seventeen. A child a few months old was infected with syphilis. The eruption was distributed over its body. The mother explained that the father "had been burned, and this burn turned to blood poisoning." One child had her face disfigured with impetigo contagiosa. She considered she got it "by bathing too long at Manhattan Beach." Perhaps an unclean bathing-suit was responsible. A girl of fifteen limped greatly. When somewhat over two years old she "became suddenly paralyzed in her sleep," so her mother stated. It may be this was an hysterical paralysis—in which case it is like to disappear as quickly as it came. If she should get into the clutches of a Christian Scientist, another "miracle" may be performed. A young woman had hysterical hemiplegia. This came on shortly after her marriage—to a Chinaman. A woman not forty years old, who exhibited ten children, was an optimist of the first water. I asked her, "Are you well?" "To be sure I am," said she, with a wink and a grin; "only for that I couldn't stand the racket."

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Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Seventeenth Annual Meeting, Held in New York City, October 15, 16, 17, and 18, 1900.

E. D. Ferguson, M.D., of Troy, President.

First Day—Monday, October 15th.

The meeting of the Council and Fellows was a large one, and convened in the hall of the New York Academy of Medicine at 10:30 A.M. The subject for consideration was the proposed plan of reorganization. After considerable discussion over what form the by-laws should take, the whole matter was referred to a committee, which was to report back the following day.

Second Day—Tuesday, October 16th.

The first order of business was the report of the committee on by-laws. Each section was taken up in turn and discussed, and when this task had been completed the association adopted practically the fundamental plan of reorganization, though postponing for the present the adoption of certain features which had been embodied in the first draft of the by-laws. This preliminary executive work having been disposed of to the general satisfaction of the large number of members present, the regular scientific programme was taken up.

The Analogy between the Nervous Conductibility and the Electric Conductibility, and their Relation to Functional Neuroses.—Dr. A. D. Rockwell, of New York City, read this paper. He said that pathological conditions showed that the conductibility of the neuron may be complete or incomplete, according to the permeability of the nerve tract. To understand the analogy between nervous conductibility and electric conductibility one should note the behavior of the "coherer," an apparatus consisting of a tube filled with iron filings. Under ordinary conditions this tube was a non-conductor. If, however, it was placed in a solenoid, situated in the course of a current of high frequency, this tube immediately became an electrical conductor. This phenomenon had been explained on the theory that each grain of metal was surrounded by condensed ether, and that the expansion of these sheaths of ether by the electric current was responsible for the change into an electrical conductor. Neuromotor energy might be developed in the nerve cells or without them, and this overcame the natural resistance of the neurons, probably in the same manner as the particles of iron in the coherer. In the normal condition of the mind and body there was no severance of the dendrites, but in abnormal psychical conditions "the points of contact" were broken. The fundamental idea of the therapeutic value of electricity, the speaker said, was its influence upon the nerve cell and on general and local nutrition.

Cocainism.—Dr. T. D. Crothers, of Hartford, Conn., read this paper. He said that although the tonic and invigorating effect of the erythroxylon coca had long been known, the powerful intoxicating action of its alkaloid, cocaine, was a comparatively recent addition to our knowledge. The cheapening of cocaine had greatly increased its use, and its administration hypodermically being free from obvious after-effects,

the person taking it became convinced of the safety of such practice. Cocaine entered very largely into the composition of popular prescriptions. Only a small percentage of this drug was consumed legitimately in large cities. In New York, Boston, Chicago, and other cities, only from three to eight per cent. of the cocaine sold could be accounted for in legitimate ways. In the lowest sections of large cities cocaine was in greater demand than almost any other drug. When the pauper classes became addicted to the use of the drug, they became thieves in order to procure the desired supply of it. They became talkative and boisterous criminals. Large quantities of cocaine were sold in drug stores, both with and without prescriptions. Cocainism seemed to be limited to persons in early or middle life, and was most common in brain workers and neurotics. The cocaine habit was really a new disease of civilization, falling most heavily on the extremes of society. Probably the largest number of persons who became addicted to the use of cocaine had been previously accustomed to take alcohol or morphine. Cocaine became a perfect substitute for them. A small class of persons began the use of cocaine for the relief of pain or discomfort, such as that attendant upon catarrh or neuralgia. Almost every condition of pain, irritation, or exhaustion had been the starting-point of the cocaine habit.

Two Forms of Cocainism.—Cocainism appeared in two forms—the periodic and the continuous. Many of the periodic cases suffered from neurotic "nerve storms" which preceded the use of cocaine. The menstrual period in women and congestive headaches in men were common exciting causes. After a time these persons usually became continuous users of the drug. Cocaine maniacs became literally crazy until they could procure the drug.

Symptomatology.—The action of cocaine was to raise the rapidity of the heart's action, and, in large doses, to increase the respiration. In poisonous doses it caused a rise of temperature, and after a period of excitement collapse occurred. The principal action was one of exhilaration, the brain being stimulated. When given hypodermically the local sensation was paralyzed. A peculiar exaltation of brain activity was characteristic of cocainism. Later on, hallucinations and delusions developed. In the early stages, the cocainist was always self-possessed, happy, and contented, but this good feeling disappeared as the effects of the drug wore off. The stage of intoxication was marked by intense talkativeness. Many political speeches and newspaper articles, the speaker declared, brought out this peculiarity. The style of the cocainists was smooth and continuous, but their words led in no particular direction and resulted in no logical deductions. This talkativeness was in marked contrast with the broken sentences of the alcoholist. In some cases there was a mania for letter-writing, and, although sometimes slanderous, they were usually exceptionally free from bitter words or bad language. It was very common for the cocainist to believe that attempts were made on his life, and hence he was prone to carry a revolver with him. The diagnosis was often very difficult. If the patient was a physician, there would be noted slight defects in judgment or an increased indifference in ethical matters. Close observation would usually show periods at which the general mental exaltation diminished or disappeared. The cocainist was distinguished from the alcoholist by his solitary habits. A significant symptom in the later stages was the feeling of bugs crawling over the skin. No other known narcotic made such a pleasant impression upon the brain. The prognosis was always grave, cures being infrequent, and occurring only as a result of persistent and intelligent care.

Treatment.—In the treatment, the removal of the drug was indicated at once. As temporary substitutes, valerian, hyoscyamus, and other vegetable drugs of that class were recommended. The patient should be sent away to an asylum until the acute symptoms had subsided, and then he should be placed for a long time under the constant care of the family physician. The giving up of the drug was only a small part of the treatment; one must determine and remove the causes that led to the formation of the habit. One cause for the undoubted increase in the use of cocaine was the absence of legal restrictions on its sale. Another cause was its reckless use by physicians. As a narcotic or as a substitute for other narcotics, it was a very dangerous drug.

Heart Complications in Rheumatism.—Dr. James J. Walsh, of New York City, presented in this paper a résumé of some of the views expressed in the recent International Medical Congress at Paris concerning heart disease. He said that while it was generally agreed that heart complications were common in rheumatism, it was not so well settled what rheumatism really was. Recent investigations seemed to show that rheumatism was an acute infectious disease, and that, whatever might be the specific cause, it was totally unlike any of the micro-organisms at present known. It was probable that secondary infections played an important part in the production of many of the complications. It was essential, therefore, that the treatment should be directed toward securing antisepsis of the alimentary canal, as this was a common source of infection. At the congress there had been a well-grounded opinion to the effect that heart disease was more amenable to treatment than was commonly supposed. As a general rule, in painful affections of the heart it was stated that strophanthus was the drug to be selected.

Symposium on Obstetrics.—Treatment of the Patient during the Weeks Preceding the Expected Confinement.—Dr. Edward P. Davis, of Philadelphia, opened the discussion with this paper (see page 605).

Management of Normal Labor, Including the Use of Forceps.—Dr. Austin Flint, Jr., of New York City, read this paper. He urged that it be made a routine practice carefully to examine the pregnant woman at the end of the eighth month. This examination should, of course, include pelvic mensuration. The patient should be instructed to take daily walks up to the very time of labor, as this exercise would strengthen the muscles, soften the cervix, aid dilatation of the latter, and make abnormal presentations less frequent. At the time of labor the genitals should be sterilized, and an examination, first internal and then external, made in order to confirm the results of that made the previous month. It was far better to make this one examination complete and thorough than to make a number of superficial examinations at short intervals. The practice of giving a little ether with each pain was gaining ground, the administration being conducted in just the same way as with chloroform. Emphasis was laid upon the importance of observing the old rule to prevent, as long as possible, the rupture of the membranes. An anæsthetic was of great advantage in many cases, yet those who used anæsthetics most would probably see the largest number of cases requiring forceps. As soon as the head ceased to descend, and the withdrawal of the anæsthetic or stimulation failed to restore good uterine contractions, a low forceps operation should be done at once. This practice was safer than the waiting policy. Traction should be slow, gradually increasing in force until the soft parts in front of the head were stretched. Then the head should be held for about one minute before traction was slowly relaxed. After a rest of three or four minutes, traction should

be resumed. By this mode of procedure delivery could be effected with an intact pelvic floor in a surprisingly large percentage of cases. Immediately after the delivery of the head, the mouth and eyes of the child should be wiped out, if possible before the first effort at inspiration. The interval between the second and the third stage was the time when infection was most likely to occur. It was rare than an internal examination was required in normal cases after the birth of the child. Before attempting to deliver the placenta the hands should be sterilized again, and after an interval of twenty or thirty minutes the placenta should be expressed. The length of this third stage depended upon the firmness of the uterine contractions. It was his custom after the delivery of the placenta to give a hot sterile douche, as this stimulated uterine contraction, removed clots, and enabled the obstetrician to inspect the parts and readily detect even slight tears of the birth canal. The use of gloves had not proved satisfactory. The speaker said that ether possessed many advantages over chloroform, and should be used, as a rule, when the pains were of moderate severity. He had not yet employed the new method of spinal anæsthesia sufficiently to be able to express an opinion regarding its value or possible dangers.

After-Treatment of the Mother in Normal Cases.—Dr. George W. Jarman, of New York City, presented this paper. He stated that it was with no small degree of reluctance that he approached a subject about which so little could be said that had not been said over and over again. If, however, the very few remarks he might make would bring about a discussion from which something new on this subject might be heard from others present, he would be amply satisfied. The clinical history of the puerperium from the completion of the third stage of labor, he said, presented a series of physiological and pathological conditions which were necessary to the full recovery of the woman from the incidents of pregnancy and the injuries of childbirth. With the expulsion of the placenta, even though it might have come away intact, the danger of hemorrhage was not passed, and it should be the duty of the obstetrician to remain or leave some competent physician with his patient for at least one hour after the termination of the labor. Women of lax fibre were prone to have their uteri relax, and either external hemorrhage or else the formation of a clot in utero supervened. This accident could often be obviated if the adjustment of the bandage was delayed for half an hour and the fundus of the uterus frequently examined through the abdominal wall. Should this tendency of relaxation exist, grasping of the fundus and compressing it would in most instances cause it to contract and remain firm. The author was in the habit of giving one dose of ergot immediately following the expulsion of the placenta, and this medication was not repeated unless there were distinct indications. Should the relaxation not yield to the above procedure it was wise to resort to more heroic methods: the irrigation of the uterine cavity with a solution of iodine in hot water, or else the tamponing of its cavity with sterilized iodoform (ten per cent.) gauze, would bring about the desired result. Only casual mention of the hypodermic injection of ergotin, stypticin, or other remedial agents would be made, as they would naturally occur to the minds of those who were called upon to treat postpartum hemorrhage. After permanent contraction had been insured, either the nurse or the physician should apply a snug and well-fitting bandage, not with the reputed idea that it would magically restore the waist to its former delicate outlines, but because it would add distinctly to the comfort of the patient and removed the certainty of future criticism, if the patient's abdomen should perchance grow to undue proportions. The author had found it convenient after the expulsion of the placenta, and while waiting for the assurance of permanent uterine contractions, to keep the vulval region covered with a rather thick pad of cotton which had been wrung from a bichloride of mercury solution 1 : 2,000. This would absorb the rather free flow which immediately followed the emptying of the uterus. As soon as the bandage had been applied this cotton was replaced by a pad of sterilized absorbent gauze. The bed linen should then be left in a perfectly clean condition. The patient was to be allowed to turn upon her side, and would in all probability obtain a few hours of much-needed rest. Instructions should be left that the aseptic pad be frequently changed during the first twelve hours following the labor, and that the genitalia be carefully washed, at least twice per day, with a weak solution of the bichloride of mercury (1 : 5,000). It was wise to place the infant to the breast three or four times per day until the appearance of the milk, it having the doubly good effect of giving the infant nature's laxative and through the reflex nervous influence causing the uterus to remain in more firm contraction. The first visit on the part of the physician should be made within eight or ten hours after the completion of the labor. At this time he should ascertain the condition of the pulse and temperature, the amount and character of the flow, whether the patient had evacuated the bladder, the amount of sleep the patient had had, and the character and amount of nourishment taken. In highly nervous patients there was frequently a rise of temperature of one or occasionally two degrees, even in the most normal cases during the first few hours following labor. If the uterus seemed to be abnormally high in the abdomen it should be firmly compressed, and oftentimes the sudden expulsion of a blood clot would result. The amount of flow would govern the future administration of any oxytocic. The bladder should be emptied at least once in eight hours. A certain number of patients were unable to pass their urine while in the recumbent posture. Again, a few would experience a more or less marked paralysis of the bladder for a few days following labor. In either instance, if the application of cloths wrung from hot water and placed over the pubes did not bring about the desired result, the catheter must be used. The author was in the habit of using the sterilized glass catheter only, and requiring the nurse to use it under the guidance of sight, after giving her most rigid directions as regards thorough asepsis. After the third day there did not appear to be any reason why the patient should not assume the sitting posture to void the urine. If the patient had been unable to obtain the desired sleep by reason of nervousness or after-pains, some sedative should be allowed, probably the most preferable being the combination of the bromide of sodium with a small amount of chloral. Until the patient's bowels had been evacuated, that is, during the first two or three days, the diet should be restricted to one of a fluid character. It was certainly preferable that the physician should make two visits per day for the first three days, after that one per day for a week, and then at such intervals for one month as the conditions seemed to require. At the termination of forty-eight or sixty hours some gentle laxative should be administered, and perhaps no better one had ever been suggested than the time-honored castor oil. The author had never been in the habit of using the douche in the after-treatment of puerperal cases unless there was a distinct indication, such as foul lochia. It was not within the province of the paper to discuss puerperal sepsis or its treatment. The nipples should be carefully inspected for any abrasions or cracks; should such exist, a weak solution

of the nitrate of silver or glyceride of tannin might with advantage be applied. The nipples should be carefully bathed, both before and after each nursing, with a saturated solution of boracic acid, and kept as dry as possible. Usually on the third day the breasts would begin to fill up and oftentimes became hard and painful; a snug-fitting breast-binder to prevent the dragging of the breasts, and hot stupes would be sufficient to give the desired relief. It was not generally known that coffee would distinctly lessen the flow of milk. Should the patient have a superabundance of milk, a restriction of the fluids drunk and the administration of a cup of strong coffee with the morning and noonday meal would control the excessive supply. If it could be impressed on all who were called upon to conduct a woman through the puerperium that all abscesses of the breasts were caused by infection through the nipple, their frequency would be greatly diminished, and the old time-honored expressions of "caking" and "catching cold" in the breasts would lose their significance. The patient should be encouraged to lie upon her side as much as possible, as this posture would undoubtedly lessen the frequency of retroversion of the uterus. After the fourth or fifth day the author had been in the habit of having the patient assume the sitting posture for the evacuation of the bowels and bladder, as it had seemed to have a distinct advantage as regards drainage, and no untoward results had been observed. After the free evacuation of the bowels, the diet should consist of easily digestible yet at the same time nutritious food. The bowels should be thoroughly evacuated every day either by enema or some simple laxative. During the latter few weeks of pregnancy there was frequently marked torpor of the large intestine, and an unusual amount of fæces would accumulate. The comfort of the patient demanded that the rectum be thoroughly unloaded. Hemorrhoids would often cause the patient as much discomfort during the first week or two following labor as any other complication. Cold applications to the anus and the use of one-grain ichthyol suppositories would usually give relief. Should the continuance of the red flow and the height of the uterus indicate tardy involution, it was wise to hasten this process by the administration of oxytocics. The author had gotten admirable results through the use of a tablet containing ergotin, hydrastinine, and strychnine. He had never been in the habit of naming any certain time when the patient was allowed to sit up in a chair; it had always seemed to be a question of conditions rather than days, which would determine this point. However, at the end of seven or eight days the patient was allowed to sit up in bed to eat her meals and nurse the child. If the lochia had practically ceased, that is, when they amounted to no more than a scant leucorrhœal discharge, and the uterus had involuted sufficiently to be well within the small pelvis, there should be no reason why the patient should not be permitted to sit up for a short time in a chair. Should this posture cause a recurrence of the red flow, the patient should at once return to bed and remain until the flow had ceased. Before the patient had been discharged, and after all abrasions had entirely healed, a careful vaginal examination should be made; any abnormality should be corrected at once if such existed and it be deemed wise to do so. Should, however, a later operation be necessary for this purpose, the attendant should be certain to acquaint some mèmber of the family of this fact, as it would undoubtedly save future criticism on the part of either the patient or the gynæcologist. In conclusion he would accentuate these points: the after-treatment should be made as simple as was consistent with thoroughness; the attendant should see to it that all who came in contact with the patient followed the laws of surgical cleanliness not only in letter but in fact; he should bear in mind that it was the duty of the obstetrician to see to it not only that his patient recovered from the dangers of childbirth, but that she should be left in a normal condition, with healthy pelvic organs.

After-Treatment of the Child in Normal Cases.—Dr. Bernard Cohen, of Buffalo, presented this part of the subject. He said that as soon as born the child should be turned on its right side to favor the establishment of the proper circulation, and as soon as possible the eyes, nose, and mouth should be wiped, and washed with a solution of boric acid. Ligation of the cord should be delayed for several minutes, not so much with the idea of adding two or three ounces of blood to that circulating in the infant's body, but because this course seemed to lead to a better circulation. The cord should be stripped of its jelly for some distance from the umbilicus, and then ligated so as to give a short stump. A narrow tape, or half a dozen strands of cotton thread, formed the best materials for the ligature, which should, of course, be sterilized. As he had never met with a case of cord infection he saw no reason for cauterization of the stump, as some had recommended. Should there be any suspicion of gonorrhœa or local infection in the mother, the baby's eyes should be treated by the Credé method. After an inspection of the child to determine the possible presence of abnormalities of development, its body should be well anointed with oil, and the process of cleansing be proceeded with. The cord should be dressed with powdered boric acid. A tight belly-band seemed to him to be conducive to umbilical hernia. For the first few days of life the physician should keep himself informed regarding the proper secretion of meconium and urine.

Ophthalmia Neonatorum; its Pathology, Prophylaxis, and Treatment.—Dr. John E. Weeks, of New York City, discussed this subject. He said that ophthalmia neonatorum usually developed about the third day, being announced by light redness, swelling of the lids, and the presence of a discharge. When the discharge first appeared after the fourth day one could be almost sure that the ophthalmia was the result of gonorrhœal infection, and this, too, whether it was of a mild or severe type. He had made numerous observations on this point extending over many years, and they all justified this conclusion. Many gonorrhœal cases were so mild that they could be distinguished only by an examination for gonococci. Out of about fifty thousand blind persons in the United States, five thousand lost their sight through ophthalmia neonatorum. The prophylactic treatment consisted in the instillation of various solutions according to the Credé method. The sublimate solution and the two-per-cent. solution of nitrate of silver gave the best results. Eighteen times as many children suffered from ophthalmia neonatorum in institutions in which this prophylaxis was not employed as in those where it was regularly carried out. It was, therefore, advisable to employ prophylaxis in all cases, the drops being introduced into the eyes of the infant just after it had received its first bath.

Treatment.—By cold applications to the lids, the temperature of the conjunctival sac could be reduced to 88° or 94° F., according to the thickness of the lids. At this temperature the gonococci grew much less rapidly than at the normal temperature of the part. The conjunctival sac should be cleansed frequently by the use of a non-irritating aseptic or mildly antiseptic solution. Many preferred a three-per-cent. solution of boric acid, though a solution of sublimate, 1 : 15,000 or 20,000, might be used. The fluid should be tepid, and should be used freely and sufficiently often to keep the parts free from secretion—usually once in twenty or thirty minutes. Care should be observed

not to press on the eyeball or cause an abrasion. This treatment should be kept up until the lids assumed a normal condition. Cold applications should also be used continuously for from one to four hours at a time, and should be repeated three times daily. Cotton pads were preferable for this purpose; they should be changed every minute or two. The cold applications should be discontinued when the swelling of the lids subsided. A one-per-cent. solution of nitrate of silver should be applied to the entire surface of the conjunctiva once daily after all secretion had been removed. It should be made daily until the secretion ceased. If the cornea became involved, atropine should be used.

The Major Obstetrical Operations from the Standpoint of a General Practitioner.—Dr. Edward Reynolds, of Boston, in considering this topic, divided the cases into two classes, viz.: (1) Those in which operation was elective and was done early, and (2) those unfavorable cases in which the operation was not undertaken until after infection or exhaustion from a tedious labor. He had been surprised to find, as a result of a careful search of the literature, that those operations were attended by a large fœtal mortality—about fifty per cent.

Cæsarean Section.—It had been assumed that the mortality from this operation was only between twenty-five and forty per cent. If considered as a whole, without reference to the classes of cases, this statement was correct, but it was nevertheless misleading. In an analysis that he had made of one hundred and fifty cases, eighty-nine favorable cases had had no mortality, whereas sixty-one unfavorable cases gave a mortality of thirty-three and one-third per cent. When extirpation of the uterus was added to Cæsarean section, it was probable that the maternal mortality was slightly greater in the favorable cases, and in the unfavorable cases a little less than that of the classical section. There was practically no fœtal mortality from Cæsarean section if the child was in good condition at the time the operation was undertaken.

Symphyseotomy.—In connection with the operation of symphyseotomy about the only maternal mortality was that due to the performance of this operation in cases in which the degree of disproportion was too great to admit of easy extraction afterward. In these cases there was also a considerable maternal mortality. It was worthy of note that the mortality from symphyseotomy in the unfavorable class was only very slightly larger for both mother and child than in the favorable cases.

Selection of Operation.—When the mechanical relations would render forceps or version unusually difficult or prolonged, and the mother's condition was favorable, Cæsarean section was the operation of choice. When the mechanical conditions made the intrapelvic delivery of an intact child at term impossible or very difficult, the great superiority of Cæsarean section over induction of premature labor was apparent. In the unfavorable class, however, symphyseotomy was the operation of choice, provided always the degree of mechanical difficulty permitted of its application. When in the unfavorable cases symphyseotomy was impracticable because of the disproportion between the maternal and fœtal parts, craniotomy should be unhesitatingly chosen.

Prophylaxis.—The keynote to prophylaxis was pelvimetry. It was most easily carried out by determining from palpation the ease with which the fœtal head could be made to descend into the pelvis. If in a primipara with rigid uterus and abdominal wall, the head was well wedged in the brim at the beginning of labor, the case was probably within the safe use of the forceps. If, on the other hand, in such a patient the head was above and had not entered the brim, or was not pressed against it firmly, there was strong possibility of the presence of a disproportion between the fœtal and maternal parts. When the woman had lost one baby from mechanical obstruction in a previous labor, he thought it should be the general rule to offer her the advantages of a cutting operation.

Puerperal Sepsis: its Pathology and Treatment.—Dr. William R. Pryor, of New York City, read this paper (to appear in a future issue).

Symposium on the Blood.—Technique of Blood Examination.—Dr. Edward K. Dunham, of New York City, opened the discussion with remarks on this subject. He said that the blood for examination was usually obtained from the lobe of the ear by puncture with one nib of a new steel pen. The first drop of blood exuded was usually discarded.

Specific Gravity.—The specific gravity of the blood might be determined in two ways: (1) By the use of a delicate balance, and (2) by suspending a drop of blood in a mixture of chloroform and benzol. If the specific gravity of the mixture coincided with that of the blood, the latter would neither rise nor sink in the mixture. If the drop of blood rose, it showed that the mixture was heavier than the blood. It was made lighter by adding benzol, and heavier by the addition of chloroform.

Reaction.—The reaction of the blood was not easily determined, requiring the use of delicate standardized solutions and sensitive litmus paper, and was not likely to be determined by the clinician.

Rapidity of Coagulation.—A very simple method of determining the rapidity of coagulation consisted in filling a graduated capillary tube with blood, and alternately introducing and withdrawing a horsehair. This horsehair did not become stained with the blood until coagulation began. When this process was complete, the clot would no longer stain the hair.

Hæmoglobin.—The majority of methods for determining the hæmoglobin required the measuring off in a graduated pipette of a quantity of blood freshly drawn from the patient. This blood was usually diluted with distilled water, and then the tint of this solution was compared with some standard color. By the admixture of distilled water the hæmoglobin was extracted from the blood corpuscles, and its color was imparted to the water. There were several important sources of error in connection with the use of these instruments. One of these was the lack of uniformity in the distribution of the hæmoglobin through the water; another was the personal equation. The latter, the speaker thought, amounted to about five per cent. An instrument known as the ferrometer was designed to determine, not the amount of hæmoglobin directly, but the amount of iron in the blood, as the latter roughly corresponded with the amount of hæmoglobin. A measured quantity of blood was evaporated to dryness, incinerated, and dissolved in an aqueous solution of bisulphate of potassium. Sulphocyanide of potassium and dilute hydrochloric acid were then added, thus forming the blood-red cyanide of iron. This color was then compared with a standard solution of this salt of iron, and the amount of iron, and indirectly of hæmoglobin, was then calculated.

Blood Count.—The number of red or white blood corpuscles present was determined with the aid of the hæmocytometer. The hæmatokrit did not give very accurate results.

Leucocytes in Relation to Surgical Diagnosis.—Dr. Joseph C. Bloodgood, of the Johns Hopkins University, discussed this topic, confining his remarks to the diagnostic aid afforded by blood counts in abdominal surgery, particularly in cases of appendicitis, peritonitis, and obstruction. The speaker said that all leucocyte counts above 7,000 might be looked upon as a leucocytosis.

Appendicitis.—In chronic cases of appendicitis admitted to the hospital after an attack he had found, with few exceptions, that the leucocyte count was below normal. In cases of acute appendicitis admitted at the end of the attack, the leucocyte count had been between 10,000 and 15,000. In cases of acute appendicitis admitted in the first few days, and not operated on, the leucocyte count had varied between 8,000 and 22,000. In these cases as the symptoms abated the leucocyte count rapidly fell. In cases of acute diffuse appendicitis in which operation was done, the blood counts had varied between 7,000 and 25,000, and in gangrenous appendicitis between 13,000 and 25,000. In cases in which the appendix had been distended with pus, the count had varied between 15,000 and 35,000. In the acute cases of appendicitis, if operation had been delayed, there would be, along with the increase in the symptoms, an increase in the leucocyte count. If the local symptoms in a case of appendicitis had subsided, the leucocytes usually disappeared. A rising leucocyte count, with symptoms of appendicitis, was, as a general rule, an indication of danger. If, in a case giving a history of appendicitis, but without distinct physical signs of this disease, the leucocyte count was large, one might feel reasonably sure that there existed an abscess so deeply situated that it was not palpable. In cases of appendicitis with abscess, and presenting acute symptoms, the leucocyte count had varied from 6,000 to 60,000. The absence of a leucocytosis did not exclude a small abscess, but the presence of a leucocytosis was almost pathognomonic of the presence of an abscess. In an acute attack, a rising leucocytosis was almost invariably an indication that the patient was getting worse—in other words, there was abscess formation, gangrene, or beginning peritonitis. With a leucocyte count over 20,000, in a case of appendicitis, he would lose no time in operating.

Peritonitis.—Some of the highest leucocyte counts occurred with peritonitis. Most of the blood counts in these cases had varied from 7,000 to 40,000. As a rule, at the outset, with the exception of typhoid fever, the leucocyte count was very high. It increased for a few hours and then fell to 7,000, and to below the normal before death. In cases of peritonitis of not more than twenty-four hours' duration the counts had varied from 14,000 to 22,000, and all these cases had terminated fatally. A high leucocyte count was not of much significance in the first twenty-four hours of a peritonitis. If this persisted after thirty-six or forty-eight hours, the prognosis was proportionately good. In cases of peritonitis from typhoid perforation, the blood counts had varied from 7,000 to 23,000. He had found, almost without exception, that any pathological condition producing obstruction was followed in a few hours by a rise in the leucocyte count.

Obstruction.—In the first forty-eight hours, obstruction, without gangrene or peritonitis, gave a leucocyte count of only 6,000 to 16,000, while in cases of obstruction with gangrene the leucocyte count was higher. The higher the count and the shorter the duration in these cases the greater the probability of gangrene. If there was a count above 20,000 in the first twenty-four hours, the chances were that gangrene was present. After the third day, if the leucocytosis remained high, the prognosis was good, excluding gangrene and peritonitis. During the past summer, Dr. Thayer had made a most laborious and exhaustive examination of the records of typhoid cases for a number of years, and had, as a result, come to the conclusion that there was rarely a rise in the leucocyte count in typhoid fever without some associated complication or aggravation of the disease.

Pernicious Anæmia.—Dr. Alfred Stengel, of Philadelphia, read this paper. It was certain, he said, that this disease resulted from the rapid destruction of red blood corpuscles, and that the source of these hæmolytic agents was the gastro-intestinal tract. It followed, therefore, that pernicious anæmia was not a primary disease. But it should be noted that the disease did not invariably follow upon the grave gastro-intestinal disorder alluded to. In certain cases a special infection might be added, or there might be a disturbance in the process of hæmatogenesis. The number of red blood corpuscles was reduced below that seen in any other condition; these corpuscles presented marked changes in size, shape, and staining-relations; the total number of leucocytes was usually reduced, and the uninuclear elements, especially the smaller forms, were nearly always more numerous than the polymorphous cells. Megalocytes and an average excess of the red blood corpuscles were more common in this than in any other disease. Irregular staining was more striking than in any other disease. The large nucleated corpuscles were more regularly present in this than in other forms of anæmia. Dr. Stengel said he would regard as pernicious anæmia a case presenting the usual clinical symptoms of this disease, together with a blood count of the red blood corpuscles of 1,500,000 and a proportionate number of leucocytes. He had never met with a patient who had been cured, but he had had them under observation for four or five years. None of them warrants a hopeless opinion regarding its treatment.

Leukæmia.—Dr. C. Y. White, of Philadelphia, took up this topic, dealing with it chiefly from the laboratory side. He recognized two varieties, (1) spleno-myelogenous leukæmia, and (2) lymphatic leukæmia. The first form was characterized by a progressive pernicious anæmia accompanied by all the forms of red-cell degeneration, and by polymorphic leucocytosis. Lymphatic leukæmia, on the other hand, was associated with less marked anæmia, less evidence of red-cell degeneration, and a less pronounced leucocytosis, which was chiefly formed by the lymphocytes. Cases of leukæmia had been reported in which the red cells had been less numerous than the white. With the decrease of the red cells there was a diminution in the hæmoglobin. In addition there were two pathological cells present in large numbers, viz., the myelocyte and the eosinophilic myelocyte.

Parasites in the Blood.—Dr. Leon S. Le Wald, of New York City, spoke on this subject, dwelling particularly on the very recent interesting experiments in regard to the relation of mosquitos to malaria. He said that Drs. Manson and Ross, of England, had proved within the last month most conclusively that malaria was transmitted to the human subject by mosquitos. Mosquitos raised in the laboratory, and known to be free from malarial infection, were allowed to suck the blood of a person in Italy suffering from malaria, the type of which had been determined by microscopical examination of the blood and identification of its contained parasites. These mosquitos were then sent to London and allowed to bite Dr. Manson's son, a young man who was perfectly healthy at the time, and free from malarial infection. He promptly developed, on September 13, 1900, the characteristic signs of true malaria, and examination of his blood on September 16th showed many tertian parasites—the same form present in the blood of the Italian. After a few days, quinine was administered freely, and in two days more these parasites had disappeared. A week later the young man was well again. Another interesting experiment conducted this summer was that of Drs. Sambon and Low, who took a hut with them to the most intensely malarial section of the Roman Campagna. Here they lived for several weeks without developing malaria, although newcomers to that region almost invariably became promptly infected.

All that they did was to remain in the house between sunset and sunrise, and took unusual precautions to prevent being bitten by mosquitos at any time while there. The connecting link between these two most important experiments was to be found in the discovery within the bodies of these mosquitos, known to transmit malaria, the flagella, thus demonstrating beyond all doubt that the mosquito is the intermediary host of the malarial parasite. It should be noted that this statement applied only to certain species of mosquitos, and this explained the fact that malaria was unknown in many places where ordinary mosquitos were abundant.

The Value of Blood Examinations in the Diagnosis of Trichinosis, with a Report of Two Cases.—Dr. H. C. Gordineer, of Troy, read this paper. He said that mild cases of sporadic trichinosis were doubtless overlooked by all. Such a confession had been made by no less an authority than Osler. The fact that there was an enormous increase of the eosinophiles of the blood in cases of trichinosis had directed new attention to the study of the blood in this disease. Dr. Brown, of the Johns Hopkins University, had presented a classical study on this subject. This author advised that systematic blood examinations be made in doubtful cases. The observations of Brown had been abundantly verified by Cabot, Gwynn, Atkinson, Stumpf, Blumer, and Newman. The percentage of eosinophiles was far in excess of that observed in any other disease. The first case reported in the paper had been seen in the Samaritan Hospital, in the person of a man who had been eating freely of "blood sausage." There was a peculiar swelling of the face, particularly about the eyelids, and there were also swellings over the tibia, together with a soreness of the muscles and marked anæmia. Examination of the blood showed seventy-seven per cent. of eosinophiles, and examination of the muscles demonstrated the presence of the trichinæ. The second case was that of the father of the first patient, who had been in excellent health up to three months previous to coming under examination. He had then been taken ill with fever, diarrhœa, and cramps all over the body. He, too, had eaten freely of the sausage. The man had walked unassisted to the hospital. He was pale, but much less so than the son, and there was only slight swelling of the eyelids. His temperature was 99.5° F. Examination of his blood showed 29.9 per cent. of eosinophiles. Microscopical examination of the biceps muscle showed no trichinæ, but the characteristic areas of degeneration were visible. The speaker said that he had also seen a case bearing on the negative value of blood examination. A man had been accustomed to eat freely of raw ham, and about this time had developed all of the more characteristic symptoms of trichinosis. The muscular soreness was such that slight motion caused extreme pain. A great many microscopical examinations of the ham were made, but without showing any trichinæ. This man's blood showed an enormous number of leucocytes, but the percentage of eosinsophiles was very small. The patient would not consent to the removal of a portion of muscle for microscopical examination. So severe was the disease that it was expected the man would die, but he eventually recovered. The case was probably one of polymyositis.

Officers Elected.—*President*, Dr. John A. Wyeth, of New York; *Vice-President*, Dr. A. A. Hubbell, of Buffalo; *Secretary*, Dr. Fredrick Holme Wiggin, of New York; *Treasurer*, Dr. E. H. Squibb, of Brooklyn; *District Presidents*, Charles B. Tefft, of Utica; First District, John T. Wheeler, of Chatham; Second District, Theron A. Wales; Third District, W. H. Thornton, of Buffalo; Fourth District, Dr. J. C. Bierwirth, of Brooklyn.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, October 8, 1900.

William McCollom, M.D., in the Chair.

A Case of Hypospadias.—Dr. Carl Beck presented this patient. The child was only five months of age when operated upon. The hypospadias was of the balanic type and of small extent. There was no reaction and the result was perfect. This was the youngest child he had ever operated upon for this condition.

Forward Dislocation of the Urethra after Extensive Ulceration of the Penis.—Dr. Beck also presented this patient. A colored man, twenty-four years of age, arrived from his home, Nassau (Bahama Islands), in a desolate condition. There had been a destruction of the urethra by a phagedenic chancre. The glans was disfigured by ulceration in such a manner that two glandular halves had formed. The anterior third of the pendulous portion of the urethra was also totally destroyed. There were retention of urine, cystitis, and extensive œdema of the penis as well as of the scrotum which required many weeks of energetic treatment before a plastic operation could be performed. In spite of all precautions the first attempt at dislocating the urethra (see abstract of paper which follows) proved a failure, probably due to the immense tension caused by the efforts in protecting the large deficiency left by the ulceration. Lateral flaps had been taken freely from the integument of the penis for the purpose. The greater portion of the deficiency being covered by this attempt, the second effort was made easy, the urethra remaining attached at its new orifice. Finally, the integumental gap remaining below the glans was covered by a quadrilateral flap taken from the scrotum. So the final result could be called a very good one, the patient passing his urine in a normal stream and not showing any abnormalities during erection.

Hydrotherapy for Typhoid Fever in Private Practice.—Dr. S. Baruch read a paper with this title. The Brand bath, he stated, consisted in the use of water at 70° F. with friction, used for fifteen minutes, every three hours when the rectal temperature was at or above 103°. Hospital statistics he did not consider at all reliable. In statistics referred to, soldiers about the same age, the same weight, taking the same food, exercise, rest, sleep, etc., with typhoid fever gave reliable data showing a reduction of mortality from twenty per cent. to 2.7 per cent. when the strict Brand method of treatment was applied; these results were obtained by a reduction in the complications. The most convincing proof of the efficacy of this treatment was shown in the fact that it was now taught in our schools and hospitals. Yet it was not enough employed in private practice. Dr. Baruch first made a plea for the application of this method in 1889, since which time the schools and hospitals had taken it up and taught the method. In applying the Brand method the temperature of the bath was at first 85° and in each bath the temperature was lowered 5° until 65° was reached. He emphasized the importance of applying friction. Patients should be carefully dried without rubbing. In private practice an ordinary tin tub, six feet long, obtainable at almost any store, may be used. This tub could be placed alongside the cot. A piece of gas hose was attached to the cold-water faucet. The tub could be filled with water at the required temperature in this way. When the tub was one-half full the patient was, with great care, placed in a hammock and gently swung into the tub. After the bath the patient was gently raised by means of the hammock, laid on the sofa, dried, and allowed to rest. In most cases the patients then fell into a slumber.

The patient should be dried without friction. The bath should be repeated in four hours so long as the temperature was at or above 103°. The water in the tub did not require renewing, unless soiled, for forty-eight hours. Before the patient was placed in the bath four ounces of coffee, or whiskey, might be given if necessary. Alcoholic stimulants were rarely required. Six ounces of milk and four ounces of ice-water should be given alternately every two hours. Patients who were secreting much below the normal quantity of urine he had seen secrete, after this treatment, from eighty to one hundred and thirty ounces in twenty-four hours.

Substitutes for the Brand Method.—When the reaction was imperfect, or the relatives objected to the treatment, some other procedure than the Brand became necessary. In selecting some substitute one should bear in mind that the nearer we approached the Brand method the better results would be obtained. Cold sponging, as usually applied, was really a damp mopping of the skin. Ablution he considered a valuable substitute. The water should have a temperature of 80°, and be applied first to the back with friction, and then to the front. It might be repeated every three hours when the temperature was at or above 103°. Affusion might be combined with ablutions. An oil-cloth, properly covered by a cotton sheet, was placed beneath the patient. The head of the bed was raised. A large pan was placed below to receive the water. An attendant stood at the head of the bed and formed a trough. The patient was then turned in order to make the back accessible. The water that was poured over the black should have a temperature of 85°. The parts should be rubbed with the flat hand. When the parts ceased to be warm then some other part should be treated. In the late war these baths were called the "slush" baths. Towel-baths were really a modification of the sheet-baths. The patient was laid on a wet sheet and water at a temperature of 60° was poured from a cup. Each treatment might reduce the temperature 2°. Friction was applied after each pouring of the water. In the use of towels, they were spread over the part and water at 60° was poured from a cup over successive parts, friction being applied. The entire body, except the lower one-third, should be so treated. The ice-rub was Dr. Hare's substitution. After proper protection of the patient ice was rubbed over the patient's body, active friction being used with the unemployed hand. If ice be rubbed rapidly there was no murmur on the part of the patient; rubbing rapidly was the key to the whole thing. The doctor had never seen a patient in a condition of blueness or cyanosis when properly rubbed. Cold should be applied to the head while applications were being made to the body. This rubbing and application of cold should be thoroughly made to the muscles of the body and thighs, for it was in these situations that there seemed to be a great reservoir for heat. The application of cold and friction to the posterior surface of the body seemed to be more important than to the anterior. Stress was laid upon proper technique. Some nurses thought it was only necessary to soak their patients. It was a good rule to follow to use such a temperature of the water as would produce the desired effect, whether applied by rubbing, by the tub, by the tepid or by the hot baths. One should bear in mind that the lethal element in typhoid fever was a toxæmia which overwhelmed the nervous system, according to its intensity; to this toxæmia might be ascribed the high temperature, stupor, delirium, etc. The application of cold here produced a shock, which was followed, when judiciously applied, by a reaction, the stimulating effect of which was conveyed to the central nervous system.

Dr. R. E. Van Gieson, of Brooklyn, said the good effect of the Brand treatment was not so much in the lowering of the temperature as it was in keeping up the action of the heart until the toxins had been eliminated. It was difficult to get patients, or their relatives, to submit to the original Brand method, and he hoped that some gentler method might be found which would overcome this prejudice. In using the ice-rub he had had made an ice-clip which enabled one to retain hold of the ice.

Dr. William McCollom, of Brooklyn, stated that pyrexia might be considered normal in febrile disease. It had been suggested that it was a conservative process of protoplasm and nerve energy in destroying toxins of the invading microbe. If this was true the normal temperature of febrile disease should not be lowered to a marked degree by antipyretics. The use of hydrotherapy in continued fevers was very old; it was much in favor at the commencement of this century. Galen clearly defined this method in early times. In the early years of this century Dr. Currie, of Liverpool, did much successful work in advocating and introducing it, or reviving an old practice. Dr. Currie seemed to have carried out the modern principles of hydrotherapy ably and systematically. Dr. Jackson, also, did much in the same line at the same time. In fact the management of typhoid fever, then called typhus mitior, nearly a hundred years ago, was much the same as the best methods of to-day. Heat reduction by heat abstraction was transitory and of little use in typhoid fever. He had long been of the opinion that the mere extraction of heat by cold applied to the surface was not directly therapeutic, but that it acted as a neural stimulant, increasing and toning the action of the nerve centres of respiration, circulation, metabolism, elimination, etc. Winternitz, at the International Congress at Rome, demonstrated that cold applied to large surfaces of the body, when good reaction followed, led to remarkable results: it increased the leucocytes, the percentage of the hæmoglobin, and the specific gravity of blood. Metabolism, constructive and destructive, was promoted, and if, according to Vaughn, the leucocytes were a form of destructive metabolism which destroyed the microbes and toxins of fevers we had a plausible theory of the reduction of pyrexia by the increase of the leucocytes in the blood by the frequent cold bath. It had been demonstrated by Jurgensen, Roque, and Well, that the cold bath increased the specific gravity and the percentage of urea in the urine to a great extent. Leibminster and Voit had shown that the cold bath increased the elimination of carbon dioxide by the lungs. When fever resulted from toxæmia heat reduction must be effected by the elimination of the toxins. Heat reduction did not destroy microbes, and artificial antipyretics were worse than useless if they did not stimulate the nerves of organic life, and increased elimination and metabolism. To invigorate and increase the physiological activities so as to effect the elimination of poisonous products should be aimed at. Cutaneous transpiration caused by the coal-tar products helped elimination in one direction, but they were objectionable because of their depressing effects.

The Operation for Hypospadias.—Dr. Carl Beck read this paper. Hypospadias, he stated, was one of the most frequent malformations affecting the human body. Rennes detected one in eight hundred recruits of the French army. The number of cases had been underestimated, and this was explained by the natural aversion of the unfortunate patients to mention their deformity. The common balanic form was considered. Fecundation was almost impossible on account of the wrong direction of the urethra. Among more than one hundred married hypospadiacs he had examined he found that none had children.

Early Operations and Reasons for their Failures.—Early operations were based on the principle of direct union of the margins of the abnormal groove. Disappointments were great, and this fact caused small wonder when we considered the small space of the operative field, the necessity of introducing a catheter, the constant contact with urine, and the pre-antiseptic *modus operandi*. Failures were readily understood when we considered the difficulties encountered in the after-treatment. First, a foreign body, a tube, must be introduced into the newly formed wound channel, kept *in situ* with great difficulty. Again, the direct contact of such decomposing elements as those of the urine, as well as the mechanical injury caused by the stream itself, interfered with the aseptic course of the operation.

Extensibility of the Organ.—The theoretical reflection that the extensibility of an organ which was able to change its volume to such a marked degree during erection could be utilized for surgical purposes, gave him the first impetus to his experiments. This mobility extended over the whole movable portion of the penis; it was absent in the perineal and pelvic sphere. In adults, the length of the *pars mobilis* amounted to 8–9 cm. in the relaxed, and to 15–16 cm. in the erected condition. In children of five years 5.5 cm. could be assumed to be the average. The calibre of the urethra in adults could be estimated at 6 mm. in moderate distention, and at 10.5 mm. in forced dilatation. The enormous abundance of elastic fibres which characterized the mucous membrane of the urethra along its cavernous portion could be regarded as an expression of its enormous extensibility. If the difference in length between the erected and the relaxed penis could be regarded as fairly proportional to the degree of the extensibility of the urethra, it could be understood at once what a surprisingly long area could be covered with the mobilized urethra. Instead of forming a new urethra he utilized the existing one, dissecting it free and dislocating it forward so that a new canal need not be created, the existing urethra doing the service of it.

Technique of the Operation.—The most minute aseptic precautions were taken. An incision was made from the centre of the abnormal urethral opening, through the skin, to the posterior third of the pendulous portion. At the upper end of this incision a second one running nearly transverse through the integument was added, while the glans was stretched upward. This incision encircled the lower third of the neck of the penis immediately below the coronary sulcus. The skin flaps were dissected back to expose the lower third of the penis. While the wound margins were firmly retracted downward, the urethra, together with its corpus cavernosum, was dissected from its bed. After having exposed the urethra freely so that it could be easily drawn to the top of the glans, the latter was tunnelled by creating two flaps which were formed by making a lateral incision along each side of the groove. These flaps must be raised so far that the dislocated urethra could be placed into the wound bed. The orifice was fastened at the top of the glans with four iodoform-silk sutures of moderate strength. The flaps formed from the glans were next united above. The cosmetic effect might be improved by uniting the small cross section of the skin above in a longitudinal direction. This mode of attaching the urethral opening to the new meatus, which required considerable thoroughness, he recommended as the general way of procedure. The tunnelling of the glans could be done in a simpler manner by perforating it with a narrow bistoury. The cosmetic result of this shorter but more brutal procedure was not so perfect. It was only in cases in which but a shallow groove, or none at all, was present, or whenever through preceding operative efforts the lower glandular portion was infiltrated by much cicatricial tissue, that he had selected this mode of tunnelling the glans *in toto* by thrusting a narrow straight bistoury through it from below upward and well behind the sulcus which would normally be the fossa. Thus, a new meatus was created about a quarter of an inch behind the topmost angle of the sulcus. The point of emergence of the bistoury was enlarged by turning it to the right or left, making an incision at each side. After the knife was withdrawn, a long narrow forceps was passed from above through the channel and the urethra grasped. Now the free end of the urethra was drawn through the channel perforating the glans, and its opening attached by means of four iodoform-silk sutures to the new meatus. This was done in the same way as already described. The flaps below the glans were also united in the same manner. When choosing this mode of attachment it was advisable to support the urethra by two catgut sutures, uniting its wall inwardly to the sulcus of the new canal. The after-treatment was very simple. The penis was surrounded by an iodoform-gauze dressing so far that a free space for the new orifice was left. This region was then covered with compresses saturated with Burow's solution, which were changed frequently.

Dr. John H. Branth said that hypospadias in its broadest sense was generally mistaken for hermaphrodism (double sex), but he doubted that true hermaphrodism existed in man. There might be a condition in which one or more parts of an organism were wanting or deformed, but that a condition of double sex ever existed he disputed. Like cleft palate, hypospadias was a cleft in the floor of the urethra extending backward toward, and sometimes including, the perineum to a variable extent up to the membranous urethra. The fetus in the first two months was normally hypospadiac. Incontinence did not exist as the sphincter of the bladder was not involved. The testicles were generally in the abdomen in this deformity. A fancied resemblance to the female vulva was made apparent when the cleft separated the scrotal pouches which may look like the labia majora. In this cleft, somewhere between or anterior to the scrotal pouches, was the stump of the urethra issuing from the bladder. Anterior to this opening or fissure was either a wholly or partially patulous urethra, or it might be a solid cord-like structure. The penis was short and thick and, on sexual irritation, would be arched upward, the corpus cavernosum and corpus spongiosum expanding less than the dorsum of the penis. The urine was very often delivered backward. The disturbances were functional. If the urethral opening was not far from the glans, no disturbance existed and such a patient would soon learn to hold his penis upward to prevent wetting his clothes. Sexual indulgence and impregnation were possible in the milder cases of hypospadias. The severer cases, complicated with contraction of the lower section of the penis, had been treated by Dr. Physick by resection, cutting out a wedge-shaped piece (base upward) from the corpus cavernosum. Another plan was to make cross sections like a tenotomy in the lower portion and then hold the penis straight by splints until healed. After this the building of a urethra could be attempted. The skin in all the cases he had seen was so redundant and so distensible in this region, that one was not at a loss to find material to build a canal for the missing urethra. He had succeeded satisfactorily by cutting the external half of the prepuce as a flap, and inverting it backward over the defective urethra. This flap had its raw side out. Then he cut along the two sides of the urethra and dissected up the skin. The edge of the everted, turned-back flap was then sewed over the sides of the urethra and the lateral flaps over this were

brought together by stitches. This brought the two raw surfaces together all along the urethra to the prepuce. The skin of the prepuce formed now the inner wall of the canal. The prepuce had no hair, and incrustations would not occur. The canal was formed over a rubber drainage tube in the slit prepuce, which remained in position for a few days if possible, until the stitches were ready to come out. Sometimes it might be well to permit a urinary fistula until the anterior canal was healed, and later to close this fistula, when the urinary canal would be continuous to the bladder. A forceful ejection of semen could hardly be expected from such a urethra, and impregnation was more or less accidental. In juxtaposition to hypospadias he referred to epispadias, a fissure in the roof of the organ. A little more than a year ago he had presented to the society two cases of exstrophy of the bladder, in which epispadias existed. He brought forward a theory that this deformity occurred from a horizontal twist in the fœtal os pubis, bringing out above the os pubis the penis, which condition is always found in exstrophy. Investigators all remarked that it was unexplainable why in epispadias the urethral structure was above the corpus cavernosum. His theory of twisting the parts seemed to furnish an explanation. Complete hypospadias he considered of rare occurrence, while cleft glans was quite frequent. Hypospadias was sometimes hereditary. Baran was quoted as stating that epispadias occurred once in four hundred and fifty cases of hypospadias. Rennes found ten cases of hypospadias in three thousand conscripts. Marchal did not find a single case of epispadias in sixty thousand conscripts.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 13, 1900:

	Cases.	Deaths.
Tuberculosis	276	140
Typhoid fever	139	27
Scarlet fever	61	4
Measles	41	2
Diphtheria	181	26
Laryngeal diphtheria (croup)	8	4
Cerebro-spinal meningitis	0	3
Varicella	7	0

An Alleged Doctor's Industry.—A warrant was not long since issued for the arrest of a man, calling himself a physician, whose only occupation seems to have been the theft of typewriting machines. His way was to hire typewriters, paying the first instalment of $3 in advance, and thereafter persuading the collectors not to enforce payments for several months. When these became too importunate the man would disappear. He is known to have obtained twelve machines in this way, paying for each the $3 rental, and selling them for from $20 to $50, according to make and age.

Large Vesical Calculi.—We have been able, says the *Indian Medical Gazette*, to collect a few records of gigantic stones which have formed in the bladder. The largest which we have got accurate details about is one removed by Lieut.-Col. G. J. Bamber, I.M.S., when civil surgeon of Guzrat in 1893. It weighed on removal twenty-five ounces, and is now twenty-three ounces, and is still in the possession of Lieutenant-Colonel Bamber. It filled the bladder almost exactly and had to be removed by a suprapubic operation.

The Baccelli Treatment of Tetanus.—Forty cases of tetanus are now reported as having been treated with carbolic acid; four patients died and thirty-six recovered.

The American Red Cross in India.—The American Red Cross Society has begun its work in behalf of the sufferers from the famine in India. The work for the present is merely preliminary and is in the direction of accumulating funds. As soon as a sufficient amount of money has been received, the Red Cross agents will be sent to India. The plan of relief will be the same as that so successfully operated in Cuba, where the Red Cross Society assumed the responsibility of ameliorating the wretched conditions of the starving reconcentrados Men and women will not be gratuitously supplied with food and clothing. Work will be demanded of them, and the society will make an effort to have the farms again worked and return persons to their chosen paths of trade and industry.

Sterility in Man.—E. Ries has made a study of sterility in the male, paying special attention to azoospermia due to obstruction in the system of sperm channels. He makes two classes of cases, according to the presence or absence of changes in the cellular tissue surrounding the seminiferous tubules. The most marked of these changes is the formation of a zone of hyaline tissue around the seminiferous tubules in the place of the normal flat connective-tissue cells which form the physiological sheath of the tubules. This zone of hyaline tissue cuts off the epithelium from its supply of nourishment, normally derived from the blood-vessels of the intertubular connective tissue. Degenerative changes of the epithelium accompany the formation of the hyaline rings. Where the hyaline zone is thin we find the epithelium of the tubule either normal, even containing spermatozoa, or the spermatozoa are absent and we find only a few layers of epithelium, or even only one layer, the border-lines between the cells frequently becoming indistinct. There is, however, a distinct cavity of the tubule, which is sometimes filled with spermatozoa. With the further encroachment of the hyaline zone, the epithelium is reduced to a very thin, flat layer, resembling endothelium, and these tubules contain nothing but a few fragments of cells. In the most pronounced cases the lumen of the tubule disappears completely, and instead of a channel lined with epithelium nothing is seen but a more or less wavy and hyaline mass of tissue with very few nuclei, without any trace of the normal testicular epithelium.—*Medical Times and Hospital Gazette*, September 1, 1900.

Improved Temperance Conditions in Manila.—Some time ago an ex-chaplain of volunteers, with that thirst for intemperate statements which many of his cloth and an occasional international medical orator seem possessed of, upon returning from the Philippines made the startling assertion that one of the results of American occupation had been an increase of saloons from four to more than four hundred. Every one who knew anything of the improved conditions in Manila, and who remembered the fate of the many other false statements regarding American rule there, was convinced of the incorrectness of this assertion, but the proof of its falsity was lacking. The report of the chaplain's rash statement got back to Manila, and, as we learn from the *Army and Navy Journal*, was commented upon by the *Manila Freedom* of April 21st, as follows: "We have taken some pains to investigate this charge, and have to say that it is false in every sense. When the flag was first planted in Manila there were between 4,000 and 5,000 grocery shacks, kept by Chinos and Filipinos, and every one

of them sold liquors, a native product, which did more to fill graves than disease and bullets. They were not saloons, but grog-shops, insidious hell-holes, and many soldiers became victims of them. Vino and other native drinks could be purchased for one cent a drink, American money, and ten cents was a sufficient sum for a common drunk and a penny or two more for a bacchanalian revel. Governor-General Otis had this problem to solve during the early days of occupation, and he was happily successful in closing most of the Chino and native shacks. A license system was established and the American saloon took the place of the native saloon. With their establishment the death and insane rates have been less, and the greatest good to the great number has thus been subserved. Instead of over four thousand places where liquors were sold we now have less than four hundred, and the quality of the stuff is vastly better and the quantity less. The insidious effects of vino and native gin soon alarmed physicians and surgeons, and an order was issued to seize and destroy all of said products found. This practically eliminated their manufacture, and to get them is as difficult as it is to get liquors in the veriest prohibition town of Kansas. Hail the reform!"

The Age of the Earth.—At the meeting of the British Association, which opened at Bradford, Yorkshire, on Wednesday, September 5th, one of the most engrossing addresses delivered was that by Professor W. J. Sollas treating of the age of this sphere. Leaving the nebular origin of the world to astronomers, Professor Sollas accepted "the infant earth from their hands as a molten globe ready made, its birth from a gaseous nebula duly certified." "In its early days," he said, "our planet was profoundly disturbed by tides, produced by the sun, for as yet there was no moon, and it has been suggested that one of its tidal waves rose to a height so great as to sever its connection with the earth and to fly off as the infant moon. This event may be regarded as marking the first critical period, or catastrophe if we please, in the history of our planet. The career of our satellite after its escape from the earth is not known till it attained a distance of nine terrestrial radii; after this its progress can be clearly followed. At the eventful time of parturition the earth was rotating, with a period of from two to four hours, about an axis inclined at some eleven degrees or twelve degrees to the ecliptic. The time which has elapsed since the moon occupied a position nine terrestrial radii distant from the earth, is at least fifty-six to fifty-seven million of years, but may have been much more. The solidification of the earth probably became completed soon after the birth of the moon. The temperature of its surface at the time of solidification was about 1,170° C., and it was, therefore, still surrounded by its primitive deep atmosphere of steam and other gases. This was the second critical period in the history of the earth, the stage of the consistentive status, the date of which Lord Kelvin would rather know than that of the Norman conquest, though he thinks it lies between twenty and forty millions of years ago, probably nearer twenty than forty."

Maternal Impressions.—Maternal impressions is a subject to which every pregnant woman should give both thought and consideration. Impressions of an unpleasant nature made upon a pregnant woman may cause mental and bodily effects in her child. It does not follow that the cause or object producing any shock to a woman will be photographed upon the unborn child, but the whole system suffers from the unpleasant impression made upon the mother. The consequence is a disastrous effect upon her offspring. It is only in the very early months of pregnancy that a shock can produce malformation of the child, but at any stage an unpleasant mental impression may produce "marks." Because so many defects in children are traceable to maternal impression, a wise woman will avoid every emotional disturbance during the months of pregnancy. A shock due to accident, and consequently unavoidable, should be dismissed from the mind immediately and never spoken of afterward. During the last siege of Paris, a very large percentage of children born were mentally and physically weak, while many others were imbecile or idiotic.—Dr. James Kiernan.

Controlling Thirst.—There has been recently much discussion in the London *Times* on this subject, and some of the correspondence has been of a highly interesting nature. The following is one of the letters sent to the *British Journal:* "The habit of drinking even cold water is one which is easily kept in the limits of the actual necessity of the body for renewing its moisture. But the habit must be regulated by the exercise of a certain self-control before the necessity arises. When I was a boy I had the ambition of exploration, and prepared myself by abstinence for privation. I used to abstain from drinking any liquid whatever for twenty-four hours at a time, knowing that thirst was the hardship most to be dreaded. I found the habit so acquired of great utility in my travels, and especially in the campaigns in Montenegro, which is a country of few wells and no springs, the main supply being rain-water collected in cisterns, and during the Turkish invasion their army could never maintain a force sufficient to hold the localities occupied, for the want of water. I have seen the Montenegrin army on a forced march almost uncontrollable from thirst, and my groom lie down in the road to drink from the puddles after a passing shower, though the water was yellow from the trampling of horse and man, while I felt no inconvenience whatever. I have seen the soldiers drink the entire contents of a cistern, such as is provided by the way at convenient distances, down to the mud at the bottom, as long as there was any liquid, huddling, crawling, almost fighting to get to the cistern, though I had made the same march (though on horseback) without the sensation of thirst. In the hottest weather of an Athenian or Italian summer, I have rarely drunk anything between meals, and avoid iced water as the greatest provocative of thirst."

Venesection and Saline Transfusion.—In the *Archives provinciales de Médecine* Raynaud has just concluded a serial article. The following is the author's own résumé: 1. Venesection by its depletive and depurative action is certainly the best method of mechanical disintoxication in all cases which represent a severe blood intoxication. It is not to be used as a routine procedure but only in emergencies, and its beneficial effect is only temporary. 2. Saline injections should be used only hypodermically. Thus employed they present none of the drawbacks of intravenous injections, although their action is somewhat less rapid. 3. Massive doses of saline solution may be employed in the treatment of medical hemorrhages, in algid collapse, in the ataxo-adynamia of typhoid affections, and in dysentery; but this remedy must always be used with discretion and with due regard to the state of the heart and kidneys. There are cases recorded of death due to the intemperate exhibition of saline transfusion. 4. Small fractional doses, as well as enemata of cold saline solution, may be used without fear in infections and intoxications, especially when there is vascular hypotension or difficulty in the action of the emunctories. It should be exhibited systematically from the onset of the disease in moderate quantities (150 to 500 c.c. daily). The general course and duration of the

disease are often very favorably modified. 5. In all severe toxæmias or infections, when the patient's circumstances are desperate, venesection followed by massive injections without renouncing other methods of treatment is often capable of rendering the greatest services and even of saving life. One should not wait until the last moment before exhibiting the solution. 6. When the patient is too far gone for phlebotomy, it is still possible to withdraw blood and inject saline solution at the same time and in equal quantities, this procedure being a safe one.

A Return to the Aboriginal Type.—Nearly every summer, after interest in the sea-serpent begins to flag, some scientist announces that Americans are approximating in facial conformation to the noble red man. Professor Starr, of Chicago, if the daily papers are to be believed, has the floor this year, saying that he has carefully measured the faces of more than five thousand children of Pennsylvania Dutch parentage, and has found in most cases "lengthening of the face and broadening of the cheek-bones in accordance with the characteristic features of Indian races."

The Human Eye and How to Care for It.—Dr. Reik, writing in the *Cosmopolitan* for September, says that the excessive use of alcohol and tobacco affects the eyes very seriously and that for some people tobacco is a poison and produces a lesion in the nerve of the eye leading to blindness. The most important thing of all, however, in order to take care of the sight is to get sufficient light to work and read by. The most desirable location of a light to read by is from above, behind, and to the left of the body. Of artificial lights the incandescent electric is the best, though the use of incandescent mantles has much improved gaslight. Where coal oil is the only illuminant the so-called student lamps make a very satisfactory light.

An Anti-Fat Town.—"The little town of Neodesha, Kan., claims a remarkable distinction. It has a population of fifteen hundred, and it is claimed that there are more thin people living there than in any place of similar size in the United States, many of its men and women weighing less than one hundred pounds, although in perfect health. Physicians explain that the Neodesha petroleum and natural gas wells are responsible for that condition, and that these elements are nature's anti-fat remedy. It is said that if the thin people of the town were dressed in the garb of the East Indian and stood up in line they would present a picture similar to that of 'starving India.'" We hasten to remark that our esteemed contemporary the New York *Times* is responsible for the above item. We simply quote but do not indorse.

Burial Weddings.—The Karens of Upper Burma not only delay their weddings till they can celebrate twenty or thirty at once, but make the same occasion serve for their funerals as well. When a man dies his body is cremated, and the ashes are kept until the time for the formal funeral. When a bad harvest or a prolonged rainy season occasions the need of a little excitement, and some enthusiast arranges a burial wedding, the ashes are arranged along a low, narrow platform, while the men stand on one side, the women on the other. There are no mourners, for the dead men have been forgotten during the convenient interval, and the dresses suggest only the pleasanter side of the double function. Proceedings are commenced by a sort of poetic competition between the men and the fairest maid. If the latter is not satisfied with the compliments paid her, she avoids the embarrassment of a direct refusal by bidding her suitor come for her "before he is awake." In this case he consoles himself with a pipe, and after a short interval transfers his addresses to some less exacting lady. As soon as the young people are equally paired off the elders compete for the more valuable portion of the dead man's property. Jewels or weapons are set swinging by a string while the claimants pass in single file. The one who is nearest when the pendulum stops swinging secures whatever is attached to it. When each has thus secured a memento of the day, the rest is handed over to the children, to be smashed up with all the crockery of the deceased and buried with their ashes on some neighboring hill.—*Answers.*

Plea for Consumptive Poor.—Dr. S. A. Knopf, writing to the Sunday *Tribune*, says: "There is an urgent need for a large city hospital for the exclusive treatment of the consumptive poor. Hospitals supported by private contributions will very rarely take a tuberculous case. The few existing institutions which receive consumptives can scarcely accommodate five hundred of these invalids. What becomes of the rest? Those who desire to know I would advise to visit a few of these sufferers in their tenement homes. The visitor will see more misery caused by this one disease than by all the others combined. In dingy, dark rooms the poor consumptive lives, often without medical attendance, but nearly always without proper food and supply of fresh air, so essential in combating this disease. Some faithful member of the family remains at home to nurse the sufferer, and in the majority of cases contracts the disease as a result of this devotion. We will see the faithful wife nursing a consumptive husband in the last stages of the disease, and on examining her we will discover that she suffers already from incipient tuberculosis. If there are children, they too may fall victims to the malady, owing to the ignorance or carelessness of the sufferer, and to the receptivity to disease of badly housed and underfed humanity. Yet could we take this invalid hopelessly ill away from the dreary tenement home to a special hospital, where he could be made comfortable, we would do away with a centre of infection which constantly endangers the lives of his own family, neighbors, and friends, and thus indirectly save, perhaps, many valuable lives."

Oysters and Disease.—In their small volume on "Oysters and Disease," Profs. W. A. Herdman and Robert Boyce record the results of an investigation extending over a period of three years, and although they have not actually established a connection between oysters and disease, they have produced the most important contribution which has yet appeared on the subject, which is one of considerable scientific and unusual popular interest. The disputed question as to the cause of green oysters has been re-examined with the result that several forms of greenness have been recognized and studied. But little is added to our knowledge of the well-known oysters of Marennes, the authors being in practical accord with most previous investigators, but concerning green oysters of Falmouth and certain green American oysters laid down in the vicinity of Liverpool, they reach results divergent from the views held by previous workers, and more in accord with popular belief. Copper in minute quantities is normally present in all oysters, but in the green Falmouths and Liverpool Americans is found in unusual amount. In the greenest of the American oysters as compared with the whitest, the proportion is 3.75 : 1 calculated for oysters, and 3.63 : 1 calculated on the ash, and a careful study of the distribution of the copper by chemical and histo-chemical methods demonstrates that it is the cause of the greenness. . . . The connection of oysters with the transmission of infectious diseases, especially typhoid

and enteric fever, is carefully considered. Bacilli of the colon group are frequently found in oysters sold in towns, but there is no evidence that they occur in those living in pure sea water. The experiments show that pure sea water is inimical to the growth of typhoid bacilli, and they do not multiply either in the alimentary tract or in the tissues of the living oyster. Bacillus typhosus was not found in any of the oysters obtained directly from dealers or directly from the sea, but from inoculated specimens the bacilli were obtained up to the tenth day, although the results indicate that they perish during passage through the intestines. Oysters and other mollusca obtained from dealers frequently contain a bacillus presumptively resulting from sewage contamination, but it was found that the infected oysters could be cleansed by washing in clear running sea water. It is evident, therefore, that by changing oysters from an infected bed to one where the surroundings are pure, they may be purged of their dangerous qualities.—*Science.*

Wounded in China.—The London *Medical Press* announces that the Grand Ducal government of Baden has decided to grant the use of their bathing establishments with all their therapeutic appliances to officers and soldiers of the allied forces wounded in China, free of all cost. Baden-Baden with its mild climate and efficacious mineral water and magnificent bathing establishments did such good service to the sick and wounded after the Franco-German war that we can only hope that the combatants of all nations will now make use of them with the same excellent results.

England's Coming Census.—When the results of the last census became known, the fact that the population of England and Wales fell short of the official estimates by nearly three-fourths of a million, created quite a sensation, but the random charges of inaccuracy were not substantiated. England and Wales were shown to contain 20,002,525 inhabitants; Scotland 4,025,647, and Ireland 4,704,750, making 37,732,922, the total for the United Kingdom. What increase is the forthcoming census likely to establish? According to the registrar-general's estimate, the population of England and Wales in July of the present year amounted to 32,091,907; Scotland, 4,313,993; and Ireland, 4,515,471, representing an aggregate of 40,921,371 for the United Kingdom. Seeing that the natural increase of the population amounts to 112,712 every three months, the census of 1901 may be expected to demonstrate that Great Britain and Ireland contain no fewer than 41,259,507 people, an advance of 3,526,585 since the census of 1891.—*Tribune.*

The Hygiene of High Altitudes.—*The Lancet* says: "It is well known that the chemical composition of the atmosphere differs little, if at all, wherever the sample be taken; whether it be on the high Alps or at the surface of the sea, the relation of oxygen to nitrogen and other constituents is the same. The favorable effects, therefore, of a change of air are not to be explained by any difference in the proportion of its gaseous constituents. One important difference, however, is the bacteriological one. The air of high altitudes contains no microbes, and is, in fact, sterile, whilst near the ground and some one hundred feet above it microbes are abundant. In the air of towns and crowded places, not only does the microbic impurity increase, but other impurities, such as the products of combustion of coal, accrue also. Several investigators have found traces of hydrogen and certain hydrocarbons in the air, and especially in the air of pine, oak, and birch forests. It is to these bodies, doubtless, consisting of traces of essential oils, to which the curative effects of certain health resorts are ascribed. Thus the locality of a fir forest is said to give relief in diseases of the respiratory tract. But all the same these traces of essential oil and aromatic products must be counted, strictly speaking, as impurities, since they are not apparently necessary constituents of the air. As recent analyses have shown, these bodies tend to disappear in the air as a higher altitude is reached, until they disappear altogether. It would seem, therefore, that microbes, hydrocarbons, and entities other than oxygen and nitrogen, and, perhaps we should add, argon, are only incidental to the neighborhood of human industry, animal life, damp, and vegetation."

Books Received.

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DIET LISTS AND SICK-ROOM DIETARY. By Jerome B. Thomas. W. B. Saunders, Philadelphia.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY. 8vo, 427 pages. W. B. Saunders & Co., Philadelphia.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK. 8vo, 522 pages. Illustrated. Published by the Society.

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PUERPERAL SEPSIS: ITS PATHOLOGY AND TREATMENT.[1]

BY WILLIAM R. PRYOR, M.D.,

NEW YORK.

IT is hardly possible that in the time allotted me I can give a description of the many and minute changes wrought in the system by puerperal sepsis or discuss all the various methods of treatment. Still, I can call your attention to certain of the more recent investigations into the pathogenesis of puerperal sepsis and perhaps bring out a discussion regarding treatment which may be of value to us all.

The manner in which women become infected is of great interest. It is a comforting belief that auto-infection may take place, but the observations of Krönig and Whitridge Williams pretty thoroughly disprove the possibility of this except in very, very rare instances.

An infecting coitus may take place just previous to delivery, as well as may an infecting examination, but such is not auto-infection. About forty-nine per cent. of prostitutes have the gonococcus present though latent in the cervical glands, and a small percentage of honest married women have the same. In such of course self-infection by the gonococcus after delivery is possible. Lastly, a few women with a pus focus in one or the other adnexa will conceive and go to full term, and become infected by this after deliqery. But this must be exceedingly rare, because such a lesion supposes sterility or induces early abortion. We are therefore forced to believe that puerperal sepsis is caused by germs which are introduced from without.

Causes: Franz, the most recent writer on this subject, found the gonococcus present in but four per cent. of his fifty cases of puerperal fever: once in a mild case accompanied by saprophytes, and once in a severe case with streptococci. The degree of infection produced by the gonococcus is mild.

In three hundred cases of afebrile puerperia nine observers found some sort of germ in twenty-seven per cent., but never the streptococcus or pyogenic staphylococcus. In a very few cases of mild form streptococci are found, but in nearly all cases of infection by pyogenic streptococci and staphylococci the symptoms are grave. We are therefore warranted in asserting that puerperal sepsis is caused by streptococci and staphylococci. But in most cases these are accompanied by other germs, especially saprophytes.

Lesions produced: Upon entering the uterus these germs soon penetrate deep into the decidua through the endometrium and enter the lymph channels of the uterus. From there they pass into the venous sinuses and into the lymphatics of the pelvis, thus entering the general venous and lymphatic systems. The peritoneum over the uterus and lymphatics may become inflamed, pouring out serum, lymph, or pus. Septic emboli may break from the thrombi in the ovarian or iliac veins and produce septic infarcts elsewhere. Septic pneumonia, septic endocarditis, acute nephritis, and general suppurative peritonitis are some of the graver lesions induced, while ovarian abscess and pyosalpinx are local results. Viewed in the light of the lesions resulting we may divide puerperal sepsis into septic thrombosis and pelvic lymphangitis. We may also describe as puerperal any septic condition occurring after abortion when the induced lesions are such as we see follow full-term labor. The most rapidly fatal cases are thrombotic.

The havoc wrought by the infection is governed by a great many factors. Chief among these is the virulence of the infecting germs. Then the traumatism to which the uterus has been subjected, the patient's general condition, and the area of endometrium invaded, all influence the result.

Unlike saprophytic or putrid infection which tends to spontaneous recovery, puerperal sepsis if not rapidly fatal almost always produces lesions which seriously damage either a pelvic organ or other viscera. I wish this fact to be borne in mind when we consider the treatment. Time is here an important element. Therefore we are to consider not only the mortality figures but also the morbidity.

Regarding the virulence of the germs in different localities we notice that while Krönig and Whitridge Williams in their cases had a mortality of about five per cent., Edgar Macharg in fifty-seven cases had fifty-four per cent. mortality. And those who will recall the epidemic here of 1881 will remember the great number who died.

The danger from saprophytic infection being so slight and its correction so easy, while the danger from streptococcus infection is great and the best method of dealing with it in dispute, the importance of an accurate diagnosis is apparent.

The best way to secure uncontaminated the uterine lochia is by means of a Döderlein tube which is passed, after sterilization, into the uterus and without touching the vulva or vagina. Even here there is a leak in the technique, for the cervical glands may soil the tube, but will hardly get into the lochia which is sucked up from the fundal cavity.

Having found pyogenic cocci, how shall we proceed to treat the case? The most popular method of treatment is by intermittent washing. This is what Macharg did and lost fifty-four per cent. of his cases. Besides, the cocci not being on the surface but deep in the uterine walls, washing cannot and does not reach them. All it succeeds in doing is to increase the distress by inflicting additional and needless trauma. The gentlemen who laud washing have not made bacteriological examinations of their patients' discharges, and they can rest assured that when they see benefit from the treatment it is not in streptococcus cases but those of saprophytic nature. And even in these they have subjected their patients to needless danger by improperly performed manœuvres, for it is too easy to convert a saprophytic infection into a septic.

Curettage of the septic uterus gives a prohibitive mortality; and again we must condemn a measure in sepsis which is of benefit in saprophytic infection.

Serum therapy: The commission appointed by the

[1] Read before the New York State Medical Association, October 16, 1900.

American Gynæcological Society, of which I have the honor to be a member, reported in 1898 that Marmorek's serum when used in one hundred and one cases of streptococcus puerperal fever, gave a mortality of thirty-three per cent. Of course if used in cases showing no streptococci the mortality is less, but we do not believe the advocates of the serum claim it is efficacious against any germ but the streptococcus, and in streptococcus infection the mortality is thirty-three per cent. We found that the serum was used in two hundred and fifty-one cases in which no bacteriological diagnosis was made and gave a mortality of sixteen per cent. Now, as Williams found the streptococcus in but twenty-five per cent. of his cases of puerperal fever, Krönig in nineteen per cent. of his, Franz in twenty-six per cent. of his, we can assume that of these two hundred and fifty-one cases about one-quarter were streptococcic; and, as the other seventy-five per cent. would have lived if let alone, the serum here was followed by forty deaths in sixty-three cases, or sixty-three per cent. morality. If we could only know the kind of streptococcus a given serum was prepared from and could secure a case infected by just that identical streptococcus we might secure better results from its use; but as our knowledge of streptococci now stands the administration of antistreptococcus serum is followed by a mortality which prohibits its use.

Fortunately in taking from the man who occasionally sees a case of puerperal fever this much-lauded remedy, we have other methods of treatment more efficacious to offer.

These septic cases are to be considered in two classes. The cases of thrombosis are comparatively rare. When the diagnosis can be made my belief is that no form of treatment will prove effective short of an abdominal hysterectomy, preceded by intravenous infusion, and rapidly performed. Inasmuch as here as well as in pure pelvic lymphangitis the peritoneum and lymph streams are invaded, I would suggest the use of a large abdominal Mikulicz iodoform-gauze dressing. But this is the only form of puerperal sepsis in which I would perform hysterectomy.

How are we to treat the more common cases of septic pelvic lymphangitis, the usual perperal sepsis?

Krönig, basing his practice upon fifty-six cases of sepsis, lost four per cent., employing a general supporting treatment only.

Whitridge Williams, in twenty-three cases treated in a similar manner, lost 4.35 per cent. So the general practitioner has good ground for refusing to listen to the gynæcologist when he advises operation. But I for one cannot forget the mortality which attended exactly the same treatment in olden days, emphasized as it is by Macharg's recent figures.

I must believe that the infecting germs in Williams and Krönig's cases were weak and not virulent. But though accepting all they say as to mortality, the unchecked sepsis must have wrought havoc not only with the pelvic organs but also with the general health.

I cannot see the logic of their position and must believe that these gentlemen, for whose scientific attainments I have the greatest respect, have been unduly attracted by the seductively low mortality. At the time that Williams reported his cases I gave a list of fourteen cases in which I had operated, one when the patient was dying with endocarditis and nephritis, with this one death. To show how completely these women recovered, two have since been reported as pregnant. The method I have adopted since 1894 has proceeded along these lines: I have attempted to check the local infection and to combat the general septicæmia. Incidentally also I wished to prevent pelvic suppuration.

I curette the uterus as thoroughly as possible, being careful to wash out all débris with this tube, using many quarts of decinormal salt solution. The material removed by the curette is placed in a sterile jar for examination. I then pack the uterus full of five-per-cent. iodoform gauze.

The next step is to make a broad incision into the posterior cul-de-sac. Through this I evacuate all fluids in the pelvis, saving a specimen for examination. In all cases there is much serum present, some lymph, and often pus free in the pelvis. Any false union between the organs is broken, and the pelvis is wiped dry. I now make what I call the pelvic Mikulicz dressing of iodoform gauze. This dressing completely fills all parts of the pelvis and is in close apposition to all the pelvic peritoneum to the pelvic brim, except in front of the uterus. The iodoform is soon broken up by the serum, and so rapid is its absorption that it appears in the urine from two to five hours after the operation. The circulation of so large an amount of this powerful antiseptic in the blood must have a deterrent effect upon the general sepsis, as these charts will show.

To determine whether the streptococci which I found in the uterus and in the pelvic cavity were destroyed, I instituted, with Dr. Jeffries, bacteriologist to several of our institutions, a series of investigations. We found that invariably all cocci were destroyed, streptococci remaining to the third dressing in only one patient, and she has reported pregnant.

If under ether I find the pulse 120 or over, or if there are grave visceral lesions elsewhere, particularly in the heart and kidneys, I always do an intravenous saline infusion of from two to three quarts. This seems a severe measure, but all the cases brought to me are in bad shape and most of them have nephritis.

The essence of the treatment is local and general iodism, together with promotion of the function of the kidneys. After the operation I use colon enemata of salt solution every three hours, for the purpose of eliminating the toxins and the iodine. This treatment has been employed over fifty times by myself and associates. By means of it I feel sure we have saved women who would otherwise have died. While the procedure is novel to some of you, and while it is based upon a new principle, namely, the introduction into the blood of so powerful an antiseptic as iodine which would appear dangerous, I cannot but be governed by what we have seen.

Such is the position of our present knowledge regarding puerperal sepsis. Repeated irrigations we find do harm. Curettage gives twenty per cent. mortality. Serum therapy gives thirty-three per cent. mortality. We have coming from great men the conclusion that it is best to do nothing in an operative way. You may elect to accept that advice. But what will you do if their further experience prompts them to desert you? If you are now so disposed as to follow me and many others, perform a rapid abdominal hysterectomy in your cases of thrombosis, and in the cases of true puerperal sepsis the curettage and cul-de-sac operation as I have described it.

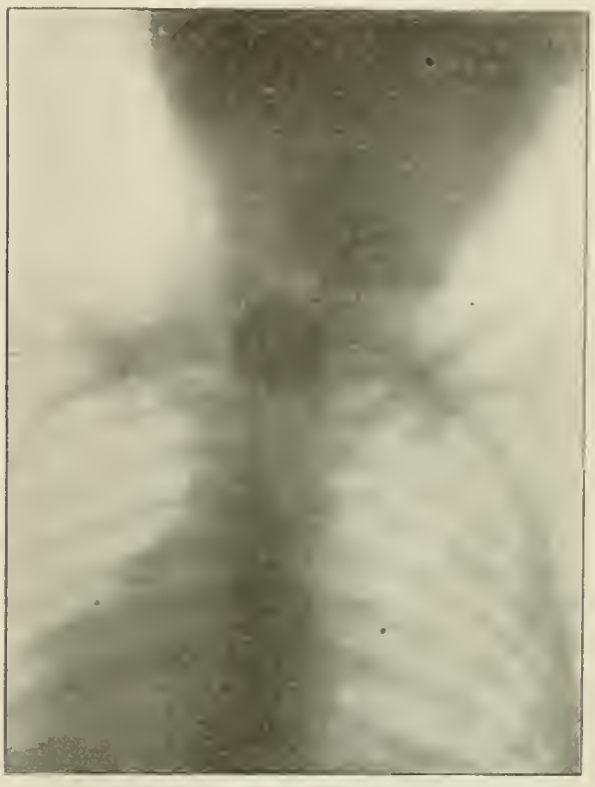
An Enormous Fibroma of the Fundus Uteri.—A. Pinna Pintor removed this new growth through an incision extending from the symphysis to two inches above the umbilicus. The tumor was closely adherent to the surrounding parts, but was successfully removed and the attempt made to save the uterus. Owing to the hemorrhage this was impossible and amputation had to be done. The tumor which had been first noticed by the patient three years previously was found to weigh twenty-six and one-half pounds and to measure forty-eight inches in circumference.—*Centralblatt für Gynäkologie*, September 15, 1900.

FOREIGN BODIES IN THE ŒSOPHAGUS.[1]

By GEORGE W. KING, M.D.,

HELENA, MONT.

The clinical history of a recent case of impaction of a foreign body in the œsophagus is herewith submitted for the purpose of illustrating in a practical way the principal points to be considered in the diagnosis and treatment of this accident. A girl aged six years, while amusing herself with a penny whistle, inadvertently allowed it to slip backward into the pharynx, and becoming alarmed she made violent efforts at swallowing, which forced the body onward into the œsophagus and beyond reach of the finger. Several copious draughts of water were taken, but served no useful purpose in accelerating the progress of the whistle downward. She then informed her mother of the accident. Nothing was done, however, until the following day when she was presented for examination with the above history. During the night several attacks of vomiting had occurred without effecting dislodgment or expulsion of the foreign body. Fluids could be swallowed without regurgitation. Some degree of discomfort existed, pain over the sternum and cervical region being the most prominent symptom complained of. Respiration appeared to be normal. No information concerning the presence or position of the whistle could be gathered by palpation or superficial examination. The absence of urgent symptoms suggested the probability that passage downward had been successfully accomplished during the interval. The traumatism produced by the passage of a body of that size would account for the irritation present. Fortunately we are no longer compelled to remain in doubt when dealing with this class of cases. The fluoroscope and skiagraph demonstrate clearly what we desire to know without subjecting our patients to the annoyance incident to the use of sounds or other instruments, which after all are liable to fail in the object for which they are employed. The accompanying illustration made from a skiagraph indicates the utility of this method of examination. The vertical position of the whistle is well shown, but its exact location when measured by fractions of an inch is largely a matter of conjecture. The position and distance of the Crookes tube in relation to the object and the diffusibility of the rays must be carefully noted in order to eliminate errors in the interpretation of the shadow. Facility in this respect is acquired by experience in this line of work. In this instance the picture represents the object as slightly below its actual position. This difference was immaterial, inasmuch as there was positive assurance that the impaction was in the cervical portion of the œsophagus and therefore accessible, and this furnished sufficient data for all practical purposes. The patient was put under an anæsthetic and extraction by the mouth was undertaken. It was found to be impossible to locate and grasp the foreign body with suitable instruments; sounds or bougies failed to give evidence of contact, apparently passing by the seat of obstruction without impinging upon the rim of the whistle. It soon became evident that nothing could be accomplished by this route and the operation was for the time abandoned. Considerable reaction followed, the temperature went up to 102° F., and there were marked symptoms of acute bronchitis, induced in all probability by exposure or traumatism. Appropriate remedies were prescribed and the patient was left undisturbed until her condition would justify further operative interference. With the subsidence of the bronchitis a more distressing condition developed, viz., spasm of the glottis accompanied by an incessant cough, reflex in character, caused by the presence of the foreign body. Œsophagotomy being the only operation likely to afford relief, it was performed without incident. The incision was made in the usual location, *i.e.*, upon the left side along the anterior border of the sterno-mastoid muscle, the fascia was divided with due regard to the position of the vessels and nerves lying within the field of operation, the tissues were carefully separated by blunt dissection until the bodies of the cervical vertebræ could be felt with the finger, the carotid sheath was retracted outward, and the trachea and thyroid gland were rotated in the opposite direction. A sound was now introduced into the œsophagus and two silk sutures were placed in appropriate position in its walls, and the ends were



left long to facilitate control of the part during the subsequent manipulations. The tube was opened over the point of the sound and the latter was withdrawn. A forceps was passed downward through the incision to the depth of six inches and upward to nearly the same distance without encountering the foreign body. A metallic bougie-à-boule was then substituted, and being introduced came directly in contact with the whistle which was embedded just below the cricoid cartilage. A small instrument was passed under the rim, and by a prying motion the whistle was loosened and forced upward and outward where it could be easily grasped with the forceps and extracted. It is worthy of remark that the same instrument by means of which the whistle was located through the incision had been passed by the mouth in the previous attempt with negative result. The incision in the œsophagus was closed by absorbable sutures and the lower angle of the wound external to it was loosely packed. The head was fixed by a pasteboard splint extending upward from the dorsal region. No vessel of sufficient size to require a ligature was divided during the operation; hemorrhage therefore was limited to slight oozing. No injury to the nerves resulted. In the after-treatment nothing was given by the mouth until the fifth day, nutrient enemata being used to sustain the patient. The wound remained free from infection and the healing progressed satisfactorily.

A small fistulous opening, through which there was an occasional escape of food, remained for a time, but

[1] Read at the meeting of the Rocky Mountain Interstate Medical Association, August 29, 1900, at Butte, Mont.

did not cause any special inconvenience. The patient was discharged one month from the date of operation. The whistle measured one inch in diameter, and had been impacted for ten days.

The favorable issue in this case was due to the smooth surface and accessible location of the foreign body, permitting its removal without laceration of the tissues, and last but not least, the absence of infection of the wounded surfaces. This latter complication cannot be effectually guarded against, owing to the impossibility of maintaining accurate apposition of the edges of the incision until union has been accomplished. The involuntary act of deglutition will sooner or later cause one or more of the stitches to cut through, with subsequent separation of the line of union. For this reason some operators omit sutures altogether, preferring an open wound to a partially closed one. Theoretically, approximation by suture with fixation of the head, nothing being taken by the mouth for the first week, ought to give the best results.

External œsophagotomy for the removal of foreign bodies is not an operation of recent date. Suggested by Verdu in 1643, first performed by Goursald in 1738, it has long been recognized as a legitimate operation when indicated, yet up to 1894 there were but one hundred and thirty-five recorded cases, mostly the work of German surgeons. In the one hundred and thirty-five cases there were one hundred recoveries. The mortality rate is influenced by certain conditions here as elsewhere; thus, late operations show an increased death rate over the early, other conditions being equal, and again the situation and nature of the foreign body are important factors in determining the result.

If we study the anatomical relations of the œsophagus in the cervical region with special reference to the operation of œsophagotomy, we shall find that the space to be invaded is occupied in part by the left lobe of the thyroid gland, the left common carotid artery, the inferior thyroid artery, the middle and superior thyroid veins, the left recurrent laryngeal nerve, and the omohyoid muscle. The trachea, from its position and intimate relation to the tube, may be regarded as within the danger limit. Injury to the recurrent laryngeal nerve, opening the trachea by mistake or otherwise, wounding the carotid artery, are among the accidents that might happen to experienced operators as well as to the novice. Conditions which add to the difficulty of the operation are chiefly swelling or enlargement of the glands in the cervical region, unusual depth of the œsophagus, and failure to find the foreign body or when located to loosen it from the point at which it is embedded. The causes of death following the operation are for the most part septicæmia and exhaustion.

The œsophagus in its descent through the thorax is never isolated from important structures; the transverse portion of the arch of the aorta, the left bronchus, the pericardium, a part of the descending aorta, the thoracic duct, and the pneumogastric nerves, are in contact with or in close relation to the tube at certain points in its course, and consequently are liable to injury by retention of a foreign body or by undue violence in the passage of instruments.

The predisposition of the œsophagus to the lodgment of foreign bodies is due to normal constrictions which exist in three places, viz., at the cricoid cartilage, at the bifurcation of the bronchi (about the level of the first rib), and at the diaphragmatic opening. Large or rounded bodies are usually arrested at the cricoid narrowing, by reason of the unyielding larynx in front and the bodies of the cervical vertebræ behind, which serve to limit dilatation in the anteroposterior direction. Oblong and smaller objects may pass on to the second or third constriction and be there retained.

In view of the manifold dangers and difficulties to be encountered, the removal of foreign bodies lodged in the œsophagus cannot be regarded as a trivial operation. When undertaken with no conception of its gravity and without an accurate knowledge of the anatomical relations above detailed, the risk to the patient exceeds that of many operations of greater magnitude. Too energetic and ill-directed efforts are most likely to fail and in addition to inflict irreparable injury. No rules can be laid down for the treatment of those cases of large impaction in the pharynx when suffocation is imminent. Here the choice of adequate instruments and the presence of the skilled hand to direct them must yield to the greater urgency of immediate action. The finger is always available and should be unhesitatingly employed, as should also inversion of the patient. No technical skill is exercised in these acts, yet it is what the skilful surgeon himself would do under similar circumstances. It is true the latter has other resources at command, but this does not imply that simple and common-sense methods should be overlooked in any case. The size, shape, consistency, and location of the object must be taken into consideration in forming a proper estimate of the difficulties to be overcome in the process of extraction. The diagnosis can be made with certainty by the use of the *x*-ray, the exceptions being few and unimportant so far as the treatment is concerned. (Reference is here made to impactions which consist entirely of alimentary substances that cannot be skiagraphed.) The retention of bodies which are uniform in shape with smooth rounded exterior, is naturally attended with less danger than that of bodies presenting irregular outlines, with sharp cutting edges or points which easily pierce the tissues and in some situations might wound important organs and produce a fatal result. It is obvious that in the latter case attempts at withdrawal or propulsion could not be made without more or less laceration of the tube, even in the most careful hands. This fact should emphasize the importance of a careful study of conditions before resort to the use of instruments, and also the avoidance of brute force when it becomes necessary to employ them. The cervical portion of the œsophagus lies within reach of instruments passed by the mouth, and removal of the impacted body may often be effected by this route. This is the method almost universally employed and is the operation of choice, and if conducted with a reasonable amount of skill it ought not to result in harm to the patient. Too violent or long-continued efforts are not advisable, since we have in œsophagotomy a more surgical procedure which may be relied upon to succeed within proper limits. The incision renders the part more accessible —a decided advantage duly appreciated by those who have had occasion to resort to the operation.

The administration of an anæsthetic as a preliminary to the introduction of instruments by the mouth is seldom required in the case of adults, but when we are dealing with children it becomes indispensable. The patient should then be put in the Roser position to lessen the danger of suffocation and at the same time facilitate the passage of sounds or bougies by straightening out the folds in the œsophagus. In the search after and removal of foreign bodies impacted in the œsophagus, the danger and difficulty increase with the depth, for the point of an instrument passed by the mouth into the thoracic portion of the tube is practically beyond the control of the operator and in spite of the utmost care rupture and injury to adjacent organs are among the possibilities. The flexible œsophageal forceps can be introduced to any depth desired, but its grasp is not firm enough to hold an

object which requires considerable force in withdrawal. The failure to extract from above by use of the finger or instruments passed by the mouth, by inversion of the patient, or by emesis when applicable, limits the choice of further interference to incision; by that I mean œsophagotomy or gastrotomy, one or both combined, or to propulsion, *i.e.*, forcing the impacted body on into the stomach. The latter is to be preferred when feasible, and moreover has the merit of having been known to succeed in numerous instances. In suitable cases, then, this method should be employed, but we must keep in mind the chances of error arising from the fact that a sound or bougie may glide past the object without giving evidence of contact, the impression being conveyed that the tube is clear and requires no further attention. It must be admitted that propulsion is not entitled to very high rank by reason of its uncertainty in results and its manifest limitations. It is permissible only when the foreign body is known to be smooth and uniform in shape or composed of an alimentary bolus which can be safely forced through the passage. Extraction by incision or other means is undoubtedly the correct treatment for foreign bodies in the œsophagus. At times it is easy of accomplishment, but oftener it taxes the ingenuity and resources of the operator even though he be possessed of more than average skill, and it is not surprising therefore that the expectant plan should be adopted by many and that the foreign body should be left to itself when situated low down in the thoracic portion of the œsophagus. Such practice may be open to criticism, yet it is not without precedent, its justification resting upon the absolute failure of extraction or propulsion.

REPORT OF THREE CASES OF INTESTINAL OBSTRUCTION DUE TO MECKEL'S DIVERTICULA.[1]

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In presenting this report no attempt at any scientific consideration of the subject will be made. The author was struck by the coincidence of three of these rare cases coming under his observation within a period of five and a half months, and deemed the citation of the histories of the cases of sufficient importance, from a clinical standpoint, to prove of interest to the members of this association. A feature of these cases was the pronounced resemblance, from a clinical standpoint, to appendicular involvement; another feature was that in each of two of the cases there was an existing appendicular complication.

I confess that in each of these two cases the diagnosis of appendicitis was made, although in one of them doubt as to the diagnosis was expressed and exploration was suggested; while in the first of the cases recorded I was undecided between acute obstruction by internal strangulation and perforative appendicitis of the so-called fulminating variety. Close study of the symptomatology of these cases will readily demonstrate the resemblance to three varieties of symptoms of onset in appendicitis, namely, the first the so-called acute fulminating or profoundly septic, the second a subacute attack attended by abscess formation, and the third an acute appendicitis accompanied by gangrene with toxic absorption.

In the first case, the symptoms were due entirely to a rapid strangulation, with gangrene of seven feet of bowel and rapid sepsis; in the second case, the symptoms were produced both by the involvement of the appendix and a partial strangulation of some five feet of bowel, with gangrene of the diverticulum; while in the third case the symptoms were due to acute appendicitis and a gangrenous adherent diverticulum, with no gut inclusion except through the medium of bands of adhesions of some former trouble.

[1] Read before the State Medical Association, October 18, 1900.

Case I.—M. K——, gentleman rider of the Horse Show of 1899, was seen by the writer on November 15th at 10:30 A.M., exactly twenty-four hours from the date of onset of his illness, at which time the following history was obtained. He had been perfectly well up to November 14th, at 10:30 A.M. He said he had eaten a large quantity of white grapes on the day preceding. On the morning of November 14th he was seized with an attack of pain in the abdomen which he said was very severe and was accompanied by nausea and vomiting. At this time the hotel physician saw him and gave him several injections of morphine. Owing to the hotel physician being called out of town and his pain still persisting, Dr. John Woodman was called in the evening and found him suffering slightly from pain, the abdomen somewhat rigid, pulse, temperature, respirations practically normal; vomiting and nausea still present. Dr. Woodman saw him early the next morning, at which time the symptom complex presented such a grave aspect that a consultation with a surgeon was advised. I saw the patient at 10:30 A.M., exactly twenty-four hours after the onset of pain; at this time there were all the manifestations of an acute abdominal involvement; his face was pinched and anxious, somewhat livid or cyanotic, pulse 144–150, respirations rapid and shallow; the temperature was not taken; the abdomen was distended and exceptionally sensitive—in fact, painful to the touch; rigidity of the abdominal muscles was more marked on the right side, and pain also was more evident on this side. He had just vomited some greenish material. There had been no evacuation of fæces by the bowel and no flatus had passed in twenty-four hours. An exploratory section was suggested, and the patient transferred to the St. Mark's Hospital. The operation was performed at 12:15 P.M., twenty-six and one-quarter hours after the onset. Upon opening the abdomen through the right rectus I found the peritoneal cavity filled with offensive bloody fluid and a large mass of gangrenous small intestine; at the points between healthy and gangrenous bowel I found a band surrounding the bowel. This proved to be a Meckel's diverticulum with its distal end attached to the umbilicus and its proximal end within three feet of the ileo-cæcal junction. The patient's condition was such that nothing further than liberating the strangulation and excluding the gangrenous gut from the abdomen was done. Although the patient stood the operation badly, he reacted within three hours in a most gratifying manner, with absolute freedom from pain, nausea, and vomiting, and a well-marked improvement in his pulse. This condition of improvement continued until the following morning at seven o'clock, when he became rapidly toxic and died within an hour. There were exactly seven feet of gangrenous gut removed upon autopsy.

Case II.—Previously reported, with presentation of the patient and specimen to the Surgical Society of New York City. E. D——, twenty years old, clerk, was seen by me with Dr. S. Leo, on March 1, 1900, at which time the following history was obtained. On Wednesday, the last of February, about 2 P.M., and one and one-half hours after a lunch of roast-beef sandwich, cake, and coffee, he was seized with pain in the abdomen, not localized in any one region; "he broke out in a perspiration," and had two or three chills lasting in all about two hours. He vomited about four hours after the onset of pain. During these four hours his pain was constantly increasing. Pain was severe but not intensified throughout the night. He was

given some codeine by Dr. Leo. No movement of the bowel, except a small quantity passed as a result of an enema on Thursday, March 1st. I saw him March 1st, 8 P.M., at which time his pulse was 86–90; temperature, 100.5° F. The temperature had been 101.5° in the forenoon. Deep pressure elicited some pain in the abdomen, localized on the right side a little internal and superior to the usual appendicular situation. The right rectus was somewhat rigid. The urine contained no albumin; its quantity had not been measured, but the patient said he had been passing urine as frequently and in as large quantities as usual. He was taken off the codeine, given calomel internally, and ice used externally. Friday, March 2d, I saw him again with Dr. Leo. Temperature, 99.5° F.; pulse, 80–84; pain localized on the right side, not excessive; the rectus was tense, but not markedly so. There was some tympanites, not general, but rather outlining coils of intestines. Dr. Leo telephoned Saturday, March 3d, that the patient's condition had become normal, and that my services were not necessary; that there was a very slight amount of pain remaining on deep pressure. Sunday night, March 4th, I was telephoned that his condition had again become grave, and made an appointment for the following morning, at which time I was told that he had vomited fecal material Saturday evening twice and once Sunday morning, and that there had been a large evacuation per rectum following the introduction of an enema. When I saw him Monday morning, at 10:30, his condition was one of anxiety, his face was drawn; pulse, 118; temperature, 101.5° F.; abdomen generally tympanitic, pain in the right side and in the umbilical and hypogastric regions. Operation was advised and accepted. Dr. C. Leale was present, by the family's request, at the operation.

An incision was made in the usual manner for appendicitis. When the peritoneum was incised, a large quantity of dark-brown fluid was evacuated and a coil of deeply congested intestine was seen. The appendix was found bound down posterior to the cæcum and ascending colon, and several coproliths could be palpated. Many recent adhesions were also present. The examining finger palpated a dense band surrounding a mass of intestine. The incision was rapidly enlarged through the right rectus, and then a mass of intestine fully five feet long, dark brown and œdematous, was extruded, with a Meckel's diverticulum about three inches long, one-half inch in diameter at its base, and a long fibrous extension leading up to the umbilicus, literally tied about the involved intestine. One portion of the diverticulum was gangrenous and adherent to a coil of ileum. A small amount of pus was present at this situation. The intestinal end of the diverticulum was cut off, and the intestinal site of the diverticulum was inverted as in an appendix operation; a row of Lembert sutures was placed to strengthen the area. The umbilical end was cut after the application of a catgut ligature near the umbilicus. The appendix was next removed in the usual manner, its stump being inverted after the method of Dawbarn. Feeling that it would be rather risky to close the abdomen entirely, I placed a gauze drain at the site of the inverted stump of the appendix, and also one at the site of the removed diverticulum. The greater portion of the wound was then closed with three rows of catgut sutures and a superficial one of silk. A great amount of serous discharge was present the first twenty-four hours. Temperature and pulse became practically normal after the second day, from which time convalescence was rapid.

Case III. Male, J. L——, aged thirty-four years. Previous history negative. He was seen by the writer on May 1st, in consultation with Drs. Goldberger and Kompert at about midnight, and I obtained the following history. He was seized with a severe generalized pain in the abdomen on Sunday, April 29th; had neither chill nor had he vomited; on the day following, *i.e.*, April 30th, the pain was localized in the right iliac fossa, with evidences of a tumor. The rectus on the right was rigid, not marked on the left. When I saw him his pulse was 90; temperature, 101°; respiration, 22; abdomen somewhat distended, pain pronounced in the right side, and a tumor distinctly palpable. The rectus was somewhat rigid. I advised operation the following day. On the morning of May 2d, the day of operation, his pulse was 96; temperature, 102.6°; and respiration, 26. Under anæsthesia a mass could be outlined, that suggested a very much distended appendix, or one accompanied by a great deal of exudate. The abdomen having been prepared, an incision was made after the manner of Kammerer, etc., and a diverticulum about three and one-half inches by one and one-half inches wide, with a pronounced mesentery, was found adherent to the parietal peritoneum in the right iliac region; the apex of this was gangrenous and covered with considerable exudate; in addition, about six inches of bowel was partially strangulated by a band in the immediate vicinity. This latter was released, the diverticulum cut off, and the opening in the intestine closed with three tiers of suture. Search was then made for the appendix, which was found in a state of acute inflammation surrounded by a dense mass of adhesions. The appendix was removed by splitting the serosa and musculosa, thereby leaving only the mucosa; in other words, the appendix was stripped (a method I have often found of service in cases with dense adhesions, and one by which an immense amount of time is saved). The appendix was then removed, and the stump inverted after the method of Dawbarn. Several coproliths were found in the appendix. The abdomen was wiped out with gauze, a small wick drain was placed in the lower angle of the wound, and tier sutures were employed to close the remainder of the incision. The drainage was removed in forty-eight hours, and with the exception of a stitch abscess the recovery was uncomplicated.

Attention has been called in this paper to the resemblance of the onset in each of these cases to an attack of appendicitis; and when one remembers that the usual location of these diverticula is within three feet of the cæcum, no great amount of suggestion is necessary to show the effect symptomatically of an inflammation or involvement of a viscus in such proximity to the appendix. Naturally, the conditions of obstruction rapidly supervene upon those of sympathetic involvement, and thus the diagnosis of obstruction from some other cause than appendicitis is more readily made, except when profound sepsis is present, as was noted in the history of Case I.

Black Tongue.—A new case of this rare malady is reported by J. Maraval, whose patient was a man aged forty-two years, and an inveterate smoker. For two months he had complained of pharyngeal dysæsthesia, discomfort in movements of the tongue, sensation in swallowing as of a foreign body, and abundant salivation. Examination showed a brownish-yellow patch in the region of the circumvallate papillæ which could be peeled off in threads, and which under the microscope seemed to be made up of imbricated epithelium surrounding a central axis. The area of implantation was thoroughly curetted and a solution of zinc chloride 1:20 applied. He was seen six months later with practically the same condition. He had abstained from tobacco for four months after the curetting, during which time he remained well, but on resuming smoking the deposit reappeared.—*Revue Hebdomadaire de Laryngologie*, No. 36, 1900.

ELECTRIC LIGHT—ITS PHYSIOLOGICAL ACTION AND THERAPEUTIC VALUE IN TUBERCULOSIS OF THE THROAT AND LUNGS.[1]

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While in modern times we have quite a number of newly discovered drugs, some of which exert a remarkable effect on the human system, we have come to believe that bottles of medicine cannot cure every disease nor afford relief to many sufferings with which the physician is daily brought in contact. Thus we have come to rely upon resources which nature has placed at our command—the scientific application of water, hydrotherapy; the use of light and air, which is still an undeveloped science; and finally the use of electricity in its various branches. The latest of these is the action of the chemical rays of light upon the diseased human system.

We know that in the olden times, in Greece as well as in Rome, as protection against disease nothing was esteemed so highly as the sojourn in the open air. The sun and the air were considered of the greatest importance for the health and life of man and animal. The whole life of the ancients, as Julian Marcuse[2] rightly says, was built upon this basis, and public affairs, as well as athletic sports, brought the Grecians and Romans on the street and into the open air.

Light and air, the imponderable requisites of unimpaired bodily and mental health, were then the foundation of the physical and psychical well-being, which will always remain the characteristic sign of the classic ages. Not only were the bedrooms in old Greece open to the rays of light, but the houses had, as is well known, on their roofs what was called ἡλιαστήριον, a place where the inmates exposed their naked and anointed bodies to the sun, not only for pleasure, but for the preservation of their health as well.

In Rome this place on the roof, which was perfectly flat, was called solarium. Afterward this solarium was a special annex to the house. The white color of the skin of a man not browned by the sun was considered effeminate, and its possessor was ridiculed. That later on these prophylactic sun-baths were taken to cure disease is not remarkable; and in Rome there was hardly a bath-house without a solarium—that is, a place to take sun-baths.

In the Middle Ages these baths were neglected more and more, until up to the nineteenth century they were entirely forgotten.

It was a layman, Arnold Rikli, of Veldes, in Austria, who not long ago started the first institution for what he termed "atmospheric cure." He deserves great credit for his enthusiasm and energy. Afterward Dr. Lahmann, of "Weisser Hirsch" near Dresden, started a similar institution. It would seem that the success of this "cure" should no longer be disregarded by physicians, and it has become our duty to investigate its merits more closely. I have deemed it important to refer to this, as I consider this therapeutic agent the forerunner of our modern phototherapy, or treatment with the electric rays. Sunlight and electric light have the same effect on our system, and it has been proved by thousands of cases already treated that the beneficial result of treatment with electric light is due to the action of those rays which approximate most closely to the sunlight—namely, the blue and ultraviolet rays of the arc light.

Now, before entering into a discussion of the therapeutic value of the electric light, we have to answer the question, What are the physiological effects of light on the human organism, and especially upon its metabolism?

Very important investigations have been made in this direction as early as 1855 by Moleschott.[1] This author reached the following results: Frogs give off one-twelfth to one-quarter more CO_2 in the light than in the dark, *i.e.*, the temperature being equal or nearly so, and the units of body weight and time being the same. Further, the greater the intensity of the light, the greater the quantity of CO_2 given off, which is reduced to a minimum on foggy days.

Von Platen made experiments on rabbits, covering their eyes alternately with black and with transparent glasses. He proved that under the influence of the light the gaseous and watery exchanges were considerably increased. The oxygen consumption in the light and darkness was as 116 to 100; the elimination of CO_2 as 114 to 100. Later on Moleschott and Fubini demonstrated the fact that this influence upon the metabolism is present even after the eyes have been enucleated; that is, it is exerted also through the skin.

After the preliminary experiment of Reid, Scharling, and Marchand, it was proved by Pettenkofer and Voit that man gives off less CO_2 at night during sleep than in the daytime in absolute repose. They proved, therefore, that light is here of importance.

I omit the mass of all other researches regarding this particular question. Every one interested in it will find the literature in a work by Willibald Gebhardt,[2] entitled "The Healing-Power of Light," which every physician ought to read. I also refer to a dissertation by Franz Schoenenberger,[3] where a great deal of the literature can be found.

Having confined my investigation to diseases of the respiratory tract, it became necessary, in order to understand the finer mechanism of the rays of light, to study their effect upon the mucous membrane of this tract, and especially upon that of the bronchi, etc. In this respect the investigation of Dr. S. Bergel,[4] of Inowrazlaw, are of very great importance to us. Dr. Bergel, whom I have the pleasure of having known personally for a good many years, studied, entirely independent of the subject under discussion, some eight years ago the effect of light and darkness upon the movement of the ciliated corpuscles. He says that the peculiar behavior of the ciliated corpuscles toward light and darkness was of especial interest. He proceeded in the following manner: He put the microscope into a dark cabinet, which was placed upon the observation table. The cabinet was perfectly closed, with the exception of two openings. The one, when illuminated, was for the observer, but could be darkened by means of curtains when it was desired to shut the light off. Just opposite the microscope was another opening, which could be exposed to direct sunlight or closed, as desired.

Now, if a ciliated corpuscle in motion was placed under the microscope, and the latter darkened, it could be seen on inspection after a while that the motion of the corpuscle grew slower and slower, and finally ceased. The more rapid the vibration before the withdrawal of light, the longer the period of activity of the corpuscle in the darkness until it became motionless, and, *vice versa*, the slower and weaker the vibration of the cilia, the shorter the time up to the cessation of all motion.

When a corpuscle that had been kept in the dark, showing no motion whatever, was exposed to bright

[1] Read before the American Electro-Therapeutic Association, September 25, 1900.

[2] Zeitschr. f. diät. und phys. Ther., 1899, p. 336.

[1] Wiener med. Wochenschr., No. 43, 1855, and Pflüger's Arch. f. Physiol., Bd. xi., p. 272.

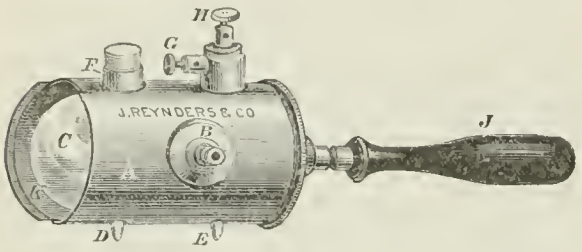
[2] "Die Heilkraft des Lichtes," Leipsic, 1898.

[3] "Der Einfluss des Lichts auf den tierischen Organismus." Diss., Berlin, 1898.

[4] "Beiträge zur Physiologie der Flimmerbewegung." Sep. Abdruck aus d. Arch. f. die ges. Phys., Bd. 78, Bonn, 1900.

daylight again, the oscillation recommenced after a latent period, depending upon the duration of the exposure to darkness. The longer the corpuscle remained in the dark after it had become motionless, the longer it continued in a quiescent state until the resumption of oscillation. This could be repeated several times, but soon a sort of fatigue was noticed in the corpuscle. This showed itself also when the corpuscle was kept too long in the dark.

What do these important investigations of Bergel mean? Are they not in contradiction to our daily experience? The cessation of the movement in the dark seems to be opposed to the real conditions of life, as in the animal, or at least in the higher animal, the ciliated epithelia are in dark regions of the body, and, nowithstanding this, are in constant motion. I would mention here that in a series of experiments on ciliated corpuscles no cessation occurred, and these were the ones that moved quickest before they were put in the dark chamber. The light stimulus, it seems, shows its effect only on exhausted ciliated corpuscles,



which are no longer in full possession of their vitality. They still move on irritation, that is, when light is thrown on them; but when the stimulus ceases, that is, when they are brought into the dark, then they sooner or later cease to oscillate. Now, inasmuch as light acts as a stimulus upon the movement of the ciliated corpuscle, this is, according to Bergel, nothing but a proof that the ethereal vibrations of light have an influence upon the chemical processes within the corpuscle; they cause chemical changes, which are transformed into motion, or, in other words, into labor. Now we can understand the first experiment by Moleschott. Every action of the organism is accompanied by the chemical process known as oxidation. The more activity, the more oxidation; the more light was thrown upon the frogs, the more oxygen they consumed and the more CO_2 they gave off, and all this only through the greater activity of the ciliated bodies. In pathological conditions there is an accumulation of metabolic material which cannot be eliminated nor replaced by new nutritive elements; therefore the action stops, as the ciliated corpuscles are, so to speak, paralyzed.

In this connection I have to mention what is probably well known to all of you, that the actual labor done by these cilia in the human system is enormous. If, according to Justus Gaule, you excise in a frog just killed the mucous membrane of the pharynx and œsophagus, splitting open the latter and pinning the whole membrane on its edges on a piece of cork, and if you put small particles of soot or of cork or similar substances, dipped in a physiological salt solution, upon it, then you can see how these particles are carried away until they finally reach the stomach end of the œsophagus. Small as is the force of a single cilium, so enormous is the total effect of their immense number (Engelmann).

In the example just mentioned the current of the cilia is in the direction from the mouth to the stomach, as it is the function of the mucous membrane of the digestive tract to transport substances into the organism. The current is just the reverse on the mucous membrane of the respiratory tract, that is, from the bronchi to the nares. This is natural, as here there is different work to accomplish, namely, to carry the dust particles, etc., out of the organism. This work is initiated in the cells by the cilia nearest to the bronchi; then the others follow suit. Thus with "great intelligence" they sweep out during the night the dust that is inhaled during the daytime; and in the morning it is found deposited at the entrance, and with a little hawking, etc., it is easily removed.[1]

In tuberculous affections of the respiratory tract there is nearly always a concomitant catarrh present, with more or less mucus. Sometimes this is present in enormous quantities. That such a superabundant secretion should prevent entirely the oscillation of the cilia is very plausible. On the other hand, if this is present in a smaller degree, it will paralyze—as I understand it—temporarily the action of the cilia, and in such cases a stimulant like light will overcome this paralysis and the ciliary corpuscles will be able to resume their work. The metabolism of the cells will return to the normal, and coincidently not only the mucus, etc., will be removed from the bronchi, but, in my opinion, also the end product of the tubercle bacilli, and undoubtedly a great many of these bacilli as well. This would be the ideal cure of the disease. Alas, it is not always accomplished! but in many cases this beneficial effect in part is produced without doubt.

But has sunlight not a direct influence on the bacilli? We know now that it has, and I agree with Albert Abrams, of San Francisco, when he says:[2] "The value of sunshine in localities adapted to the treatment of consumption is greater than is generally believed. That this value is dependent in part upon the germicidal action of the solar rays in the atmosphere I am confident. I have made a number of experiments to test the influence of solar-heated atmosphere on the growth of tubercle bacilli in culture tubes. The results demonstrated that while such atmosphere was not destructive to the growth of tubercle bacilli, it nevertheless retarded their development." I have not hesitated to quote even such a conservative statement before you, although I am aware that the experiments of other authors have shown a still greater germicidal power of the rays of light. It naturally depends upon the time you use the sunlight for such purposes.

I myself was led to study the effects of light, and especially electric light, on the diseased tissues, in a very curious manner.

In 1889 I had the honor to demonstrate before the New York Academy of Medicine (section on laryngology) the transillumination of the larynx. One of the patients whose larynx I had frequently examined asked me one day whether I no longer employed "electricity," which always benefited her. As such patients who suffer with intense pain are usually not hysterical, I was constrained to give this matter my consideration. I applied the "electricity" by alternately placing the Voltolini light, modified by me, upon one or the other side of the larynx or upon the pomum Adami. As this lamp has in the mean time probably fallen into disuse, I will repeat here my former remarks:[3]

"The casing contains an Edison incandescent lamp and in front of it a ball filled with water, which is similar to the globe commonly used by shoemakers, and subserves the double purpose of, first, concentrating the light by acting as a biconvex lens, and, secondly, of protecting the exterior of the neck from too intense heat. I have taken the liberty of making a few minor

[1] See Gaule: "Physiologie der Nase" in Heymann's "Handbuch der Laryngologie," p. 161.

[2] Philadelphia Monthly Med. Journ., March, 1899, p. 175.

[3] Medicinische Monatsschrift, November, 1889

changes in this apparatus. In the first place I have increased the amount of light by using a higher-power lamp. It also appeared to me that in some patients with a large pomum Adami many of the rays of light were lost. For this reason I had the front part of the apparatus *A* (see figure) hollowed out and covered with rubber, so that it adapts itself better to the external contour of the neck. A handle *f*, which can be attached to a posterior or lateral surface *B*, seemed to me useful. Finally I had the globe more firmly attached, *D* and *E*, in order to protect it from breakage."

I then applied this lamp to one or both sides of the larynx or also in front, and usually allowed it to remain at the place of application until this became heated, ordinarily about five minutes. Several times I observed a formation of blebs after five to ten minutes.

At first I did not attribute any significance to this treatment, as I was at a loss for an explanation. Not until 1891, when I read the address made by Robert Koch before the International Congress in Berlin, was the matter clear to me. Koch referred to the influence of sunlight upon the tubercle bacilli—a view which was soon adopted by Mignano[1] and others. Later Minck, a pupil of Buchner, Santori, Marshall Ward, and a host of other investigators demonstrated the same influence of electric light upon bacteria.

If, therefore, sunlight as well as electric light accomplishes all that which has been demonstrated by most eminent investigators, there remained only for decision the question whether light actually penetrates the tissues of the larynx. This could not appear doubtful to me, since I had examined hundreds of patients by means of transillumination, and had been able to see distinctly the interior of the larynx. It seemed to me that if any portion of the body were adapted for testing the influence of electricity it must be the larynx.

My expectations were not entirely fulfilled, and I would ascribe this to the incompleteness of my apparatus, which permitted me to apply the electric light for only about five minutes to the diseased parts, after which it became too hot. Notwithstanding this I had some encouraging results, of which I would communicate the following:

Case I.—Mrs. R. H——, thirty years old, mother of four living children, pregnant. She has suffered four weeks with pain in the throat, especially on swallowing. On retiring she has a feeling as if "oil were boiling in her throat."

Status præsens, February 24, 1892: Phthisis incipiens of both lungs; mucous membrane of larynx very anæmic; slight ulcerations on the epiglottis and on the right ligamentum ary-epiglotticum. I administered creosote with tincture of gentian (equal parts) in increasing doses until she took seventy drops three times daily. Besides this I applied the electric light to both sides of the larynx.

March 10th: Up to this time the patient had appeared only once every week. The sensation of "boiling" in the throat was better after each application of the electric light, but the improvement lasted only for a short time. Later it was still troublesome enough to disturb her night's rest. From now on she calls every second day for treatment.

April 15th: The peculiar sensation described is still present, but much less marked; the pain is less.

April 27th: The sensation is still present at night; the pain is inconsiderable.

June 5th: The ulcers in the larynx have healed; she feels much more comfortable, has no sensation of "boiling" in the throat at night, no dysphagia, but some cough.

[1] Archiv für Hygiene, Bd. 25.

June 20th: She was ddelivered of a child, and feels comparatively well.

June 26th: She had a violent pulmonary hemorrhage, and died two days later in consequence.

Case II.—Mrs. M. S——, twenty-three years old, had one living child. She has a feeling of rawness in the chest, and complains of dysphagia.

Status præsens, November 7, 1893: Phthisis pulmonum (cavity of the size of the palm of the hand below the right clavicle); acute pharyngo-laryngitis; infiltration of both false vocal cords. Curettage refused.

November 17th: She was given codeine, creosote, and application of the electric light, the latter thrice weekly. Swallowing is much better, and she requests further application of the electric light.

November 24th: The condition of the larynx is the same, although the patient asserts that she is feeling better.

December 12th: The patient feels quite comfortable, and travels to Lakewood and then to Georgia, remaining away altogether ten weeks.

March 22, 1894: The patient had felt quite well up to a week ago, when she was seized with a violent cough, and also with a return of her former dysphagia. She was treated in the same manner as before.

May 10th: She had again improved so much that she was able to make a trip to the Adirondacks.

The patient had been under treatment of various laryngologists, and stated that nothing acted as well as the application of the electric light. I have heard nothing further from her, but she is said to have died in the Adirondacks.

Case III.—Miss L. B——, nineteen years old, singer, had a hemorrhage about one and a half years ago; she coughs a good deal, has pain on swallowing, and has been hoarse for four months.

Status præsens, November 25, 1895: Phthisis pulmonum, both apices being affected. Larynx: epiglottis somewhat infiltrated; deep ulcer on the left cord. Treatment: Creosote, codeine, antifebrin occasionally for the fever, and every second day application of the electric light to the left side of the larynx. Under this treatment she improved considerably, so that after three months, on February 28, 1896, the ulcer had healed and the patient was absolutely free from pain.

September 3, 1896, I again saw the patient, and found her in excellent health after a sojourn of six months in the country. The pulmonary affection was cured and no tubercle bacilli were found.

January 6, 1897: She coughs again for the past eight days and is troubled with slight dysphagia on the left side; superficial ulceration on the epiglottis (left side); acute laryngitis and diffuse bronchitis. The ulceration was obstinate, and she was not restored to complete health till after the lapse of fourteen weeks' (irregular) treatment.

I saw her again in December, 1897, and also in March, 1898, and was able to demonstrate a permanent cure.

I have since had my apparatus changed. In order to get only blue rays from the light I filled the little glass bottle with a very dilute solution of methylene blue instead of pure water. This gave me a nice blue color. As the metallic end of the lamp still became very hot by radiation, I attached a hard-rubber piece at the end of it, and in this way the apparatus remained cool, and the patients did not feel any annoyance from the heat. Still the water became so hot that once it drove out the cork, spilling the hot water over the bare chest of the frightened patient. After that occurred I modified this instrument again, and you see here the apparatus which I use now. Instead of the glass bulb filled with colored water I simply inserted a disc of colored gelatin or glass. In this way I have overcome

all difficulties. I can apply the electric light as long as I wish—as a rule for from thirty to sixty minutes—and I must say the results so far are very encouraging. These results demand consideration for a method of treatment which is so agreeable to the patient and so free from all injurious effects—phototherapy. We do not hesitate a moment to subject the patient to pain, if it can only be assumed that some relief is thereby afforded him. Have we not all of us caused severe pain by applying lactic acid and in using the curette, as well as other methods, all without avail? Therefore since the majority of my patients ask for the continuation of the treatment with the electric light because of the benefit which they ascribed to it, am I requesting too much in urging you to add this method to your therapeutic resources?

After having for years used the electric light for tuberculosis of the larynx, it was natural to give this a trial also in tuberculosis of the lungs. I have mentioned above that the electric arc light is the one which has produced, according to different German authors, the best results. I did not apply this in tuberculosis of the throat, as my results with the incandescent lamp were quite satisfactory. Besides, this lamp could be applied better to the larynx. It is different with the thorax; here we would have to place the patient in a box provided with a great many incandescent lamps, and the heat produced in such a cabinet would not be beneficial to tuberculous patients. I therefore resorted to the arc light, which I have applied in several cases. Encouraging as the results appear to be, I am not prepared to give you the histories of patients thus treated, nor can I present a definite opinion for one very important reason, viz., the instruments used up to the present time have not attained that state of perfection which they ought to have, and which I think can be reached easily. For the last twelve months I have been trying to have a more perfect apparatus made, but regret to say that I have not succeeded as yet. It is the hardest work to get a new electrical instrument made here in this city of Greater New York, although it is overflowing with electricity. Still I hope I shall have it finished in the near future, when I shall report my further experiences. But even now I am able to say that we have in the chemical rays of the electric light a healing-power which promises to be of the greatest value in the near future. The results so far achieved can no longer be ignored, and it has become our duty to investigate further these processes.

THE IMPORTANCE OF PRELIMINARY TREATMENT FOR INTRA-NASAL OPERATIONS.[1]

By CARL SEILER, M.D.,

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It is an axiom in general and special surgery that it is of great importance, whenever possible, to prepare the general condition of the patient as well as the parts to be operated upon before any surgical procedure is undertaken; to improve the general health, tone up the system, quiet the excited nerves by tonics and hygienic measures, good food and air as well as judicious rest alternating with mild exercise in the fresh air, aided by stimulants when indicated; in short, to bring about a condition of the system as nearly normal as possible, and to remove, as far as may be, any acute or subacute inflammation of the parts to be operated upon before the knife is resorted to.

In a large number of cases which come under the care of the general surgeon this preliminary treatment cannot be instituted for lack of time and opportunity, and as a result its importance with regard to the outcome of the operation is lost sight of; and it is but too often neglected in those cases in which both time and opportunity are present.

The surgeon in the majority of cases being obliged to rely upon the resisting-power of the system as it exists at the time, naturally falls into the error of neglecting to improve this "vis naturæ medicatrix" in those cases, few though they may be, which come under his notice, and in which opportunity and time are not lacking for such preliminary treatment. In intranasal surgery we have to deal with cases, on the contrary, but very few of which demand immediate operative interference (as in the case of traumatic injuries of the nasal bones or the impaction of foreign bodies in the nasal chambers), while the great majority allow of extended and often lengthy preliminary treatment, which, when undertaken intelligently, will amply repay all trouble and loss of time by the often apparently miraculously beneficial results of the operation.

In spite of the axiom, and in spite of the more or less emphatic warnings by almost all authors on the subject, not to operate before the preliminary treatment has been carried out, and not to operate while the nasal mucous membrane is in a state of acute or subacute inflammation (as during an attack of hay fever, for instance), this necessary precaution is not taken and the warning is not heeded by the majority of surgeons; and operations are performed without preliminary treatment, which thus prove annoying, painful, and even disastrous to the patient in their results.

I have found through extensive experience that in many cases this general and local treatment in itself is sufficient to ameliorate the direct as well as the reflex symptoms, notably insufficiency of accommodation of the eyes, to such an extent that an operation, which at first seemed inevitable, becomes unnecessary, and the patient is relieved without surgical interference.

Although this treatment has been freely discussed in detail in text-books and in current literature, yet the apparent neglect of it on the part of surgeons prompts me to refer to it again, and to give in outline only its salient features.

After a careful examination of the case has been made and we feel satisfied that many if not all the concomitant symptoms can be traced directly or indirectly to the presence of abnormal and pathological conditions within the nasal cavities, and that a removal of these conditions is necessary for a cure of the ailment, the preliminary treatment should be instituted.

First of all, the patient should be directed as regards diet and hygienic measures. Such tonics as may be indicated for the purpose of toning up the system and counteracting any of the effects of general dyscrasias, if such are present, should be given. Among the hygienic measures bathing of the neck and the upper portion of the chest and back with cold water or salt and water (one teaspoonful to one pint of water), morning and evening, followed by gentle drying of the skin with a soft Turkish towel, without friction, will be found very grateful and beneficial in those cases which are prone to acute congestion or inflammation of the mucous membrane of the upper air passages. It regulates the capillary circulation and hardens the skin of the neck and throat so as to withstand the frequent shocks of changes of temperature about the region of the neck, such as are caused by draughts of cold air striking the skin.

The local treatment of the nasal and naso-pharyngeal mucous membrane should begin with a thorough cleansing of the nasal cavities by the patient twice daily with a bland antiseptic solution of the proper

[1] Read before the Lackawanna Medical Society, Scranton, Pa., September 11, 1900.

density and temperature. As these various attributes are of the greatest importance in a proper nasal wash, so is also the method employed in washing out the nasal cavities by the patient himself, to both of which I have frequently called attention in the various editions of my book on diseases of the throat, and in various papers in current medical literature; but a more detailed description of both will nevertheless, I trust, not be out of place in this paper, particularly as physicians are so very apt to neglect thorough instruction of the patient as to how to use a nasal wash. It is not sufficient to tell the patient to sniff up "a little salt and water" for a nasal wash, without giving him the exact proportions of the salt to the water and the proper temperature (56 gr. [or more simple and quite accurate enough, an even teaspoonful] of table salt to one measured pint of water at blood heat).

In order to facilitate the making of the proper nasal wash, and to insure greater accuracy and efficiency of the solution, I devised several years ago a compressed tablet composed of salts and antiseptics, in such quantities and incorporated in such a manner that one pastil dissolved in four tablespoonfuls of warm water would give a solution possessing all the necessary properties mentioned for a proper nasal wash.

Unfortunately all the various and numerous manufacturers have imitated this tablet, which goes by the name of "Seiler's antiseptic pastil," without paying attention to the scientific principles in the manufacture which underly the efficiency of the preparation, so that to-day there is scarcely to be found in the market a preparation of Seilers' pastils but which is inefficient, and in many instances even injurious; hence I have been compelled to request the numerous manufacturers to withdraw my name from their preparation labels and lists, which request was granted by most of them.

Equally important, as already mentioned, is the method employed in cleansing and flushing, so to speak, the nasal cavities with the solution, by means of which a thorough cleansing of all their parts, and without undue pressure upon the column of liquid is obtained. It is therefore apparent that atomizers, syringes, nasal douches in their various forms, and even the sniffing from the hollow of the hand are all methods inadequate to the purpose in the hands of the patient, if they are not injurious, as is frequently the case with the nasal douches by forcing the mucus and the solution into the pharyngeal opening of the Eustachian tube when obstruction in either one of the nasal chambers exists.

What may properly be called the natural method, or, as some patients have graphically described it, "drinking through the nose," will be found to be at once easily taught and easily learned by the patient, and to be efficient without being harmful. It consists in placing two ounces of the blood-warm solution in a small tumbler or cup, placing the end of the nose within the rim of the tilted vessel until the liquid enters the nostrils, then closing the mouth, and by a moderate inspiratory effort drawing the solution into the nose and naso-pharynx, thus bringing it in contact with all parts of the nasal mucous membrane. The vessel should then be quickly removed from the nose and the liquid within the nasal cavities be blown out through both nostrils at once, and the process repeated until the liquid in the vessel is exhausted. If this cleansing process is faithfully carried out by the patient morning and evening, considerable advance toward the removal of congestion or inflammation will be observed. In the paroxysm of hay fever or acute coryza the greatest possible relief is experienced by the patient in a very short time, provided, however, that the solution is of the proper density and is unirritating.

This cleansing process should be continued by the patient, while local applications of mild astringents and alteratives to the mucous membrane of the anterior and posterior nasal cavities are made by the surgeon at intervals of a day or two. All the numerous astringents in solution with the atomizer and in powder form as snuff have been used with more or less success, but the iodine solution in glycerin (iod. met., gr. viii.; glycerin, fl ʒ ss.; potass. iodide, gr. xxiv.) has proved more universally useful than any other local remedy in my experience. It is best applied with a pledget of cotton on the end of a delicate armed applicator, which should be carried through the nostrils along the lower meatus into the naso-pharynx on both sides if it is possible to do so, which manipulation should be executed as gently as possible.

The hygroscopic property of the glycerin causes the iodine solution to rise and quickly to come in contact with the upper portions of the mucous membrane, so that it is not necessary to touch the more sensitive portions of the anterior nasal cavities with the applicator. In order to retain the iodine solution longer in contact with the nasal mucous membrane and prevent its being washed away by the often copious serous discharge following any local application, a triturate of bismuth subnitrate and gum acacia, equal parts, may be blown through the nostrils into the anterior nasal chambers. If necessary a direct local application to the naso-pharynx of the same solution may be made behind the soft palate with a curved applicator. Cocaine in any shape or strength of solution should never be used in the nasal cavities except as a local anæsthetic for minor intranasal operations, in which capacity it is invaluable. As its primary effect is a contraction of the capillaries of the nasal mucous membrane, its application, it is true, affords immediate but evanescent relief from the nasal obstruction due to turgescence of the blood-vessels and venous sinuses in the turbinated tissue; but after the cocaine has lost its effect a reaction takes place which calls for a fresh dose of the drug, and the patient for the sake of temporary relief, as in hay fever for instance, becomes addicted to the use of cocaine and cannot exist without a pledget of cotton saturated with cocaine solution in his nose. This habitual use of the drug has a relaxing effect upon the tissues, which become flaccid and pale; and any operation, no matter how trivial in its nature, undertaken when the nasal mucous membrane is in this condition and is kept cocainized afterward, is apt to be followed by extremely slow repair. This effect of the drug is, however, a purely local one, and the effects of cocaine upon the general system are but rarely observed in these cases of "nasal cocaine fiends," probably because absorption of the drug does not take place through the anterior portion of the nasal mucous membrane.

This preliminary treatment, as outlined here, should be kept up for several weeks, the local applications being made as stated, at frequent intervals, until a comparatively healthy appearing mucous membrane shows on examination. In those cases in which a bony or cartilaginous projection occludes one of the anterior nasal chambers while the other is the seat of atrophic changes in the turbinate tissue and in the mucous membrane, the atrophic side should be treated with stimulant astringents, such as zinci sulph. triturate diluted with sacch. lact. in varying proportions, or with nitrate of silver diluted with starch (gr. i. : gr. xxx.), insufflation, or finally with the cotton tampons in connection with the wash and the insufflations until a reaction from the atrophic condition has taken place, as indicated by the increased watery secretion found in the nasal cavity.

Very little and only that which is self-evident need be said of the treatment after an operation, except that the patient should be kept under observation for a con-

siderable time to insure a return to the normal condition of his nasal cavities, and to prevent any untoward little accidents, such as colds, from again interfering with normal nasal respiration.

A CONTRIBUTION TO THE DIAGNOSIS OF SUPPURATIVE APPENDICITIS.[1]

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"To operate or not to operate," that is the question, as perplexing as the one of existence was to Hamlet. There are just as many arguments for as against operation in cases of appendicitis. The surgeon who sees principally suppurative and far-advanced cases holds that only by a timely operation can a fatal issue be averted, while the general practitioner, on the other hand, who encounters largely cases of simple catarrhal appendicitis, contends that in many instances an operation is a useless exposure of the patient to a serious risk, and that such patients may and do get well without any surgical intervention. The author has examined an appendix removed from a physician who had had repeated attacks of appendicitis. On section, the lumen of the appendix was found entirely occluded by strong fibrous bands. Evidently the operation in this case was useless, inasmuch as nature was accomplishing a radical cure. On the other hand, we frequently read reports of cases in which life was saved by an operation, or could have been saved by timely surgical intervention.

Connected with the above contentions there is a minor one among the surgeons themselves. When shall we operate? During the intervals, immediately at the onset, or when suppuration is evident? It is clear that these differences of opinion will exist so long as we have no means of differentiating, at a sufficiently early date in the course of the disease, suppurative from catarrhal appendicitis, or are not able to foresee whether the catarrhal appendicitis will terminate in recovery or become suppurative.

In view of these difficulties, any aid we can get in the diagnosis of suppurative appendicitis should be welcomed by both the physician and the surgeon. Such an essential aid the author finds in a blood count, as the following case illustrates:

On October, 1899, the author was called in by Dr. Kollock of this town to see a colored girl, aged seventeen years, who was suffering from appendicitis. The attack was not very severe, the girl having been confined to bed only two days. The temperature at the time of our visit was 102° F. Constipation existed. On palpation a large oblong mass was felt in the right iliac region extending as far as the groin. This mass proved subsequently to be the distended ascending colon. It was tender on pressure. The abdomen was slightly rigid. Her general condition was fair. A blood count revealed 23,500 white blood cells per cubic millimetre. A diagnosis of suppurative appendicitis was made, and the girl was at once removed to the Wilmington City Hospital, and there operated on by Dr. Williamson, of Wilmington, Del. The appendix could not be found, but while searching for it the doctor broke some adhesion, and about two tablespoonfuls of pus welled out from beneath the distended colon. The attempts to find and remove the appendix were abandoned; the wound was flushed with sterile water and packed with gauze. The patient made a good recovery.

This case shows that suppuration was detected by means of a blood count when neither clinical symptoms nor external signs pointed to it. Had the girl been allowed to go on for another day or two, a large abscess would have formed, and even admitting that it would have been circumscribed by adhesions, the latter could have been easily broken, and if operated upon the danger of infection would have been much greater.

In order that the importance of a blood count may be better appreciated by the non-specialist, a few general remarks will not be amiss.

Our medical nomenclature in general is far from perfect, but when it comes to the nomenclature of blood it is below criticism—a veritable Babylonian mixture of terms indiscriminately applied. It is a very unfortunate thing to cover our ignorance by a high-sounding and alluring terminology, such as "idiopathic" disease, "alterative" action, "agglutinin," "vitality," etc. It were much better to follow the modest example of Roentgen and designate the unknown by *x*, thus calling at once the attention of everybody to the fact that the unknown quantity is still the unsolved part of the problem. How many *x*'s would we have in our medical science if this method were followed! As it is, we have "eosinophiles"—white cells possessing granules which take up the eosin stain, "lymphocytes," "polymorphonuclear neutrophiles," all terms applied to the leucocytes, a name erroneously employed as a synonym for white blood corpuscles. It is true that the word "leucocyte" means "white cell," but physiologists have restricted the term to the wandering cells which pass from the lymphatic spaces into the lymph channels and thence to the general circulation; they all possess amœboid movement, and it is to these cells that the term "phagocytes" has been applied by Metchnikoff on account of their property of imbibing and digesting bacteria. The term "leucocytes" therefore, as applied by the physiologists, would mean the lymphatic cells outside but not within the blood-vessels. These lymph-corpuscles or leucocytes entering the circulation from the thoracic duct become white blood corpuscles. In infectious diseases the lymph-corpuscles, and not the white blood cells, are increased (with few exceptions). This may *a priori* be expected, knowing that the lymphatic system is stimulated to activity in any infectious disease. This increase in the number of leucocytes brings about indirectly an increase in the number of white blood corpuscles, and indeed it is by the increase of the latter that we judge of the increase of the former. The term "leucocytosis," therefore, may be used, providing its physiological meaning is kept in view. But here again we confront an error in nomenclature. "Leucocytosis" is used whenever we want to designate an increase in the number of leucocytes; the word itself, however, means "morbid state of white cells" (from the Greek, λευκός, "white," κύτος, "cell," and suffix—osis, "morbid state." This "morbid state" exists whether the number of leucocytes is above or below normal, and the terms hyper, "above," and hypo, "below," prefixed to leucocytosis is the more proper terminology.

The importance of leucocytosis asserted itself since the discovery by Metchnikoff of the property possessed by the leucocytes of imbibing bacteria. This property, however, is not specific to leucocytes nor to bacteria; it is the sole means by which many unicellular organisms, such as the amœbæ, nourish themselves. The particles imbibed are granules, bacteria, etc. The imbibition of bacteria by the leucocytes, therefore, is not a defensive act, as one would be led to believe from the fantastic picture painted by the adherents of the "phagocytosis" theory. While swallowing the deadly morsel, the leucocyte is not thrilled by any altruistic or patriotic emotion. The bacterium is simply within its reach, the stimulus is sufficient to cause expansion and contraction of the protoplasm of the leucocyte, and the morsel is devoured regardless of consequences. A

[1] Read before the Cecil County Medical Society, Md.

granule of carmine would suffer the same fate. To this phenomenon of attraction the term "chemiotaxis" is applied. It is not necessary at this place to enter more deeply into the theory of "phagocytosis" as explaining immunity. Suffice it to say that the theory, universally accepted prior to 1893, is no longer tenable. It does not explain the immunity acquired against toxins, such as toxins of diphtheria, in which case the bacilli themselves are altogether excluded. Recently, Metchnikoff tried to stretch his theory by ascribing to the phagocytes the property of secreting the immunizing substances. These, however, are speculations which do not interest us at present. Whatever rôle the leucocytes play in establishing immunity, it is a well-established fact that their increase or decrease is of considerable diagnostic significance. The normal proportion of white blood cells is 1 to 300 or 1 to 700 red (5,000–10,000 per cubic millimetre), somewhat higher in women and considerably higher in infants (about 20,000 per cubic millimetre). Physiologically it is increased after a meal, during pregnancy and parturition, after exercise, and as shown by Winternitz' after a cold bath (this explains the salutary effects of the latter in typhoid fever). Pathological hyperleucocytosis takes place in the following diseases: Hemorrhage, scarlet fever, diphtheria, tonsillitis, syphilis (secondary), erysipelas, pneumonia, malignant endocarditis, puerperal and other septicæmias (in the case of puerperal septicæmia not of aid in diagnosis), trichinosis, glanders, acute multiple neuritis, acute articular rheumatism, septic and cerebrospinal meningitis, infection of the gall bladder, acute pancreatitis, some acute cases of cystitis, gonorrhœa, all kinds of abscess formation, gangrenous inflammations, and various forms of toxæmia. Some drugs such as pilocarpine, antipyrin, etc., produce hyperleucocytosis, while atropine and other anidrotics have the opposite effect. Infection with cultures of the colon bacillus, as has been demonstrated experimentally by Bohland,[2] produces hyperleucocytosis, and some cases of cystitis in which hyperleucocytosis is found may be thus explained. Hypoleucocytosis, or diminution in the number of leucocytes, takes place in fasting and malnutrition, and in some infectious diseases, such as typhoid fever, malaria, influenza, measles, mumps, and tuberculosis, except in advanced stages.

It is thus seen that a white blood count will often swing the pendulum in the direction of the diagnosis of one disease or another. Especially is this true in cases of suppuration complicating an infectious or inflammatory disease. Thus a sudden hyperleucocytosis in the course of typhoid fever will point to a complication, and if accompanied by sudden onset of pain in the abdomen will be a sufficient justification for an exploratory incision, as is the practice in the Johns Hopkins Hospital. A hyperleucocytosis will at once differentiate a suppurative appendicitis from simple colic, typhoid fever, ovarian neuralgia, impaction of fæces, and floating kidney. Developed during the course of a catarrhal appendicitis it will point to suppuration with as much precision as any of the diagnostic signs in our possession. The case above described certainly lends support to this assertion. The girl was not very sick, only two to three days in bed and comparatively comfortable, and yet the presence of pus was as patent to our minds as though demonstrated by an exploratory operation. Cabot tabulates seventy-two cases of appendicitis in which blood counts were made. The following show the relation of suppuration and hyperleucocytosis:

No. 1. 52,000 leucocytes—pus found on operation.
No. 2. 19,000 " —pocket of pus found.
No. 15. 22,300 leucocytes—abdomen full of pus.
No. 17. 21,900 " —pus; cæcal abscess.
No. 18. 47,700 " —second operation; pus.
No. 18. 30,300 " —third operation; pus.
No. 23. 20,000 " —operation, pus.
No. 28. 19,000 " —purulent peritonitis.
No. 31. 17,500 " —pint of pus.
No. 34. 16,200 " —abscess cavity.
No. 40. 32,800 " —large amount of pus.
No. 50. 17,000 " —pus.
No. 54. July 6. 11,800 leucocytes, slight tenderness, no resistance or dulness.
No. 54. July 7, 19,000 leucocytes up to, resistance and tenderness; operation, pus.

The last case shows how by means of a blood count pus can be detected within twenty-four hours and a fatal case be thus converted into a very favorable one. What other means have we of diagnosing suppurative appendicitis? Unfortunately none. What we are able to diagnose is a purulent peritonitis, but then we have done our patient very little good, even if we are able to fill out a correct death certificate. We may also occasionally detect a walled-off abscess, if it points externally, but in how many cases does the abscess take such a favorable turn? It appears rational, therefore, that a frequent blood count in cases of appendicitis is almost an imperative necessity. I say frequent, because in some fulminant cases the advent of fatal toxæmia may be so rapid that no increase of leucocytes is present. This is fully in accord with the experiments on animals performed by Havet,[1] who has shown that whenever the dose of staphylococci injected was very large, the ability of the organism to produce leucocytes was proportionally abolished, and instead of the usual hyper- a hypoleucocytosis took place. Similar observations were made by Everard, Demoor, Schultz, and others. Cabot reports four cases of appendicitis with general purulent peritonitis in which no hyperleucocytosis was found. When, however, examinations are made frequently such mistakes would in the majority of cases be avoided, for we could always detect the hyperleucocytosis before the organism would become sufficiently depressed to fail to react. With all these facts before us, we can hardly fail to appreciate the important rôle a blood count plays in the diagnosis of suppurative appendicitis.

[1] "Ueber Leucocytose nach Kälteeinwirkung." Centralbl. f. klin. Medicin, 1893, No. 9.
[2] Centralbl. f. innere Med., No. 17, 1899.

[1] "Du rapport entre le pouvoir bactericide du sang de chien et sa richesse en leucocytes." La cellule, t. x., 1894.

INTESTINAL OBSTRUCTION COMPLICATING APPENDICITIS, WITH THE REPORT OF A CASE.

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Asepsis has so reduced the mortality of laparotomy that conservative surgeons perform this operation in grave cases for purposes of diagnosis as well as treatment. Still further, asepsis has stimulated the progressive operator to devise means for mechanically treating conditions which would have been considered beyond the surgeon's reach in days when bacteria were unknown. That many lives have been saved by operation in obscure abdominal conditions, and that what has been supposed, even by eminent surgeons, to be an appendicitis with abscess has turned out to be a pyosalpinx, is evidence in contradiction to the teaching of a few years ago. An interesting case is recorded by A. F. Jonas, in which an enterolith was mistaken for appendicitis, and after cœliotomy for malignant disease.[1]

What is true of the technique of laparotomy in general is equally true of progress in the treatment of in-

testinal obstruction in particular. Unless the occlusion of the bowel is due to fecal impaction, which is generally relieved by purgatives and enemas, or to advanced carcinoma, it is not only justifiable but absolutely necessary to operate. It is as important to relieve an invisible obstruction by mechanical means as to cut the constriction in a case of strangulated hernia. The earlier the operation is performed in these cases the better the general and local condition of the patient will be, and in consequence the better the prospect for recovery. Richardson well expresses this when he says: "Six cases . . . have occurred in the writer's experience; three died and three recovered. In the three fatal cases the operation was performed as a last resort, the patients' condition being practically hopeless."[2] In opposition to these ideas an edition of a well-known text-book appeared as recently as 1893, in which all sorts of palliative measures were advocated, its author stating that operative interference is to be resorted to only as a final procedure.

In an extensive research into the literature of intestinal obstruction I have been able to collect only six cases[3] in which it was due to the appendix itself, although surgical text-books seem to consider it a not unusual cause. As for ileus due to inflammatory adhesions, which adhesions in turn are due to appendicitis, I have read of only two instances.[4] I consider it of interest therefore to report the following case:

B. B——, aged sixteen years. Family history negative. In June, 1899, he had an attack of acute appendicitis lasting two weeks. A second attack began July 31, 1900. This attack also lasted about two weeks, at the end of which time the patient got out of bed. The second day after getting up he ate plentifully of green apples. The last of the apples was eaten about 3 or 4 P.M., and about 10:30 P.M. he was seized with violent pain in the abdomen and vomited a considerable quantity of the apples. During the night he had a good free movement of what his mother described as the undigested apples. From this time until the time of admission to the hospital, a period of three days, the patient had no intestinal evacuation, but vomited frequently.

Examination on admission, August 19, 1900: The patient was generally well nourished; he was very much depressed and answered questions only after they had been repeated; the pulse was 110, wiry, and irregular; the respiration slow and feeble; the temperature 97° F. The abdomen was generally distended, but more so above than below the umbilicus; there was no visible peristalsis. Pain and tenderness were general, although more pronounced in the neighborhood of the appendix. The liver dulness was replaced by tympany, which extended well over on both flanks and down to the pubis. No borborygmi or gurgling could be heard.

As high enemas and purgatives had been tried by the family physician, further delay was considerd dangerous and the patient was immediately prepared for cœliotomy.

Operation, August 19, 1900, 3 P.M., performed by Dr. Lathrop, assisted by Dr. Dyson and myself. Ether was the anæsthetic used. The usual incision was made for the removal of the appendix, which was found embedded in a mass of adhesions. These were separated with difficulty and the appendix was ligated and amputated. The cæcum was collapsed, although several coils of small intestine, which had been drawn out in the search for the appendix, were distended almost to the bursting-point. A systematic search was then made, beginning at the cæcal end of the small intestine; after about four feet had been drawn through the abdominal wound, an adhesion encircling and completely occluding the gut was discovered. The intestine above this constriction was so distended that it was drawn well out of the abdomen and a small incision made in it, letting out a large quantity of fluid fecal matter. The offending adhesion was readily broken through by the finger. The intestinal wound was sutured, the peritoneal cavity thoroughly flushed with decinormal salt solution, and the abdominal wound closed with gauze drainage.

Toward the end of the operation the patient suffered from severe shock, despite the fact that the coils of intestine withdrawn from the abdomen were surrounded with hot wet gauze, and that hypodermics of strychnine were administered and hot-water bottles were kept applied to the body and extremities. After being placed in bed, the boy vomited a large quantity of fecal liquid, which further added to his depressed condition. He sank rapidly; the pulse became almost impalpable, the respiration shallow and rapid, and the temperature subnormal; and he became semi-conscious. Two quarts of hot decinormal salt solution were then gradually forced into the median basilic vein by means of a Collins' transfusion apparatus. Under this treatment the patient rapidly improved; he could talk coherently, his pulse became regular and full, his respirations were normal, and his temperature rose to 99.5° F. The following morning his bowels moved naturally. The gauze drainage was removed on the second day after the operation, and the wound healed rapidly. The remainder of his convalescence was uneventful. The patient was able to be up September 11th, and left the hospital September 16, 1900, perfectly well.

This case appeals to me as being unusually interesting for the following reasons:

1. It is exceptional to be able to ascribe ileus to appendicitis with the degree of certainty that could be done in this instance before the abdomen was opened.
2. It emphasizes the importance of early operation.
3. It demonstrates the value of the intravenous injection of decinormal salt solution in cases of shock, particularly when the solution is gradually forced in, the transfusion apparatus under these circumstances acting as an artificial heart.

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2. Dennis: System of Surgery, vol. iv., p. 302.
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4. Richardson: Dennis' System of Surgery, vol. iv., p. 303.

Vertigo of Ménierè.—After a general description of the disease Urban Pritchard gives the history of a case occurring in a woman aged fifty-four years with left otorrhœa since childhood. In her fifty-second year she was admitted to hospital with large masto-squamous abscesses, foul otorrhœa, and inability to walk without assistance in consequence of vertigo. Operation was performed, but the bridge and outer wall of the attic were not removed. Two years later she again presented herself with practically the same symptoms. A complete mastoid operation was then done, but in the removal of the petrous bone the semicircular canals were in part destroyed, and the back of the vestibule was opened. Clear fluid escaped. Later an epithelial grafting operation was done with complete relief to deafness and giddiness.—*Journal of Laryngology*, September, 1900.

Recurring Parotitis in a Healthy Child, Persisting for Six Years.—F. C. Ewing reports the case of his own son, eight years old, who ever since his second

year has been subject to recurring attacks of swelling and inflammation of the parotid glands, apparently idiopathic. The swelling has always manifested itself suddenly, as a rule developing to its fullest extent during the night, with little or no constitutional symptoms. With one exception it has been unilateral. These attacks have occurred at irregular intervals of a few months to a year, becoming notably less frequent as the child has grown older. They are attended with pain on pressure and mastication, but it is never intensely acute. There has been no attendant enlargement of the lymphatics, nor the slightest hypertrophy after subsidence of the acute symptoms. These swellings have always disappeared without treatment within three days, generally decreasing somewhat in twenty-four hours. Fever has been absent. The subject is a vigorous boy, and considerable of an athlete for his years. He has never been specially subject to colds, nor shown the catarrhal diathesis. His family history was good; physical history was confined to great-aunts.—*St. Louis Medical Review*, September 15, 1900.

Life Insurance and Cardiac Disease.—F. G. Finley says that the cases which an insurance company is safest in accepting are those of mitral regurgitation and aortic direct murmurs in which secondary changes in the heart are slight or absent. Cardiac symptoms, particularly dyspnœa on exertion, should be excluded by the personal observation of the examiner, and as far as possible all cases should be excluded in which the lesion is likely to be progressive. Recurring rheumatic attacks exert a most unfavorable influence owing to further attacks of endocarditis or pericarditis. A station in life not involving manual labor, and early adult life, at which period arterial sclerosis is unlikely to be present, are further elements which must be weighed in the acceptance of such cases. Careful habits and good general health are also important in estimating these risks.—*The Medical Examiner and Practitioner*, September, 1900.

Sarcoma of the Naso-Pharynx Cured by Injections of Formalin.—The patient of J. A. Thompson was a man aged fifty years, who had had several hemorrhages from the nose and mouth ascertained to be due to a tumor in the naso-pharynx. His general condition was very poor. Examination revealed a mass attached to the posterior wall of the naso-pharynx, proven by the microscope to be a round-celled sarcoma. The patient's general condition contraindicated operation, and it was decided to inject one-half-per-cent. solutions of formalin into the growth. Twenty-five minims were used at each injection, the latter being made twice a week at the physician's office, while the patient used at home a cleansing spray. The injections seemed to remove the blood supply from the part of the growth injected, which was then removed by forceps. In this way the entire mass was completely eradicated. No recurrence was noted fourteen months after the treatment was begun. Finally the case was dismissed. No recurrence had been noted three months later.—*The Laryngoscope*, September, 1900.

Is Strychnine Neutralized by the Living Animal Tissues?—S. J. Meltzer and G. Langmann have repeated and elaborated the experiments of Czyhlarz and Donath with a view of testing the accuracy of their statements regarding the possibility of preventing the toxic action of strychnine by ligating for several hours the extremity into which it is injected, the assumption being that the poison is modified and made harmless by its contact with the tissues. As another example of such action Czyhlarz and Donath referred to the satisfactory results in treating snake bites by ligature, but in testing this in rabbits and guinea-pigs with the venom of Crotalus horridus it was found that death was delayed but not prevented by tying off the affected limb. In a similar way in experimenting with strychnine injections in rabbits, guinea-pigs, and frogs it was found that the toxic action was delayed and diminished somewhat, but that it was much more probable that this effect was due to the impaired absorptive power due to the congestion, œdema, etc., secondary to the ligation, rather than to any neutralizing power unfolded in the tissues.—*Centralblatt für innere Medicin*, September 15, 1900.

Disinfection of the Hands by Means of Essences.—Eugenio Calvello draws the following conclusions from a series of experiments: 1. That washing with soap and water and alcohol does not make the hands aseptic, although it does diminish the number of germs to a great extent. 2. That the methods of Fürbringer and Ahlfeld do not result in complete disinfection. 3. That seven to eight per cent. solutions of essence of cinnamon, eleven per cent. of essence of thyme, and seventeen per cent. of essence of geranium act precisely as do solutions of bichloride used according to Fürbringer's method, and should be given the preference in modern surgery, because they do not cause the alterations that bichloride does. 4. Nine-per-cent. solutions of essence of cinnamon, eleven and twelve per cent. of essence of thyme, and eighteen per cent. of essence of geranium assure complete disinfection of the hands. 5. The essence of patchouli has no antiseptic powers.—*Giornale Internazionale delle Scienze Mediche*, September 15, 1900.

The Continued Use of the Antiseptic and Eliminative Treatment of Typhoid Fever without Any Deaths.—Virgil Hubbard defines his modified Woodbridge treatment of typhoid fever as follows: Generally the patient is first given a capsule containing calomel, gr. ss; guaiacol carbonate, grs. ii.; podophyllin, gr. $\frac{1}{20}$ to $\frac{1}{40}$, every two hours for twenty-four to forty-eight hours, depending on the condition of the bowels. This is continued till four or five intestinal evacuations for two successive days have been secured, when the calomel is stopped and gr. ss. of menthol is added to the guaiacol and podophyllin. If after stopping the calomel there is any tendency for the bowels to become inactive, a small dose of salts is given in the morning. There should be two or three evacuations daily. If after four or five days of treatment the temperature remains high, or rises after having remained stationary, the calomel is again resorted to for a few hours. The guaiacol and menthol are continued throughout the course of the disease. Besides, the writer often administers decinormal salt solution per rectum. The collected results of the writer's cases, together with those of other men, treated in this manner give a mortality of less than two per cent., the writer having had no deaths.—*Georgia Journal of Medicine and Surgery*, September, 1900.

Renal Asthma.—S. W. MacIlwaine says that while renal asthma is familiar enough we do not pay sufficient attention to the pre-albuminuric stage when one might hope for some definite results from treatment. All cases of asthma coming on after middle life ought to be looked on with suspicion. Most of these cases are doubtless due to toxæmias of more or less obscure origin. Some light is probably thrown on their true nature by comparing them with the very rapidly fatal cases of so-called Bright's disease that are met with in elderly people as a result, or rather a part, of influenza. Here the consequences of a toxæmia of easily recognized origin fall directly on the kidneys. There is, in some cases, never more than a very small amount of albumin, the history is terribly short, and

the symptoms are almost purely uræmic: there is no time for the development of dropsy and other more tardy symptoms of kidney breakdown.—*Medical Press and Circular*, September 29, 1900.

The Etiology of Acute Lobar Pneumonia.—In a statistical presentation of certain studies in the bacteriological field W. T. Howard, Jr., found in one hundred and seventy-four consecutive autopsies fourteen cases of primary and fifty-three of secondary pneumonia. The pneumococcus was found in all cases of primary croupous pneumonia, in pure culture in eight, with the streptococcus pyogenes in one, and with the bacillus mucosus capsulatus in one. In the thirteen cases of secondary croupous pneumonia the pneumococcus occurred alone in six cases, the streptococcus pyogenes alone in two cases, streptococcus pyogenes and staphylococcus aureus in two cases, streptococcus pyogenes and bacillus mucosus capsulatus in one case, streptococcus pyogenes and bacillus coli in one case, and bacillus mucosus capsulatus in one case in pure culture. Thus the pneumococcus occurred alone in nearly fifty per cent. of the secondary croupous pneumonias, while the streptococcus was concerned in the etiology of the same number, but occurred alone in only two cases. In all thirteen cases the pneumonic process was clearly secondary and often accidental.—*Cleveland Journal of Medicine*, September, 1900.

Pneumatocele of the Auditory Canal.—A case of this nature is reported by M. Lannois. His patient was a man of twenty-four who played in the orchestra of a theatre. Six days before while playing he had been attacked with a sudden deafness of the left ear. Examination showed in the corresponding auditory canal, one centimetre from the entrance, a large pearly-looking swelling slightly ulcerated at one point. A probe was passed by the mass which was easily compressible. On incision with a paracentesis needle, the swelling entirely disappeared, and the patient heard with about the usual facility. The accident happened several times, and finally Lannois curetted the portion of the bony wall over which the swelling seemed to form. This led to a complete cessation of the annoying repetitions of the accident.—*Revue Hebdomadaire de Laryngologie*, August 18, 1900.

Rapidly Progressive Anæmia.—H. W. Syers reports a rapidly fatal case in a woman of thirty-four years. The etiology is altogether obscure. The whole duration of the illness was exactly two months, and in this short period the patient passed from a condition of apparently vigorous health through rapid phases of increasing weakness, until death ended the scene. No remission, no arrest of symptoms occurred at any period of the malady, which was one swift descent to the fatal end. The author says that if we are ever to arrive at a real knowledge of the pathology of cases such as the one here recorded, it can only be by the methodical investigation of the blood in every case of disease. When this knowledge is acquired, we may perhaps be able to explain the occurrence of such peculiarities as apparent pericardial friction sounds, and the tendency to hemorrhages, cutaneous and other, which so strongly characterize acute blood changes.—*Treatment*, September, 1900.

Hysterical Ankle Clonus.—Angel Money says that the great characteristic of pure hysterical paraplegia is the remarkable proneness of the phenomenon to vary from hour to hour in harmony with emotional and nervous excitement. One day the phenomenon may be elicited with the greatest ease and may persist for many minutes; the next day only a few feeble jerks may be obtained. All degrees of intensity and duration between these two extremes may be observed. Some clinical investigators regard an ankle clonus lasting for five seconds as a sure sign of organic implication of the pyramidal tracts. The author thinks this absolutely inaccurate. His opinion is, that if an ankle clonus of unvarying intensity, obtained by passive dorsal flexion, lasts thirty seconds, and can be got at any hour of the day and night over a period of seven days, the presence of organic disease of the pyramidal tracts may be diagnosed with certainty. To prove the presence of organic disease, the clonus must be easily obtained, must be strong, and must last thirty seconds. Moreover, it must be obtained at every attempt over a period of at least a week..—*The Australasian Medical Gazette*, August 20, 1900.

Researches into the Toxic Properties of Maize Corn Infected by the "Penicillium Glaucum."—Enrico Ferrati in his experiments on dogs and rats finds that corn infected with hyphomycetes is poisonous, causing general weakness, rigidity of the trunk and hind legs, dysphagia, diarrhœa with bloody stools, convulsions, and death. Schizomycetes undoubtedly may produce poisonous substances in corn, but the author believes the penicillium glaucum to be the chief agent as a rule. The hyphomycetes develop under conditions in which the schizomycetes cannot do so, and moreover, the latter so affect the corn as to cause an odor which prevents its use as food.—*Il Policlinico*, September 1, 1900.

Prophylaxis of Surgical Shock.—W. M. Perkins states that the importance of perfecting the prophylaxis of shock is now attracting more general attention. Among the widely different causes to which shock has been attributed are molecular vibration, cerebral anæmia, cardiac failure, passive abdominal hyperæmia, general vasomotor paresis, and reflex inhibition. Briefly, shock seems to consist essentially of a central nerve depression due to the exhaustion induced by long-continued or violent stimulation, and manifesting itself in symptoms referable to three main causes, viz.: (1) a vasomotor paralysis; (2) a respiratory paralysis; (3) a cardiac paralysis. Crile has especially insisted upon the difference between collapse and shock. Inhibition is probably the most potent factor in collapse, while in shock exhaustion plays the more important part. Surgical shock may be greatly diminished by careful pre-operative prophylaxis. All fatigue, both mental and physical, should be avoided. When practicable, the final purgative should be given at least twenty-four hours prior to operation. The patient should remain in bed twelve hours previous to operation. Restful and abundant sleep should be taken. Nutrition should be promoted by several days of well-planned wholesome feeding. Gentle flushing of the kidneys is another factor, as are baths and friction of the skin. Loose clothing and an abundant supply of fresh air must be urged during the last few days. The question of anæsthesia will demand careful consideration. Ether is preferable to chloroform as a general anæsthetic in the absence of any contra-indication. A hypodermic of morphine sulphate $\frac{1}{4}$ gr., with atropine sulphate $\frac{1}{150}$ to $\frac{1}{60}$ gr., to which may be added strychnine sulphate $\frac{1}{30}$ gr.. is well given about twenty minutes before starting the anæsthetic. After the anæsthetic has been given there may occur conditions demanding the administration of ammonia, amyl nitrite, or saline infusion; inversion of the patient may be indicated in threatened respiratory failure. Speed is an essential to successful operation. The proper temperature of the room, the patient, and the solution should never be forgotten.—*New Orleans Medical and Surgical Journal*, October, 1900.

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THE DIAGNOSIS AND TREATMENT OF ANÆMIA.

THE scientific mind must be ever an open one, without prejudice or prepossession, alive to every new increment of knowledge, yet not too ready to surrender the old, in order that on the one hand secure ground shall not be given up and that on the other theories and hypotheses that have outlived their usefulness may be replaced by new and better ones, and their application and practice yield larger and more successful results. The time happily is passing when a sharp demarcation can be made between the scientific and the practical, as it has been amply demonstrated that no scientific observation is without practical potentiality, although this relation may not at the time be evident. Inasmuch as language is employed to express ideas, it can be understood how erroneous conceptions may be perpetuated through a faulty nomenclature and progress be thus intercepted. In this way some confusion has arisen from the use of such qualifying terms as idiopathic, essential, primary, etc., and for purposes of clearness it were perhaps well if their employment were abandoned. Disease is at best a most complicated process, of complex etiology, and it is not surprising that at times all of the causative factors and their mode of operation do not fall within the range of observation; but for this reason it must not be assumed that they do not exist or are beyond the limits of recognition. The force of some of the foregoing considerations is illustrated in a communication by Senator (*Berliner klinische Wochenschrift*, 1900, No. 30, p. 653) dealing with the recognition and the treatment of the several varieties of anæmia. The designation anæmia, he points out, is employed when the condition of blood-depravity is, if not the only, at least the most prominent symptom. It may develop without obvious or ascertainable cause, as well as result from most obtrusive influences. It has, however, been found that a sharp discrimination between the two sets of cases cannot be made, inasmuch as, once established, the disease may persist, in spite of removal of its exciting agency; and it seems probable that, after all, the influences acting injuriously on the blood are of extrinsic origin.

As tuberculosis may be early attended with anæmia, and carcinoma of the abdominal organs or of the bones may give rise to the same condition and be difficult of detection, these should always be thought of when other causative factors are not evident. In any event, macroscopic and microscopic examination of the stools, especially for ova and blood, should never be omitted. In all cases of profound anæmia, further, microscopic examination of the blood should be undertaken for the detection of changes in the corpuscular elements and of the presence of parasites, as for instance, the plasmodium of malaria, filaria sanguinis hominis, distoma hæmatobium. Finally, a study should be made of the motor and chemical functions of the stomach, as deficiency in these may give rise to anæmia. A proper appreciation of the relations between the two conditions may be difficult when anæmia is associated with the presence of some disease that may give rise to it, such as carcinoma of the stomach or carcinoma or other malignant disease of bone or the bone-marrow. The latter are sometimes characterized by pronounced albumosuria.

Chlorosis has been attributed to auto-infection from the gastro-intestinal tract, and also from the ovaries. Upon this condition iron acts almost like a specific, but when gastric derangement exists hydrochloric acid should be administered. Sometimes the waters from alkaline-chlorine springs are serviceable, followed by steel waters or saline iron waters. Of pharmaceutical preparations of iron, combinations with organic acids (lactic, citric, acetic) are to be preferred, although tincture of the chloride and pills containing the sulphate are useful. In cases in which iron fails to be of service, arsenic may be given alone or together with iron or with quinine. In recent years venesection and sweating have been in some instances employed in the treatment of anæmia. The latter should be induced by means of baths with water, sand, or air. It is possible that the good effects attributed to bleeding are due in part to the associated sweating.

Among the distinctive features of pernicious anæmia is the presence of myeloblasts and of large, motile erythrocytes, the motility of the latter being especially characteristic. In addition, there occur poikilocytosis, the presence of normoblasts, of basophile granules in the erythrocytes, glycogenic degeneration (the presence of iodophile material) in the leucocytes, and a disproportionately high percentage of hæmoglobin. The waxy yellow color of the skin is peculiar, and the subcutaneous fat may be preserved. Sternal tenderness is rarely wanting, while retinal hemorrhage is common and symptoms of spinal disease may be present. Although complete recovery cannot be looked for in cases of pernicious anæmia, marked improvement often follows the administration of arsenic, together with quinine in large doses, in conjunction with appropriate hygienic and dietetic measures. Preparations of bone-marrow and inhalations of oxygen are also worthy of trial.

The anæmia that develops after sudden ascent to a high elevation is to be attributed to the attenuation of the oxygen of the air, and consequently of the blood, and hence is really an anoxyhæmia. The number of red blood corpuscles undergoes increase, in which the hæmoglobin fails to take corresponding part, so that a disproportion between the two results. This may gradually disappear in time, but its results are best

averted by change of residence to a lower level, with recumbency in the horizontal position, and the administration of stimulants. Inhalations of oxygen or of compressed air might also be useful.

AMPUTATION AT THE KNEE JOINT.

There are several methods of performing amputation at or near the knee joint which are well thought of and usually mentioned in text-books, but their several advantages and disadvantages do not always receive the attention to which they are perhaps entitled. In the region of the knee, as elsewhere in the body, amputations are done for injury or disease. In the case of injury, the general principle, that as little tissue should be sacrificed as is consistent with the formation of a serviceable stump, holds as elsewhere in the body, so that under such circumstances we are often not able to carry out a set operation when we are dealing with an injury which requires amputation.

The region of the knee presents some anatomical characteristics which from the operative point of view make it different in many respects from other parts of the body. The ends of the bones forming the joint are comparatively very large, and the skin and subcutaneous tissue are both comparatively and absolutely thin, and in addition the largest joint in the body is to be dealt with. There are in general two ways in which amputations in the immediate region of the knee joint are done—first, directly through the joint, and, second, through the lower end of the femur with the bone section at or somewhere below a point just above the condyles. The latter method, while sacrificing a little more tissue than the method of cutting through the joint, has some points in its favor. In operating through the joint, the so-called Stephen Smith method is almost always chosen, sometimes with modifications, but always involving the formation of a long, sleeve-like skin flap disposed so that at the end of favorable healing the cicatrix is placed posteriorly in and above the intercondyloid notch. The patella may or may not be left in place, and it will often be found advisable to leave the semilunar cartilages also, though there is some danger of their necrosis. This operation has given many good stumps, but there are several objections to it. If the patient has atheromatous arteries there is serious danger of more or less extensive sloughing of the long flaps, and a collection of very little blood between the articular surfaces of the femur and the flaps, even in those with healthy arteries, causes much more serious interference with healing than the same state of affairs when two surfaces of vascular soft parts are apposed. Union between the articular surfaces and the subcutaneous tissue of the flap is never so prompt as to be called truly *per primam:* in fact, it is probable that true granulation must begin on the cartilaginous surfaces before union can occur. When the patella is left in place and healing is prompt the resulting stump is very good. The chief drawback to this operation is the employment of the very long skin flaps, which on slight provocation show evidences of more or less serious interference with blood supply, which may result in necrosis and the necessity of reamputation. The operation named after Gritti, and its modifications, eliminate some of these objections by the removal of the lower end of the femur and the posterior surface of the patella, so that, when the resulting surfaces are placed in apposition, we are able to use a shorter skin flap and one with a better blood supply, without any important decrease in the length of the stump. The flaps are both actually and proportionately shorter than in the first operation, because the removal of part of the large end of the femur enables us to get good covering for the bone with much less tissue than we should otherwise need. From the Gritti operation the resulting stump is excellent, and the dread of sacrificing a little more tissue should not deter us from doing the operation, when we are enabled thus to secure greater safety from the dangers of tension or imperfect blood supply in the skin.

VENTILATION AT THE ACADEMY.

The season's work is about to open in all its activity at the Academy of Medicine, with every prospect of success and interest we hope, but there is one point of which we should like to speak, though it seems almost an act of temerity to do so in connection with a temple partially devoted to the worship of Hygeia. The ventilation in the academy building, in the main hall, in the library, and in the section rooms is nothing less than abominable. After a meeting has been in session an hour, especially in the sections, the air becomes so foul that it is impossible to take a great amount of interest in the proceedings, and many become somnolent or seek relief in flight. Opening of windows gives some relief, but this is usually objected to by those who, from exigencies of space or for other reasons, sit near those openings. This matter is one which it ought not to be difficult to correct, and it seems almost an absurd anomaly that it should exist, but that it does exist will be made evident to any one who will sit through a moderately crowded section meeting, or attend one of the meetings in the main hall.

News of the Week.

A "Bunco" Game on Doctors.—A correspondent writes: "I desire your assistance in the apprehension of the persons who are working a very sharp and dangerous 'bunco' game, and in protecting other members of the profession from the misfortune which I have suffered. The game is worked through the pretended sale of goods from the Omaha Exposition, and is begun by a circular offering most attractive articles at absurdly low prices. The fraud is consummated by the sale of dress-goods for about twice their value, with an agreement to make them into suits for a nominal price as an advertisement for the tailor, who, however, never appears. If any one of your readers who sees this, and has reached the circular stage of the

game, will communicate with me through you, I shall be happy to join with him in a scheme to capture these rascals and bring them to a merited punishment."

The Will of the Late Dr. Alfred Stillé bequeaths to the College of Physicians of Philadelphia all such of his medical books as are not contained in the library of the college; a full set of his own works; his manuscript indexes of pathology and therapeutics in nine volumes; his copy by Leslie of Sir Joshua Reynolds' portrait of John Hunter; his copy text and plates of Audubon's "Quadrupeds"; all of the medical works of which he was either author or editor, viz., "General Pathology," "Andral on the Blood," "Therapeutics and Materia Medica," four editions, each in two volumes; the "National Dispensatory," four editions; "Cerebro-Spinal Meningitis," "Cholera," the (pirated) edition or report of his University lectures; Wharton and Stillé's "Medical Jurisprudence," three editions; and whatever other medical works still remain in his library, first and second editions, and all the current medical journals possessed by him at the time of his death, as well as a number of dictionaries. To the Stillé Medical Society of the University of Pennsylvania are bequeathed all of the photographs of the society in his profession.

The State Sanatorium for Consumptives.—Considerable opposition has developed against the selection of the Big Lake Clear site for this institution. The site was selected by the hospital trustees, comprising Howard Townsend, of New York City, Dr. J. H. Pryor, of Buffalo, Frank E. Kendall, of Saranac, Dr. Willis G. MacDonald, of Albany, and Walter E. Jennings, of New York City. The law requires the establishment of the site in the Adirondacks, and that the selection of such a site by the trustees must be approved by the State forest preserve board and the State board of health. These two boards held a meeting a few days ago at Albany to listen to arguments why the selection of the Lake Clear site should not be approved by them. There were many persons at the hearing from Clinton county who want the sanatorium located in Dannemora. As the two boards can only approve a site selected by the trustees, a resolution was adopted requesting the trustees to make a further investigation of the Dannemora site and compare its climatic and other advantages with those of Big Lake Clear. Many persons who own camps in the Adirondacks insisted that the hospital should not be built on Lake Clear, as they held it would be contrary to public policy to locate such a charity in a region thronged with pleasure seekers, where the inmates of the hospital must either be subjected to unnecessary and undesirable restraint or permitted to range over the country, and come in frequent contact on the roads and lakes, if not also in the hotels and camps, with crowds of summer visitors. Dr. Ransom, who has been the prison physician at Clinton prison, Dannemora, for the past twelve years, made the principal argument in favor of the Dannemora site. He said that this is on the dryest slope of the Adirondack range, and its climatic conditions are superior to those of Lake Clear. The prison consumptives are all sent to Dannemora, and the percentage of consumptive deaths there is less than in the Lake Clear and Saranac regions.

Koch on Malaria.—According to the newspapers Dr. Robert Koch, who was recently in Hong Kong on his way to Europe from Batavia, announces that he has conquered malaria, having discovered means of preventing the spread of the disease in malarious districts and even of stamping it out completely. He also says he has prepared a remedy which is both curative and prophylactic. The latter will probably be put upon the market as soon as the eminent professor can make satisfactory arrangements with some German chemical house of good financial standing. He also declares that he has found a certain method of ridding a country of the malarial mosquito. Whether or not this is merely the prelude to another fiasco of the nature of Koch's tuberculin announcement time will show. In the mean while, concerning his scientific honesty, the New York *Times* says: "As might have been expected from the previous course of Dr. Robert Koch, there is not a word in the announcement of his successful investigation of the cause and cure of malaria to indicate that he is not alone in this field of study, or to hint that he has simply been following a line carefully marked out long ago by other scientists and since developed by them with an industry and ability at least equal to his own. This is not to say that the Berlin bacteriologist is either industrious or able; he is both to a high degree; but his reputation—out of Germany, at any rate—is that of a man not less businesslike than scientific, and he has been charged before now with a somewhat unprofessional tendency to monopolize glory and profits in a way not quite compatible with delicacy of sentiment. His recent labors in China have apparently brought nearer to the point of actual demonstration the theory that malaria and mosquitos are closely related, but that is not his theory, except by adoption, and he might well say more than he does about the English surgeon stationed in India who originated it, and about the men of the same and other nationalities who have done so much to lend it credibility."

Philadelphia Pediatric Society.—At a stated meeting held October 9th, Dr. W. O. Xander read a report of two cases of infectious nephritis in children. The patients were cousins residing in the same house, who became ill consecutively, following some disorder attended with swelling of the neck, and which might have been glandular fever, mumps, or scarlet fever. Other cases of mumps had been observed in the neighborhood. Dr. Thompson S. Westcott described a method for the differential modification of the proteids of milk in percentage mixtures. Drs. Hamill and MacLachlin presented a case of congenital syphilis with rapidly destructive lesion. In addition to a vascular nævus on the right side of the face and also one in the right scapular region, the patient, an infant three weeks old, presented ulceration of the right half of the upper lip and at the inner canthus of

the right eye, together with lesions of the palate on the right side. From the distribution of the lesions, it was pointed out, the case was suggestive of a trophoneurosis rather than of syphilis. A report was presented by the milk commission of the society, giving the results of examinations of dairies and milk for producers who have signed contracts with the commission, with an announcement of those whose milk has come up to the required standards. Two dealers have complied with all of the conditions, and others give evidence of striving to attain them. The requirements refer to the proportion of cream and the chemical constitution, and also to the relative bacterial purity of the milk. Dr. Maurice Ostheimer reported a case of fatal intestinal hemorrhage of unknown origin in an infant aged five months. Careful examination after death failed to disclose any cause for the hemorrhage which occurred in the marantic child, and in whose body no sign of tuberculosis or syphilis was found. It was suggested that the case might be an anomalous one of hæmophilia. Dr. John H. Jopson reported a case of stricture of the pharynx following intubation. The patient was a boy from whom the tube could not be removed until after the forty-first day. Symptoms of laryngeal obstruction developed several months subsequently, necessitating tracheotomy, but death resulted from pneumonia complicating an intercurrent attack of measles. Post-mortem examination disclosed cicatricial stricture of the larynx.

The Smoke Nuisance.—The following remarks of Sir William Richmond, quoted in *The Lancet*, are of interest to New Yorkers, who are now threatened with the evil of bituminous coal smoke: "It is cheaper to consume smoke than to allow it to pass into the atmosphere. Smoke is wasted fuel. At a comparatively small cost all factories, electric-lighting stations, etc., can be provided with smoke-consuming apparatus. This being the case the public has only to demand a clear atmosphere—anyhow as far as the smoke from factories, steamers, and railway engines is concerned—and they will get it. The vestries and the L. C. C. do not enforce the law against smoke partly on account of apathy, but chiefly because in those bodies there are many smoke-makers, or friends of such." We trust the apparent immunity enjoyed by certain offenders in this city—notably several large hotels—is not due to apathy or the other thing of the health authorities.

Philadelphia County Medical Society. — At a stated meeting held October 10th, Dr. William Campbell Posey read a paper entitled "The Successful Removal of Cataracts in Insane Subjects, with Recovery of Mind Attending the Restoration of Sight." Dr. Lambert Ott presented a paper entitled "Clinical Laws of Immunity to Disease," citing numerous instances illustrating apparent antagonisms between, and susceptibilities induced by, various infectious diseases. Dr. F. Savary Pearce made a communication entitled "Heart Disease or Epilepsy," in which he pointed out the difficulty sometimes encountered in reaching a decision as to the nature of perversion or loss of consciousness. Dr. Ernest Laplace exhibited a new aseptic ether and chloroform inhaler, consisting of a hemiovoidal receptacle with a crucial opening and containing sterile gauze held in place by a strip of wire gauze of similar form. The advantages claimed for the apparatus are its readiness of sterilization and its simplicity of manipulation and preparation.

Petition for a Municipal Hospital.—The City Council of Camden, N. J., having failed to comply with the request of the board of health for the establishment of a municipal hospital, the medical profession of that city has presented a petition renewing the request and pointing out the urgent need of such an institution.

The Health of the Navy in the Philippines.—In his annual report to the secretary of the navy, Surgeon-General Van Reypen says that, considering the climatic conditions and the necessary exposure, the health of the squadron on the Philippine station has been remarkably good. It has been and still is the practice to send officers and men who are suffering from debilitating climatic conditions to the naval hospital at Yokohama, where, as a rule, they soon recover and return to their stations for duty.

Philadelphia Hospital.—In accordance with resolutions adopted by the bureau of charities, the clinical teaching at the Philadelphia Hospital is to be amplified. In addition to a continuation of the regular lectures on Wednesdays and Saturdays, ward classes not exceeding ten are to be encouraged; surgical and gynæcological operations are to be opened to students under proper restrictions; clinical instruction in insanity is to be made a new feature, and instruction in the specialties and in pathology is to be permitted. Dr. Joseph McFarland and Dr. Simon Flexner have been elected additional pathologists.

The Medical Society of Virginia.—The thirty-first annual meeting of this society was held at Charlottesville on Tuesday, Wednesday, and Thursday, October 23d, 24th, and 25th. The president was Dr. Hugh T. Nelson, of Charlottesville, the recording secretary Dr. Landon B. Edwards, of Richmond, and the corresponding secretary Dr. J. F. Winn, of Richmond. The chairman of the committee of arrangements was Dr. J. Hamilton Browning, of Charlottesville. The subject for general discussion at the Wednesday morning session was malaria, the leader of the discussion being Dr. H. Stuart MacLean, of Richmond.

Typhoid Fever in a Brooklyn School.—The occurrence of many cases of typhoid fever among the inmates of the Boys' Disciplinary School in Brooklyn, has brought to light an insanitary condition that would have been thought impossible under an efficient board of health. Ten cases of the disease were reported on Monday, and the inspector of contagious diseases found everything most favorable for an epidemic outbreak. The boys' dormitory was found to be without adequate ventilation, the beds were crowded so closely together that there was barely room to walk between them, and in place of a ceiling, which was recently

destroyed by fire, there was only a rough open planking. Directly behind the school was an open ditch, said to communicate with the sewer. This was in a frightful condition and during the day the sun would beat down upon the filth, flies feast upon it and from it fly into the kitchen where the food for the boys is prepared. The back yard was literally honeycombed with old cesspools that were not properly cleaned.

Dr. William B. Savage, of East Islip, N. Y., was appointed consulting surgeon to the Manhattan State Hospital at Central Islip, at a meeting of the Board of Managers held October 10th.

Smallpox in the Klondike.—A steamer recently arrived at Vancouver from Skagway brings the report that smallpox is raging along the Klondike creeks, many of them being quarantined. There were twenty-two cases in Dawson on September 15th.

Cholera in Japan.—A despatch received in St. Petersburg, on October 23d, from Vladivostock says cholera is increasing to such an extent in Japan that steamships from there have been quarantined. A number of deaths have occurred on board of steamships from Nagasaki.

The Shah of Persia is said, in a recent cable despatch, to have consulted over a dozen physicians in the different countries he has visited in Europe. He is believed to be suffering from kidney trouble, but declares that no two of the many doctors who examined him were in accord as to his actual condition.

Typhoid Fever is very prevalent in New York at the present time, and several well-known members of the medical profession are ill or have recently recovered from the disease. Among the former we regret to say is Dr. Reginald H. Sayre, and among the latter we rejoice to say is Dr. Emil Mayer.

Typhoid Fever at Newport.—The epidemic of typhoid fever at Newport, R. I., is subsiding, few new cases having been reported since the middle of the month. In three weeks there were forty-five known cases with six deaths. Examination of the wells and cisterns in the city has shown several of a suspicious character, one in particular being found to contain typhoid bacilli in abundance. One result of the epidemic is the getting up of a petition addressed to the city council, praying that the board of health be restored and the committee on sanitation, which consists of city-council members, be abolished.

The New York Obstetrical Society.—At the annual meeting of this society, held October 9th, the following officers were elected: *President*, Dr. H. J. Boldt; *First Vice-President*, Dr. Ralph Waldo: *Second Vice-President*, Dr. H. N. Vineberg; *Recording Secretary*, Dr. G. L. Brodhead; *Assistant Recording Secretary*, Dr. G. G. Ward, Jr.; *Corresponding Secretary*, Dr. E. E. Tull; *Treasurer*, Dr. J. Lee Morrill; *Pathologist*, Dr. W. S. Stone.

The University of Dallas has recently received its charter from the State of Texas and the first board of directors has been elected. The incorporators are empowered to teach law, medicine, the arts and sciences, and to confer all professional and academic degrees usually granted by universities. At present only the school of medicine will be inaugurated. The faculty consists of the following physicians: Drs. J. E. Gilcreest, of Gainesville; V. B. Armstrong, of Dallas; B. E. Hadra (president Texas Medical Association), of Waco; S. E. Milliken, of Dallas; Joe Becton, of Greenville; L. Ashton, of Dallas; C. M. Rosser, of Dallas; A. F. Beddo, of Dallas; J. B. Titterington, of Dallas, dean of the faculty.

The Late Prof. Lewis A. Sayre.—At a recent meeting of the Faculty of the University and Bellevue Hospital Medical College, the following minute was entered on the records:

The members of the Faculty realize with deep regret their great loss in the death of their late colleague, Prof. Lewis A. Sayre, M.D. His long and honorable professional career has shed lustre on the calling of his choice and on the medical school to which, at its birth, he plighted his earnest support, and which he sustained with loyal vigor until his death.

While bowing in humble submission to the will of Him "who doeth all things well," we extend to the members of his family our earnest assurance of sympathy in this their great affliction.

HERMANN M. BIGGS, *Secretary.*

Dress Reform in Texas.—Dr. C. A. Lindsley, secretary of the Connecticut State Board of Health, in his monthly report, issued October 16th, says: "The authorities of El Paso, in Texas, are a judicious and considerate body. They object to the practice, so much in use by the gentler sex, of wiping the sidewalks with their trailing dresses and carrying accumulated microbes, mud, spittle, and other filth into habitations and occupied places, to be dried and shaken off in the air and so to render respiration therein disgusting and dangerous. They have proceeded to the extent of their authority by prohibiting the admission of teachers within the public schools except in 'short skirts.' Their example ought to be imitated throughout the United States." Dr. Lindsley's commendation of this reform is needed in Connecticut, for in two or three towns in that State the school commissioners have forbidden teachers to wear short skirts and even dismissed two who persisted in dressing hygienically.

The Roentgen Society of the United States.—The first regular meeting of this society, the object of which is, as its name implies, "the advancement of the knowledge of practical *x*-ray work and allied arts and sciences," will be held at the Academy of Medicine in this city on December 13 and 14, 1900. The following are the officers of the society: *President*, Dr. Heber Robarts, St. Louis, Mo.; *First Vice-President*, Dr. J. P. Girdwood, Montreal, Canada; *Second Vice-President*, Dr. H. P. Bender, Brooklyn, N. Y.; *Secretary and Treasurer*, Dr. J. Rudis-Jicinsky, Cedar Rapids, Iowa; *Assistant Secretary*, Dr. Carl Beck, 37 E. 31st Street, New York. The secretaries of all scientific, medical, surgical, dental, electro-therapeutical, and all auxiliary societies, wishing to be represented,

are requested to send in the names of the delegates on or before the meeting in December. All those wishing to become members or to read a paper before the society may communicate with the secretary.

The Society of Russian Surgeons was recently established in Moscow, membership being open to all practitioners in Russia upon the payment of 8 rubles yearly or 100 rubles at one time. The organizing secretary is Professor Diakanoff, of Moscow.

Marriage of the Unfit.—At the meeting of the Tri-State Medical Society of Tennessee, Alabama, and Georgia, recently held in Chattanooga, Tenn., steps were taken to obtain medical legislation in these three States for the purpose of regulating or prohibiting the marriage of habitual criminals, persons afflicted with incurable diseases, drunkards, and victims of harmful drugs.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 20, 1900. October 15th.—Medical Inspector E. C. Derr detached from the navy yard, Portsmouth, N. H., on reporting of relief, and ordered home to wait orders; Surgeon B. F. Stephenson ordered to the navy yard, Portsmouth, N. H., October 25th. October 16th.—Assistant Surgeon H. E. Odell ordered to the Asiatic station modified; to take passage on the *Solace*. October 17th.—F. B. Stephenson commissioned medical inspector from May 31, 1900; Assistant Surgeon H. A. Dunn detached from the *Dorothea* and ordered to the *Frolic*.

The New Jersey Board of Dental Examiners.—Charges have been brought by several members of this board against one of their fellow-members of incompetency as an examiner. It was alleged that he was slow in getting up papers for examination, that he sometimes forgot papers, and that he changed the marks made by another examiner on a certain student's papers, with the remark: "I generally mark higher than you do, so I will mark 20 instead of 18." The accused member stated, at the hearing of the charges before Governor Voorhees a few days ago, that with two exceptions he had always turned in his papers promptly. He said that he had never confined himself closely to the text books, but gave credit if a practical knowledge of the subject was shown even if it did not have the exact text-book answer.

The Late Dr. John M. Brown.—At a meeting of the medical board of the Metropolitan Dispensary and Hospital, the following resolution was passed:

"Inasmuch as by the death of Dr. John M. Brown the Metropolitan Dispensary and Hospital has sustained a loss which is poignantly felt and with difficulty retrieved, and since, individually, we miss the rugged honesty, the incorruptible friendship which was constantly evidenced to us who knew him intimately, be it

"*Resolved*, That this feeble expression of our esteem for his character and our appreciation of our loss be spread on the minutes, and a copy of this resolution be sent to his family and to the medical press."

Obituary Notes.—Dr. William R. Larkin, of this city, died on October 15th after a brief illness. He was born in this city forty-two years ago, and was graduated from Bellevue Hospital Medical College in 1883. He spent two years at St. Vincent's Hospital, where he was house surgeon, and in 1885 began practice in Harlem. At one time he was on the staff of the J. Hood Wright Hospital, and at the time of his death was a member of the Harlem Medical Association.

Dr. Henry Moreton died at his home, a dingy little drug store in this city, on October 20th at the age of ninety-three years. He was born in England, but came to this country with his brother in 1828 and opened a drug store. His brother was a physician and he himself studied medicine later, being graduated from the College of Physicians and Surgeons in 1845. He always retained his shop and never removed from the neighborhood in which he first settled. He abandoned practice a number of years ago.

Dr. James F. Mahoney died at his home in this city, after a lingering illness, on October 15th, at the age of thirty-five years. He was a graduate of Bellevue Hospital Medical College in 1882. He practised for about four years only, and was then appointed an inspector in the customs service at this port.

Dr. Harold E. Hobby, a dentist of Mount Vernon, N. Y., died on October 20th, at the age of twenty-two years, from accidental asphyxiation by illuminating-gas.

Dr. Philip Roth died suddenly at his home in Newark, N. J., from cardiac trouble, on October 21st. He was born in Newark in 1864 and was graduated from the College of Physicians and Surgeons in 1884.

Sir Henry Wentworth Dyke Acland, of Oxford, England, died on October 16th at the age of eighty-five years. He was honorary physician to the Prince of Wales, whom he accompanied on his visit to this country. He was born in 1815, and was educated at Harrow and Oxford. He was Regius Professor of Medicine, Oxford, 1857–94, and member of the Royal Sanitary Commission, 1870–72. Among his publications is a "Memoir on the Visitation of Cholera in Oxford in 1854." He had been Radcliffe Librarian at the University of Oxford since 1851. In 1879 he revisited New York as the guest of General McClellan.

Capt. Benj. Brooke, late a surgeon in the United States army, died at Radnor, Pa., on October 18th at the age of thirty-four years. He was graduated from the medical department of the University of Pennsylvania in 1889 and served subsequently as a resident physician in the Philadelphia Hospital.

Dr. William F. Reilly died at Carlisle, Pa., on October 19th, at the age of forty-two years. He was graduated from the medical department of the University of Pennsylvania in 1875, and was for ten years assistant surgeon in the Eighth Regiment, N. G. P.

Dr. William H. Sturgeon, the oldest physician in Fayette County, Pa., died at Uniontown on October 15th, at the age of seventy-two years. He was graduated from Jefferson Medical College in 1849.

Dr. David Pellman Boyer died at Philadelphia on October 14th, at the age of seventy-six years.

Progress of Medical Science.

Philadelphia Medical Journal, October 20, 1900.

The Germ of Yellow Fever.—Charles Smart speaks of the work of several bacteriologists with reference to this subject and quotes a communication from Dr. Reed under date of July 24, 1900, in which he states, in relation to the present outbreak of yellow fever at Pinar del Rio, Cuba: "Our laboratories are now in good working order. We have been able to study carefully seven cases since our arrival. Of these, one resulted in recovery (a severe case) and six were fatal. Neither during life nor after death have we been able to isolate bacillus icteroides; but our sixth autopsy, which occurred day before yesterday, cannot be definitely reported upon as yet." Agramonte believes that Sanarelli's bacillus icteroides is no more concerned in the production of yellow fever than are the common colon bacilli which are frequently found in the blood and viscera of individuals suffering or dead from yellow fever. Lutz believes that those observers who report that they have found the bacillus icteroides in all cases and that they can make the diagnosis by the agglutinating action of the blood, are the victims of gross errors of observation. Lutz believes that this bacillus cannot be found in more than half the cases of yellow fever by known methods of research. Agramonte reports that he has isolated Sanarelli's bacillus from three cadavers in which death was not due to yellow fever.

Report of a Case of Tetanus with Recovery.—Andrew H. Whitridge reports this case of a young colored man who entered the hospital complaining of a burned foot. The interesting points in the case are that the first symptom of tetanus manifested itself on the thirteenth day, and nine injections of tetanus antitoxin serum, 10 c.c. each, were made, but were followed apparently by no improvement. Morphine, gr. ⅙, was then given hypodermically every four hours, the dose being increased in a few days to gr. ¼, showing most happy results in abating the spasms and irritability of the muscles. The patient made a perfect recovery.

Report of the Milk Commission of the Philadelphia Pediatric Society.—By Frederick A. Packard, J. P. Crozer Griffith, Alfred Stengel, Thompson S. Westcott, and Alfred Hand, Jr.

The Surgical Management of Umbilical Hernia with Large Ring.—By E. D. Ferguson (illustrated).

Petri Dish Forceps; Exhibition Test-Tube Stand.—By Randle C. Rosenberger (illustrated).

Angioneurotic Œdema of the Salivary Glands.—By James Ely Talley.

New York Medical Journal, October 20, 1900.

The Present State of Our Knowledge Concerning the Cause, Nature, and Treatment of Asthma.—The conclusions of W. A. Wells are as follows: (1) Asthma has so many points of resemblance with migraine, angina pectoris, and epilepsy that the suspicion may reasonably be entertained that they all have a similar pathology. (2) Of the theories which have been advanced to explain the pathogenesis of the asthmatic paroxysm, no one of them so well harmonizes all the facts as the vasomotor theory; and this only when we admit that the disturbance is essentially that of arterial contraction, rather than dilatation. (3) There is always present in asthma a morbid constitutional state, affecting especially the sympathetic nervous system and giving rise to a certain nutritional aberration, whose most salient feature is the increase of uric acid and the urates. (4) Asthma occurs as a reflex neurosis from diseases of different organs, but especially often from those directly supplied by branches of the vagus nerve. The nasal trouble, which is the most frequent reflex cause, is not necessarily an obstruction and may be very inconspicuous and difficult to detect. (5) Nearly all cases of asthma show evidences of a pronounced psychic element, as in the curious variety of exciting causes of the attack, in the capriciousness of its course and behavior, and its dependence upon emotional states, suggestion, etc. (6) In the treatment of the paroxysm of asthma, a strict individualization needs to be observed. The best remedies are those which overcome arterial spasm, such as morphine, nitroglycerin, atropine, and chloral hydrate. (7) Treatment in the intervals of the attacks must be directed, in the first place, to the removal of the cause, and secondly, to the institution of sound hygienic and prophylactic measures in relation to the mind, diet, air, exercise, etc. (8) Medicinal treatment is addressed to improving the constitutional state, for which the best remedies are piperazin, iodide of potassium and the other iodides, the alkalies, and general tonic treatment.

Electrolysis in the Treatment of Stricture of the Lacrymal Passages.—L. L. Mial gives a review of the history of this special application of electrolysis and speaks enthusiastically of results which he has obtained in a series of cases in which probing extending over a long period had failed to afford relief. Each of the patients exhibited a mucopurulent discharge which rapidly ceased, especially as to purulency, after two or three applications of the current through a Bowman probe at intervals of a week. Advantages are: rapid result, absence of pain, no bleeding, and antiseptic action. Current strength should not exceed three milliampères. The positive pole is a flat sponge applied to the nape of the neck. Sittings should not exceed two minutes. Even this length of time may cause considerable hyperæmia with itching and pain lasting a day or two. Mial recommends in addition the washing out of the canal, after withdrawal of the probe, with a four-per-cent. solution of protargol.

Bullous Enlargement of the Middle Turbinate Bone (Concha Bullosa).—Two cases are reported by J. Payson Clark, who mentions two additional cases which have come under his own observation. Twenty other cases have been recorded. Four-fifths of all were in women. Seventeen were in persons under twenty. Clark regards the condition as of developmental origin. In twelve of the twenty-four cases the cells contained air only, five were complicated by the presence of polypi, one contained a yellow viscous fluid, and in seven the nature of the contents was not mentioned. Symptoms are headache, nasal obstruction, sense of intranasal pressure, and possibly disturbances of smell, discharge (from complicating sinus disease or of the cell cavity), photophobia, and overflow of tears. Removal with the wire snare or forceps is the only rational treatment.

The Medical and Surgical Treatment of Acute and Chronic Lymph Nodes of the Cervical Region.—By H. Horace Grant.

A Combined Aspiration and Injection Instrument for Subarachnoid Cocainization.—By G. R. Fowler.

Disturbances of Gastric Motility and their Significance.—By A. MacFarlane.

The Subarachnoid Injection of Cocaine.—By J. E. Massey.

Journal of the American Medical Ass'n, Oct. 20, 1900.

The Diagnosis of Pulmonary Tuberculosis.—Robert H. Babcock states that this may be easy or difficult, depending on the stage of the disease and the nature of the pathological conditions. If the temperature shows a constant elevation ranging between 99.5 and 100.5 F., it is in a suspected case strongly suggestive of tuberculous infection. As a rule the pulse is accelerated and to a rate out of proportion to the temperature. Respiration may or may not be increased. In incipient cases there is usually no dyspnœa. Loss of weight is suspicious and is an invariable accompaniment. Cough is frequently symptomatic of this disease, but not invariably so. Sputum, when present, exhibits nothing characteristic unless it shows bacilli. As to physical signs, one of the earliest is lessened expansion of one apex. Another is atrophy of the scapulo-thoracic muscles on the affected side, also drooping of the shoulders. Palpation does not furnish very reliable or positive information except as corroborative of that obtained by other means. Percussion is greatly relied on, but is not always so trustworthy as is auscultation. Auscultation is valuable for the early recognition of pulmonary tuberculosis, but requires considerable skill. Mensuration of the chest is an accessory method. There is a wide diversity of opinion concerning the use of tuberculin for diagnostic purposes. The *x*-ray is now affording valuable information in regard to the condition of the lungs. Agglutination of the blood, after the Widal method, is too recent and not sufficiently proved to require more than a passing mention. All of these diagnostic points are particularly applicable to the disease in its incipient stages. As to the advanced stages, the symptom complex alone is sufficient, but examination of the chest should always be made. It may be accepted as a general rule that dulness and broncho-vesicular or bronchial breathing and râles at the apex indicate pulmonary tuberculosis. Signs of excavation corroborate the diagnosis.

State Provision for the Treatment of the Consumptive Poor.—Benjamin Lee declares that the only ground on which state charities can be justified is that of self protection. From the standpoint of political economy and true statesmanship, the maintenance of hospitals simply for the relief of suffering and healing of diseases is a gross misuse of public funds. In the case of infectious disease, the dangers arising from its extension justify the expenditure of large amounts of money. It is the acceptance of the view that tuberculosis is communicable that makes it possible to urge the state to contribute to the care of the consumptive poor as such. The knowledge both of the curability and the preventability of consumption should be spread abroad.

In Germany, France, Great Britain, Sweden, Belgium, Holland, Spain, and Roumania much has been accomplished. An international congress of tuberculosis has been held. The New York State board of health has adopted resolutions urging the early construction of a State sanatorium for consumptives in the Adirondacks at a cost of not less than $200,000. The legislature of that State has already passed a bill authorizing large cities to establish hospitals for sufferers from tuberculosis. Massachusetts has aleady in operation an institution of this kind at Rutland, which cost $150,000. Other States are taking up the movement. The United States government has established a sanatorium at Fort Bayard, N. M., for the care of its soldiers affected with this disease. The day is coming when this disease, which kills four and a half times as many as smallpox, scarlet fever, typhoid fever, and diphtheria combined, will be properly taken care of.

Climate for Tuberculosis.—Norman Bridge states that although climate is important, it is only one element in the proper management of this disease. To increase the resisting-power of the body is the great requirement. Practically there are no occupations that are wholly hygienic—especially no indoor work. The needs of the tuberculous patient apart from special me lication include: (1) Rest from work; (2) change of work and cares; (3) attention to the digestion and the feeding and nutrition of the body; (4) long hours of sleep; (5) outdoor life, sunshine, and fresh air; (6) a change of surroundings for novelty and pleasure; (7) a change of climate, to a better one if possible, but a change anyway. The chief value of any climate for tuberculosis depends on the time spent out of doors and the amount of pure air breathed all night—at the same time laying aside depression and hardship. Sunlight is valuable. Altitude helps some cases, especially the incipient ones. Dryness of air is an important element. Homesickness wholly counteracts any good effect of climate in many cases. With other conditions as favorable as possible, a good climate is an influence that will often tip the balance in favor of recovery. Nothing more than this should be asked of any climatic resource.

Municipal Regulation of the Spitting Habit.—Elmer B. Borland has been during the past year in communication with the boards or bureaus of health of tweuty-two principal cities of the United States. An analysis of the information received from them on this subject may be formulated as follows: Special laws have been enacted in one-half of these cities, and about one-fourth are regulating partly or wholly under their general nuisance acts. These ordinances empower bureaus of health to abate or prohibit anything of an unsanitary character; indiscriminate spitting is included. In the past five years, New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, New Orleans, Louisville, and Baltimore have enacted special laws. The boards of health of Philadelphia and Boston are doing good work under their general nuisance acts. Public opinion is being rapidly educated and the work is well begun.

Overcrowding and Tuberculosis.—S. A. Knopf declares that lack of air and light, intemperance, and underfeeding help to create in the body the best soil for the invasion, growth, and development of the tubercle bacilli. These conditions predominate in many of the city tenements. He then speaks of the great danger attending the careless disposal of tuberculous sputum. Damp soil fosters tuberculosis; model tenements built on good soil with proper drainage will go far to stamp out this disease. Overcrowding of all institutions as well as dwellings should be avoided. The creation of schools of forestry would give useful and healthful employment to a number of men as well as rendering the regions more healthful.

The Advantages of the Sanitarium Treatment of Tuberculosis When Change of Climate is Not Possible.—By F. S. Oliver (Johns Hopkins).

The Sanitarium for Consumptive Sailors Established by the U. S. Marine Hospital Service at Fort Stanton, N. M.—By J. O. Cobb.

Necessity of Examination of the Sputum in the Diagnosis of Pulmonary Tuberculosis.—By C. M. Wood.

Report of the Committee of Tuberculosis.—By Norman Bridge, W. A. Evans, and Paul Paquin.

United States General Hospital for Tuberculosis at Fort Bayard, N. M.—By D. M. Appel.

Tuberculosis; its Zoologic and Geographic Distribution.—By W. A. Evans.

Notification of Tuberculosis.—By Arthur R. Reynolds.

Hereditary Factors in Tuberculosis.—By J. M. Anders.

Tuberculosis and Insurance.—By E. Fletcher Ingals.

Tuberculosis in Pennsylvania.—By Guy Hinsdale.

Boston Medical and Surgical Journal, October 18, 1900.

Hydrotherapy in Pneumonia.—Simon Baruch considers that the judicious application of hydrotherapy in pneumonia fulfils all the therapeutic indications by meeting all the depreciating conditions which lead to a fatal termination. Only one condition is unaffected by this treatment, namely, resolution. He has observed crisis in only about twenty-five per cent. of cases. The local course of the disease appears to be unchanged. Resolution proceeds slowly but surely. The patient has a normal temperature, pulse, and almost normal respiration from five to twenty days before all signs of consolidation have disappeared. The special conditions encountered in pneumonia, which Baruch believes are successfully met by appropriate hydrotherapy, are: (1) To fortify the nervous system; (2) to sustain the heart; (3) to strive for elimination of noxious products arising from the life and death of the diplococcus; (4) to render the patient comfortable by reducing high temperature, deepening inspiration, and producing sleep. Flexibility is a notable quality of hydrotherapy. By various procedures, changing of temperature and duration, we may adapt the application of water to the most opposite conditions for the fulfilment of these indications.

Neuropathic Joints.—Sidney A. Lord takes up first the classical examples of true nervous arthropathies, those of tabes dorsalis and syringomyelia, which occur in from five to ten per cent. of all cases of the former, and ten per cent. of the latter disease. There are two principal types of change, atrophy and hypertrophy, the latter being the more common. The author holds that several factors undoubtedly can and do exist in the etiology of both high and low grades of the arthropathies, but the only absolutely constant elemeut is the nervous system, which acts directly by influencing nutrition, and indirectly by causing ataxia. Other joint affections which may be spoken of as neuropathic, are hydrops articulorum intermittens, the location of which is more usually in the knee; and the acroarthritis of Hutchinson, in which the terminal finger articulations become typically wobble-jointed.

Suppurative Pericarditis and its Surgical Treatment.—Charles B. Porter concludes that: (1) pericardotomy is indicated in all cases of suppurative pericarditis. (2) Because of the uncertain and varying relations of the pleura, and because of the anterior position of the heart, whenever the pericardial sac is distended by fluid, aspiration of the pericardium is a more dangerous procedure than open incision, when done by skilled hands. (3) Incisions of the pericardium can be done quickly and safely by resection of the fifth costal cartilage, and in many cases under local anæsthesia. (4) In many cases of serous effusion oper incision without puncture will offer less risk and speedier cure than aspiration. (5) The method and detailed technique of the writer, proposed in 1897, have been followed out by the majority of recent operators.

Septic and Gonorrhœal Joints.—Charles A. Porter says that the object of his paper is to show: (1) That the gonococcus alone can cause arthritis, which, without the presence of other organisms, may be purulent. (2) Gonorrhœal arthritis occurs not only in acute gonorrhœa, but in the chronic or latent stages, which persist much longer than is commonly believed. (3) The signs of such chronic infection in the male and female are often slight, and disregarded or overlooked by the patient and physician. (4) In consequence, not a small proportion of cases are diagnosed as articular rheumatism which are really of gonorrhœal origin.

To What Extent Does the "Rheumatic and Gouty Diathesis" Enter into Traumatic and Other Diseases of the Joints?—By William H. Porter.

Medical News, October 20, 1900.

Treatment of Typhoid Fever.—Stephen Smith Burt declares that on account of the personal equation to be considered in typhoid fever there can be no stereotyped method of treatment. The individual power of resistance and the probable extent of the infection must be estimated. The patient should always be put to bed at once and there be kept till advanced convalescence. The writer is inclined to a fluid dietary for these cases. Water should be freely administered. There must be plenty of fresh air. The mild cases will end in recovery without any medication. The malignant infections commonly will result in death in spite of all treatment. The nervous symptoms are of more importance than is the temperature. Some form of cold-water application is more soothing to the former than any other treatment, although this need seldom be an actual tub bath. A sponge bath of one-third alcohol and two-thirds cold water thoroughly carried out, in the majority of instances, will accomplish the desired results with considerably less expenditure of strength of the part of the patient. The safest intestinal antiseptic remedies, if any are to be tried, are mild laxatives, and for moving the bowels ordi-

narily a rectal injection is best. In hemorrhage ice to the abdomen and gr. ¼ doses of powered opium every fifteen minutes are efficacious. When the bowels move more than three or four times in twenty-four hours, subnitrate of bismuth in large doses, alone or with a little morphine, will often be all that is necessary. Strychnine, ammonia, alcohol, and ether are reliable supporting remedies. Caution should be observed in regulating the diet in convalescence.

Increasing the Therapeutic Value of Cod-Liver Oil by the Addition of Free Iodine and Free Phosphorus.—Louis J. Lautenbach discusses the history of the production of cod-liver oil. He gives Möller's classification of the components of cod-liver oil: Hydrocarbons; oxygen compounds; combinations of oxygen compounds; oxygen cyclo-compounds; halogen compounds; sulphur compounds; nitrogen compounds; proteids; ptomains and leucomains; toxins and antitoxins; ferments. This oil has alterative, tissue-building, tissue-repairing, and nourishing qualities which are wonderful. But the modus operandi cannot be clearly explained. Osmosis and endosmosis are more rapid than with any other known oil. Its emulsion is also very rapid. It has wonderful nerve building properties—perhaps due chiefly to the phosphorus; its alterative effects are probably due to the iodine and bromine. Some years ago, the author began to contrast the effects of the new oils as compared with the same oil fortified by the additions of iodine, bromine, and phosphorus. As the result of experiments the author, aided by his druggist, has produced a preparation called "oleum morrhuæ iodi-phosphoratum." In each tablespoonful of this oil are gr. $\frac{1}{100}$ of pure free phosphorus and gr. $\frac{1}{2}$ of pure free iodine. This oil is less repulsive to taste and smell than are others, is more easily digested, and less liable to be followed by eructations. It is ordered to be taken on retiring, dose one tablespoonful, and followed by a taste of lemon. Its use has been followed by the most gratifying results.

Some Remarks on the Pathology and Surgical Treatment of Urinary and Uro-Genital Tuberculosis.—By Samuel Alexander.

Progressive Pernicious Anæmia.—By Alfred Stengel.

The Lancet, October 13, 1900.

Dacrocystitis Aggravans Resembling Tumor of the Face.—Kenneth Scott saw in Egypt a woman aged seventy-five years, who presented on the left side of the face a tumor which on examination proved to be a double dacrocystitis attaining on the left side enormous proportions. Both the upper and lower left eyelids were so inflamed and œdematous that the palpebral fissure could not be opened, but later the globe of the eye was found to be intact. There was, in addition, a large tumor, vertically oval in shape, which extended from the region of the eye to the angle of the mouth, close to the perpendicular mesial line of the face. It encroached upon the eye so as almost to conceal it, filling up the surface depression over the orbital cavity and extending laterally outward to be in line with the external canthus. Its lower limit was marked by the fold of skin running between the side of the nostril and the corner of the mouth, and the level of its surface lay at a considerable distance forward in front of the bridge of the nose. The tumor had a well-defined border and was wholly sessile; its surface was smooth and even, and showed no signs of redness. Although it was extremely tense there was a distinct sense of fluctuation present, and apparently some degree of pointing toward its lower and outer aspect. The surrounding tissues were thickened and indurated, but only in the eyelids was there any outward evidence of acute inflammation. There was much local pain but no general disturbance of the system. On the right side the condition was of minor degree and was removed by cutting the lower canaliculus and following the ordinary routine. On the left the tumor was incised on its outer edge and pus escaped, allowing complete collapse of the swelling. Twelve days later the lower canaliculus was slit and a style inserted into the lacrymal duct. The sac forming the swelling was found to be a multilocular one. A counter opening to permit free drainage was made and cure resulted in five weeks.

Bilateral Resection of the Superior Cervical Sympathetic Ganglion of the Sympathetic for Glaucoma.—H. W. Dodd repeated the operation originally described by Jonnesco, on a woman aged sixty-two years, and thus describes it. An incision about four inches in length was made along the line of the anterior border of the right sterno-mastoid muscle, beginning above at the level of the angle of the lower jaw, through the skin and fasciæ. The anterior border of the sterno-mastoid muscle was then exposed, its fascia divided. The common facial vein was ligatured and divided. The fascia below the sterno-mastoid muscle was then torn through and the sheath of the great vessels of the neck was opened. The artery and vein were carefully dissected apart and the vagus nerve was then searched for and found. It was then drawn forward by a retractor, together with the carotid artery, while the internal jugular vein was held backward by another retractor. The cord of the cervical sympathetic nerve with the superior cervical ganglion was then found in the fascia at the bottom of the wound, from which it was carefully dissected out. The ganglion was seized in a strong pair of forceps and pulled forcibly downward with a twist so as to tear out the nerve from as high up as possible. The nerve was then cut off at the lower angle of the wound and about one and a half inches of its length were removed, including the ganglion. The operation was then repeated in exactly the same manner on the other side of the neck. The wounds were closed with separate silk stitches and a wet gauze dressing was then applied. The anæsthetic employed at first was ether, but it was found necessary to change this to chloroform for the second operation on account of the engorgement of the veins of the neck produced by the ether. The effect of the operation on the glaucoma could not be told until after the lapse of several months' time.

Two Illustrative Cases of Sinus Pyæmia with Unusual Results.—In the first of James Kerr's cases which were treated by operation and anti-streptococcus serum a fatal result occurred and autopsy showed the following condition: Extension of the thrombus back from the obliterated part of the sinus and up the petrosal sinuses, general discoloration of bone, erosion and purulent lymph about the jugular foramen, several perforations punched out of the vein wall, and communication from the floor of the tympanum through the jugular dome, by which route infection seemed to have spread. A second case in a child aged five years also resulted fatally. The mechanism of these cases is usually a chronic suppurative otitis with extension to the mastoid antrum and cells, which discharge freely until suddenly, either from increased thickening of the mucous membrane or from slow thickening of the bone, the antral passage becomes blocked and discharge ceases. The first signal of danger—pain—follows, with violent inflammation from the retained pus, which often in children breaks its way through the ununited squamoso-mastoid fissure, but in others more often finds its way into cerebral, sigmoid, or cerebellar fossæ.

Eighteen Consecutive Cases of Abdominal Hysterectomy; Technique and Results.—By A. A. Warden (illustrated).

Introductory Address before the University College of South Wales and Monmouthshire.—By Sir John Williams.

Notes on Thirty-one Cases of Diphtheria Treated with Antitoxin.—By John Mackenzie.

Some Problems of Tropical Medicine.—Address by Sir William MacGregor.

The Romance of Surgery.—Address by J. H. Morgan.

British Medical Journal, October 13, 1900.

The Medicinal and Dietetic Treatment of Heart Failure in the Aged.—F. W. Forbes Ross in his summary of this subject says that digitalis stimulates the vagus, and depresses the reflex action of the cord and motor nerves. It acts by prolonging the cardiac diastole and increases the peripheral resistance, is irregular in results, is cumulative, is irritating to the alimentary canal, and induces suppression of urine in the aged. Strophanthus does not stimulate the vagus, prolongs the cardiac systole, renders the nervous system hyperæsthetic primarily, and does not have any effect on the peripheral circulation till long after it has increased the force of the cardiac systole, is non-cumulative, is not any more, if as much, an irritant to the alimentary canal than digitalis, acts regularly, and can be given with benefit for very lengthened periods, even up to four years continuously, with only good effects. The nervous system is affected adversely only when strophanthus is combined with a mineral acid. It does not act like digitalis on the heart as it can be given at once even after digitalis has produced ill effects; yet these effects pass off while the patient is actually taking strophanthus. The drug next in value for a senile heart is mercury. Iodide of potassium is praised as a diuretic and cardiac tonic. Nitrates are recommended. Phosphates and hypophosphites of lime, sodium, potassium, and iron, cod-liver oil, and bone-marrow for those who cannot take oil, will be found most useful. Nux vomica serves to initiate the muscular contraction which strophanthus makes more decided. To do this efficiently and continuously without using up the cardiac reserve necessitates a highly nutritious and easily assimilated dietary. The myosin is obtained from raw minced steak extracted by cold 0.5-per-cent. sodium-chloride solution and then curdled out. It can then be put into pudding, milk, or be made into meat panada. Much can be done for the heart that is regarded as worn out.

The Treatment of Gouty Eczema.—Gilbert John King Martyn believes that in the vast majority of cases of eczema gout will be found as the fundamental dyscrasia. The types of eczema met with in gout are roughly the

acute dry, the acute moist, the chronic, and the latent. By the last is meant a burning, itching, tormenting sensation beneath the skin; nothing is visible on the surface. It is one of the commonest complaints of the gouty, and often renders their life intolerable. It is usually worse when the patient is in bed, and nearly always associated with gouty acid dyspepsia. The treatment consists in enforcing a rigid dietary. Bismuth and alkalies must be freely given. For the burning and itching, a lotion or ointment containing carbolic acid is best. One of the most essential points in the treatment of gout and gouty eczema is the production of a healthy action of the skin and the avoidance of extreme loss of heat with sudden chilling of the surface; while, at the same time, irritation is kept at a minimum. As little change as possible should be made in the winter and summer clothing. The underclothing must not be varied. The best material for this is undoubtedly cotton in the cellular woven form or in the form of Lahmann's cotton-wool clothing. Climate is of great importance, the best being one which is equable and fairly bracing. As to diet, it should be a typical gouty diet, with the minimum of proteid and starchy foods and all those articles which produce an acid fermentation. The writer believes the drugs which are of real value to be those which benefit dyspepsia and increase the alkalinity of the blood, such as bismuth, the alkalies, and the bromides. Antimony will at times relieve the itching, though sometimes morphine is necessary. Lotions and dusting-powders as well as the use of water are then discussed.

The Subcutaneous Administration of Oxygen.—William Ewart declares that no conclusions can be based upon so limited an experience of these two methods—subcutaneous infusion of solutions of peroxide of hydrogen and subcutaneous injections of oxygen gas—of supplying oxygen locally to the systemic circulation, nor would he venture at this stage to recommend their employment except in urgent conditions when oxygen cannot be inhaled. The two series of observations show that there may be set up a local oxygen emphysema of the areolar tissue without any evil result, and that the gas will be gradually absorbed, though the process is slow. The diluted hydrogen peroxide infusion probably presents less risk than the other method, though the oxygen-gas injection is easier to carry out. The clinical value of the subcutaneous method as a general stimulant has yet to be made out.

A Discussion on Serum Therapy.—T. J. Bokenham, after discussing this subject in general, takes up in particular, first: antidiphtheria serum, which as a curative agent has quite fulfilled the expectations of most physicians. As an immunizing agent, the author's personal experience, extending to nearly five hundred inoculations, is altogether in its favor. Antistreptococcus serum rapidly deteriorates, so the results are not likely to be uniform. Antipneumococcus serum is not bactericidal as pneumococci grow readily in it. The chief difficulty in its clinical use arises from the great number of bacteria present in the lung exudation, and from the fact that the action of the serum seems limited to preventing the entry of the organisms into the blood-vessels.

Some Work Bearing Upon the Preventive Treatment of Oxalate of Lime, Gravel, and Calculus.—Lindley Scott states that it is certainly known that oxalate of lime contributes largely toward the formation of calculus, especially renal calculus. The urine which deposits calcium oxalate is generally reported as acid, of an increased specific gravity, and frequently with a high proportion of urea and other solid constituents. The prolonged administration of small doses of magnesium, say gr. xl. of the sulphate, given in the afternoon and at bedtime, in a well-diluted solution or combined with some mild diuretic, would seem a suitable treatment. Attention to general health, regimen, and diet must be observed.

Treatment of Asthma and Hay Fever.—Ernest Kingscote believes there are three pretty constant factors in cases of asthma of long standing—cardiac dilatation, acute vesicular emphysema, and chronic congestion of the liver. The conditions must be dispersed in addition to any other causes in order to cure the patient. Having ascertained the vagal or sympathetic irritation, it should be removed. Cardiac dilatation is best reduced by the Schott treatment and emphysema by appropriate breathing exercises. The patient should be in the open air as much as possible.

Contribution to Our Knowledge of Proteid Metabolism in Children (with Charts).—By F. W. Tunnicliffe and Otto Rosenheim.

An Introductory Address on the Training of Body and Mind for the Profession of Medicine.—By Sir John Williams.

A Contribution to the Study of the Vascular Mechanism of the Testis (Illustrated).—By W. E. Dixon.

Some Forms of Optic-Nerve Disease, Probably of Sympathetic Origin (Illustrated).—By F. Fergus.

A Case of Leucosarcoma of the Iris, Showing Fibro-Hyaline Changes (Illustrated).—By W. W. Griffin.

Remarks on Extractum Jaborandi Liquidum (B. P.).—By H. A. D. Jowett and C. R. Marshall.

Remarks on the Treatment of Town Phthisicals in the Country.—By H. de C. Woodcock.

A Discussion on the Therapeutics of Open Air.—By F. W. Burton-Fanning.

A Discussion on the Treatment of Lachrymal Obstructions.—By G. A. Berry.

A Discussion on the Treatment of Internal Hemorrhages.—By W. G. Smith.

A Discussion on Diet in the Treatment of Disease.—By H. Campbell.

Dacryocystitis Aggravans, Resembling Tumor of Face.—By K. Scott.

The Pharmacology of the Jaborandi Alkaloids.—By C. R. Marshall.

The Chemistry of the Jaborandi Alkaloids.—By H. A. D. Jowett.

The Open-Air Treatment in Ireland.—By F. H. Sinclair.

Cerebral Tumor with Optic Neuritis.—By E. Clarke.

Münchener med. Wochenschrift, Sept. 25 and Oct. 2, 1900.

Eight Cases of Sausage Poisoning.—Lank describes an epidemic of a disease affecting three adults and five children, which was at first thought diagnosed as diphtheria but was afterward found to be caused by the eating of imperfectly cured sausages. Poisoning from this source (botulismus or allantiasis) is to be differentiated from that due to the use of putrefying meat, and a specific organism, the bacillus botuliuus, has been isolated and found to generate a toxin resembling the poisons of tetanus and diphtheria in its chemical composition. The course of the disease is protracted even in the lighter cases, the first symptoms not appearing for twelve to twenty-four hours. They are then ushered in by general malaise, nausea, vomiting, and diarrhœa, followed by dyspnœa and prostration. A characteristic effect of the intoxication is the decrease in all the secretions with the resulting dryness of the skin and mucous membranes. As a consequence the mouth presents aphthous ulcers and the throat is filled with erosions, red patches, and a grayish membrane frequently resembling that of diphtheria, while the condition of the intestinal canal and air passages produces obstinate constipation and hoarseness often accompanied by a croupy cough. Eye symptoms are typical and comprise cloudy vision, chromatopsia, evanescent amaurosis, and diplopia; ptosis is a constant and pathognomonic sign of the intoxication. There are no central manifestations, but dysphagia and aphasia of peripheral origin are observed; there is also no fever, though the pulse grows rapid and weak. Death may not occur for some time, and then be due to the inanition and marasmus, or may follow in from eight to ten days owing to paralysis of respiration, no typical post-mortem appearances being produced.

A Case of Purpura Hæmorrhagica.—Nehrkorn describes the case of a twenty-six-year-old laborer who was suddenly taken with severe epistaxis followed by extensive subcutaneous hemorrhages, hæmaturia, and bleeding from the oral mucus membrane. These symptoms were accompanied by great prostration which speedily becan e extreme in consequence of the uncontrollable loss of blood from mouth, kidneys, and gastro-intestinal tract. Finally, delirium, restlessness, and coma were succeeded by death four days after the first symptoms. The hæmoglobin was found reduced to twenty per cent., and the red blood cells to one and a half millions. At the autopsy there were found extensive hemorrhages into all the viscera with moderate endocarditis of the aortic and mitral valves and a narrow aorta. The case is interesting in that its fulminating course with the extensive hemorrhages and pustule formation very greatly simulated hemorrhagic variola, and though the history excluded this, the picture of the malady was essentially that of an infectious disease.

The Position of the Stomach in Chlorosis.—Otto Rostoski controverts the view of Meinert and some other authors who maintain that chlorosis is always accompanied by gastroptosis, or even go so far as to say that the dislocation of the stomach precedes, and through the resulting nervous derangements actually produces the blood dyscrasia. The writer's observations extend over a series of fifty cases of chlorosis, in thirteen of which a state of gastroptosis was found which seemed, however, more directly referable to a too early use of the corset, a circumstance especially meriting attention in the frequency with which distended loops of intestine are pushed before a stomach undergoing artificial inflation for purposes of diagnosis and a dilatation is thus simulated. In the writer's opinion faulty conclusions are often reached owing to this source of error, and several

different methods for determining the stomach boundaries should always be resorted to before a positive diagnosis is made.

The Question of Traumatic Spinal Disease.—M. Oberst attacks the position of Kümmell, who believes in traumatic spondylitis, *i.e.*, a rarefying ostitis beginning weeks or months after slight injuries, and leading to a greater or less loss of substance, and maintains that all such cases are really compression fractures. Injuries of this nature are much more frequent than is supposed, and inasmuch as they may be due to slight trauma and give but few subjective or objective symptoms are very easily overlooked. Still a certain degree of violence is necessary to produce such a lesion, and in accident cases when kyphosis follows in spite of the insignificant nature of the injury, tuberculous disease is to be assumed. The term traumatic spondylitis is misleading and may advantageously be replaced in doubtful cases by the designation "traumatic kyphosis."

The Treatment of Spina Bifida.—C. Hennemann reports an instance of this defect in which the result of treatment was so happy as to discount the usually pessimistic view taken of such cases. At the time treatment was begun the tumor was the size of a child's head, and its covering as thin as paper, threatening to burst at a touch. The lower extremities were anæsthetic and both bladder and bowel completely paralyzed. The fluid was aspirated on three occasions, 1,550 c.c. being obtained, and each time 30 c.c. of Lugol's solution were injected into the sac. After the third operation no reaccumulation occurred, and in the course of time all the secondary symptoms disappeared without any indications of a possible relapse.

The Occurrence of Carcinoma.—Reiche finds that the carcinoma statistics of Hamburg show what has been found true in other localities, viz., that during the last thirty years the mortality from cancer has been slowly but steadily rising, that the increase affects the male population more than the female, and that the average age of the fatal cases is growing less. By contrasting the figures taken before and after certain radical sanitary and other reforms were instituted in the city, he arrives at the conclusion that the local occurrence of carcinoma is independent of the nature of the water supply, the density of population, the comparative altitudes of different parts of the city, and conditions of poverty or affluence.

The Effect of Petroleum on the Diphtheria Bacillus.—J. Papasotirin made numerous experiments with a view to determine whether the use of petroleum in diphtheria was justified by the facts. The agent was applied to growing colonies of the bacilli in various ways with the invariable result that the plates so treated flourished just as vigorously as the control growths. Any remedial effect of petroleum in diphtheria is therefore independent of a germicidal action on the organism.

Our Standpoint in Regard to Suppuration of the Middle Ear and the Question of Cholesteatoma.—By Ernst Leutert.

The Therapy of Chronic Middle-Ear Disease and the Question of Cholesteatoma.—By E. Leutert.

Examination of a Case of Congenital Sternal Cleft with the Fluoroscope.—By Criegern.

A Contribution to the Study of the Inflammatory Ankyloses of the Spine.—By Kühn.

The Operative Treatment of Habitual Shoulder Dislocation.—By Joseph Müller.

The Duration of Fermentation in Urines Containing Sugar.—By T. Lohnstein.

Roborat and its Comparison with Similar Food Products.—By E. Laves.

The Diagnosis of Death by Starvation.—By H. Dünschmann.

A Case of Hysterical Fever.—By E. Wormser and Robert Bing.

Deutsche medicinische Wochenschrift, October 4, 1900.

Black-Water Fever.—In a preliminary report Hans Ziemann affirms his inability to find a specific organism for this disease as stated by Yersin. In certain malarial districts there is found among those who have already suffered from a malarial infection a disposition to attacks of black-water fever. In general this is increased proportionately to the number of previous malarial infections, and is greatest among those having the hemorrhagic diathesis or who have been weakened by hardships, though it also occurs in healthy individuals of good antecedents. The small parasite of the tropics, or the æstivo-autumnal form, seems most predisposing, though apparently differences in virulence due to varying conditions in different localities play an important rôle. In regard to the positions that black-water fever is purely a result of quinine poisoning, or, on the other hand, that it is a special form of malaria characteristic of certain localities, it may be said that it is observed: (1) Following a new malarial infection in which no quinine has been given; (2) following malaria treated with quinine; (3) following the administration of quinine to those who have formerly had malaria but are at the time free from the parasites; (4) in those who have suffered from a previous attack of black-water fever but have not recently taken quinine and whose blood does not contain any parasites.

Dysentery and its Specific Cause.—W. Kruse warns against the belief that dysentery as an epidemic disease has died out, and cites several localities in Germany which have suffered greatly from its ravages in recent times. The disease as found in Egypt and the tropics is usually of amœbic origin, but study of an epidemic at Laar has brought to light an organism which the author thinks is specific, and which owing to its cultural and other affinities he would place in a trinity with the typhoid and colon bacilli. In appearance it differs markedly from the typhoid bacillus, being shorter, thicker, and devoid of flagella, but its biology and manner of growth apparently indicate a close relationship between the two. An important reaction serving to distinguish the new organism from the group usually termed collectively colon bacilli is its inability to produce fermentation in grape-sugar media. It is not specific for animals, but is agglutinated by the blood serum of dysenteric patients and remains unaffected by that of healthy individuals.

Pneumonia through the Meningococcus.—J. Bernheim describes in detail the clinical course and pathological findings in a case of pneumonia running so rapidly fatal a course as to make a general systemic infection seem probable. This was found not to be the case, however, but the fluid from the lungs contained large numbers of diplococci which gave all the microscopical and biological evidence necessary to identify them with Weichselbaum's meningococcus intracellularis.

The Pathology and Therapy of Abscess of Douglas' Space in Perityphlitis.—By J. Rotter.

The Conversion of Proteids and the Excretion of Sugar.—By Th. Rumpf.

Berliner klinische Wochenschrift, Sept. 24, 1900.

Medical Supervision of Cures for Obesity.—E. H. Kisch says that in attempts to reduce bodily weight, care should be taken to avoid all measures which tend to weaken the patient's strength and especially heart action. There should be a regulation not only of the amount of food and drink, but also of the general mode of living and the patient's former habits, all of which must be based on a careful consideration of each individual case. The amount of exercise may be regulated by means of a pedometer, and the number of daily steps carefully increased; in due time he may be allowed to climb hills, but the heart should be carefully watched.

Treatment of Dropsy by Means of Cupping-Glasses.—K. Miura has devised a cupping-glass for the purpose named. To the glass is attached a rubber tube, the whole being filled before use with a decinormal salt solution. Superficial incisions are made in the dropsical part under strict antisepsis, care being taken not to draw blood, and the apparatus is then applied. Flow of the salt solution from the tube is then induced, and the author has found that it is possible to draw by these means considerable quantities of fluid from the tissues.

The Rôle of Fixed Cells in Inflammation.—By P. Baumgarten.

Physiology and Pathology of the Biliary Secretion.—By Dr. Albu.

Symptomatology of Facial Paralysis.—By L. Mohr.

French Journals.

Simple Primitive Hyperchlorhydria (Digestive Chlorhydric Hyperæsthesia) and Continuous Gastric Hypersecretion.—Luigi Sausoni quotes Linossier as believing that under the syndrome of Reichmann the following pathological types should be accepted: (1) Primitive gastrosuccorrhœa without pyloric stenosis; (2) primitive gastrosuccorrhœa with consecutive spasmodic pyloric stenosis; (3) primitive gastrosuccorrhœa with ulcers and consecutive anatomical pyloric stenosis; (4) gastrosuccorrhœa by retention following a pyloric stenosis. The surgeons Carle and Fantino, especially, not being able to deny absolutely the existence of a primitive gastrosuccorrhœa not accompanied or followed by pyloric stenosis, attribute the greatest importance to alimentary stasis, consecutive to a stenosis of the pylorus, spasmodic or real. The prevalent opinion today relative to the origin of continuous gastrosuccorrhœa accords almost completely with that expressed by the author in 1888. He believes that the cause of the syndrome of Reichmann consists in alimentary stasis due to obstruction, functional or otherwise, of the pylorus. Nevertheless, the primary cause for a certain category of cases is,

the author believes, not hyperchlorhydria but hyperæsthesia of the gastric mucosa, admitting, for another category, that the pyloric spasm depends on anatomical lesions which escape clinical diagnosis, such as small ulcerations, etc. He does not wish to deny absolutely the existence of a secretory trouble—primitive and fundamental in the genesis of continuous gastrosuccorrhœa, but he adds that among several thousand patients with gastric trouble, whose stomachs he has examined from a functional point of view, in every one of whom the symptoms indicated the existence of a continuous gastrosuccorrhœa, he has always found in the stomach even after fasting remnants of food of a quantity greater or less.—*La Presse Médicale*, September 29, 1900.

Extra-Buccal Alimentation.—According to M. Ewald, extra-buccal alimentation cannot completely replace buccal alimentation; it cannot suffice for a long time for the exigencies of nutritive changes; in the majority of cases, an alimentation exclusively extra-buccal produces from the beginning a subnutrition; this form of feeding may, however, for a short time, in enfeebled individuals whose nutritive metabolism is diminished, increase the nitrogenous changes, and even cause an increase in weight; its best results are seen when used transiently, or when employed only as an adjunct to buccal feeding; in the majority of cases, nutritive enemata ought to be preferred to subcutaneous injections. Discussing the same subject, M. Leube formulates the following: (1) Per rectum: albuminoids which can be administered are preparations of peptone (60 gm.) or eggs (3+3 gm. of salt). The vehicle should be 300 gm. of milk. Carbohydrates can be given in doses of 15 to 20 gm. for 300 gm. of liquid, but starches are to be preferred—15 to 20 gm. to 100 gm. of water or milk. Fat is not suitable for rectal enemata. The value of each of these enemata is from 500 to 650 calories, and they should be given twice a day. (2) Fat can be employed for subcutaneous injections, the dose being from 50 to 100 gm.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 27, 1900.

Disinfection by Formacetone.—Eugène Fournier gives the following conclusions on this subject: Perfect disinfection can be accomplished only by gas or vapor. Of all the substances employed, formacetone can be considered the most energetic disinfectant and a very active, if not the most active, insect destroyer. The proportion of the vapor necessary to use is in direct ratio to the size of the object to be disinfected. It is necessary to dampen the object first by a projection of acetone vapor. The vapors of formacetone are not inflammable. The projections ought to be made under a pressure of 4 kilos., which ought to be maintained during the whole process. The duration of contact of the disinfectant vapor is to be in inverse proportion to the temperature. In places where there is no apparatus for disinfection, clothing is sterilized by immersion, and after rinsing and drying, an iron will restore the former appearance. Surgical instruments are sterilized by formacetone in a very practical manner at 45° C. in a special sterilizer, and they undergo no alteration.—*Gazette des Hôpitaux*, September 29, 1900.

A Case of Sacro-Coxalgia.—E. Leclerc sums up the characteristic symptoms of this affection after describing a case: Pain distinctly limited to the level of the sacro-iliac space; elevation of the pelvis on the affected site (measured by the elevation of the anterior superior iliac spine); shortening, both apparent and real, of the leg; increase of the distance which separates the middle of the sacrum—not the sacral crest—from the anterior superior iliac spine; slight atrophy of the muscles of the buttock and of the thigh.—*Le Bulletin Medical*, September 29, 1900.

Archives of Pediatrics, October, 1900.

Report of a Case of Pulmonary Stenosis.—Samuel McC. Hamill reports a case in a boy aged six years. Auscultation of the heart revealed a rather rough, blowing, systolic murmur heard over the entire precordia, and to some extent over the entire anterior portion of the left chest, with its point of maximum intensity in the second left interspace. At this point it was superficial, very loud, low-pitched, almost grating in character. This very marked loudness was limited to an area about the size of a half-dollar, corresponding to the pulmonary region. Over the portion of the heart extending to the right of the sternum was heard a peculiar, loud, flap-like, systolic sound, suggesting the loud first sound of mitral stenosis. There was no accentuation of the pulmonary sound. As a matter of fact, it was almost inaudible. The heart's action was rather rapid, strong, and regular. By an exclusion of other lesions, a diagnosis of pulmonary stenosis was reached. The lesion is uncommon, and its existence, as in this case, without evidence of venous stenosis is rare.

Atresia of the Larynx due to Traumatism, the Result of Faulty Intubation.—W. P. Northrup submits a specimen, the last case of intubation seen by the late Dr. O'Dwyer. The tubes used in this case were of the latest approved pattern; the technique was that of a beginner and proved faulty. Imperfect tubes and imperfect technique constantly worked against the success of intubation and gave Dr. O'Dwyer great uneasiness of mind. Each brought reproach upon the operation; each meant traumatism to the larynx; each worked to the harm of the patient; each diminished the chances of recovery. The inventor wrote always in the same strain, endeavoring to keep it before the minds of the medical profession that the operation should be done by skilled hands and should include proper tubes.

Acute Nephritis following Influenza.—Rowland Godfrey Freeman concludes that: (1) Although albuminuria is fairly frequent with influenza, nephritis is a rare complication. (2) The nephritis complicating influenza is clinically of the acute hemorrhagic type and morphologically shows toxic lesions. (3) It apparently attacks children more often than adults. (4) The kidney disturbance may appear a few days after the acute symptoms of the influenza, or as long as a month later. (5) The prognosis is good.

A Case of Suppression of Urine Apparently due to Ascaris Lumbricoides.—By Frank Vander Bogert.

Congenital Cardiac Malformation with Endocarditis and Anuria.—By A. C. Cotton.

The Edinburgh Medical Journal, October, 1900.

The Clinical Forms and Pathological Anatomy of Spinal Syphilis.—R. J. Williamson thus classifies the clinical forms of the disease: (1) Symptoms of compression of the spinal cord or nerve roots may be produced by syphilitic disease of the vertebræ, syphilitic caries, necrosis, gumma, exostosis, periostitis, or osteitis. (2) In another very rare form there are symptoms of chronic meningitis without indications of involvement of the spinal cord. (3) Meningomyelitis is the most common form of spinal syphilis. (4) Acute syphilitic paraplegia (acute syphilitic myelitis). (5) Erb's syphilitic spinal paralysis. (6) Paraplegia with combined degeneration in the posterior and lateral columns. (7) Gumma of the spinal cord or meninges. (8) Anomalous forms. The author gives nine. (9) Locomotor ataxia. Sir William Gowers thinks that after a deduction is made for possible accidental coincidence, there is still a causal relationship between this disease and syphilis in one-half to three-quarters of the cases. The pathological changes produced by syphilis may be divided into three classes: (1) Those which indicate syphilis most clearly—gummata, gummatous infiltration of meninges or cord, etc.; (2) changes suggestive but not conclusive of syphilis—disease of the blood-vessels, endarteritis and periarteritis, endo- and periphlebitis; (3) changes secondary to the vascular disease; thrombosis of spinal vessels, or complete or partial obstruction of the vessels from thickening and disease of their walls. It is to be hoped that future bacteriological research will lead to the discovery of a characteristic micro-organism in syphilitic lesions.

Points of Practical Interest in Surgical Gynæcology versus Affections of the Female Genitalia as Causal Factors in the Etiology of Neuroses and Insanity.—By H. Macnaughton Jones.

A Contribution to the Mechanism of Articulate Speech (Continued).—By S. W. Caruthers.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

OPENING OF THE SESSION—NOTES OF INTRODUCTORY LECTURES—LORD LISTER'S HUXLEY LECTURE—THE GOVERNOR OF LAGOS ON MALARIA—PROFESSOR POORE ON THE LECTURE SYSTEM—DR. PENROSE ON THE LONDON UNIVERSITY—PROFESSOR M'FADYEAN ON EXPERIMENTAL RESEARCH—THE PLAGUE—TYPHOID—THE LATE DR. SAVAGE.

London, October 5, 1900.

The opening of the winter session is important enough to demand attention even amid the distractions of a general election and the excitement of war news. Dinners, conversazioni, and prize distributions have in some cases displaced the old-time introductories; but several of the schools have continued their lectures, which now fulfil an important function, though one somewhat different from that of the last generation. But what can a correspondent say about half a dozen high-class addresses delivered during the week? It is impossible to summarize them, and space interposes barriers against criticism. I will therefore give you only samples of what I hear about them.

Lord Lister's was naturally expected to be something out of the common. He gave the "Huxley Lecture," which was founded to commemorate the fact that the emi-

nent physiologist received his medical education at Charing Cross Hospital. It is delivered biennially and serves as an introductory at that school on alternate years. Lord Lister's is the third of this series, the preceding ones having been given by Sir M. Foster (1896) and Professor Virchow (1898).

Lord Lister's subject was his early work leading up to the antiseptic system, and he was induced to take it by the desire of those who asked him to give the Huxley lecture that he should deal with his own work. He objected on the ground that what he had done had for the most part been published, but yielding to friendly pressure he took up his early efforts as those least known. So we had a charming bit of semi-autobiography from the time when his father, who had done so much to improve the microscope, equipped him with a first-rate instrument and sent him to study at University College, up to that when Pasteur's demonstration that putrefaction is due to microbes was made. For this his mind was quite prepared by the researches he had made, and the problem became, how to exclude microbes from wounds. As he said in concluding, "It has been since shown that putrefaction is not the only cause of mischief in wounds—in other words, it has been proved that there are microbes which produce poisons that do not occasion unpleasant smell. But the principle that first guided me still retains, I believe, its full value, and the endeavor to apply that principle so as to insure the greatest safety with the least attendant disadvantage has been my chief lifework."

At the School of Tropical Medicine, Sir William MacGregor, M.D., governor of Lagors, discoursed among other things on malaria and the mosquito theory. Judging from personal experience, he said, it seemed to him that dysentery caused more deaths in the tropics than any other disease; but to the European the most important is malarial fever. He proceeded to show that the mosquito on the west coast of Africa must be reckoned with at every turn. To meet the position hospital wards must be painted with colors that will show up the mosquito; doors and windows should be of fine gauze wire netting, and all beds provided with mosquito-proof curtains; all water-tanks, wells, reservoirs, and even flower pots must be protected with wire-net covers, and any other breeding-place near a hospital rendered impracticable for the insects. In hospital discipline it will be an offence to allow a patient to be bitten. In the tropics Sir William MacGregor would have the subject of malarial genesis put before the public in its simplest form and taught in all the schools. Prizes should be given to the best scholars in the malarial class. Ladies who understood the theory would not dine in low dresses; nor would gentlemen sup with their ankles covered only by thin silk socks. The governor of Lagos gave some interesting details of personal experience with anopheles. One statement he made was that this mosquito is not exclusively a night feeder, but will at times bite in the day, though he prefers dusk or dark.

At University College Dr. Poore, as professor of medicine, deliberately addressed himself to those who having gone through their anatomical and other scientific work were about to enter the wards to study medicine proper. There being always a doubt how near the methods of the laboratory approached to those of nature, he argued that the discoveries of the former must be checked by observation of the latter. The word "science" was often used in too narrow a sense, especially by narrow-minded people, but practice afforded abundant opportunities for the best scientific work. Harvey found many facts among his patients to support his doctrine of the circulation, and other discoveries made by comprehensive observation of the sick were confirmed by bacteriology. Practice is often in advance of theory as seen in inoculation and vaccination, to which our eyes are only beginning to be opened. The housewife bottling her fruit anticipated Pasteur; the shepherd with his bread, cheese, and raw onion, guided by natural appetite, selected a food which the physiological chemist at a later age finds to be a judicious blend of "proteids, carbohydrates, fats, antiscorbutics, and antiseptics"; Emin Pasha used mosquito curtains as a protection from "miasmatic exhalations." We must not, then, lightly abandon established practices at the bidding of half-educated theorists, but theory and practice must go hand-in-hand.

Dr. Poore then congratulated his hearers on the nearly completed hospital which will soon be an ornament to the district, and for which the name of Blundell will in future be coupled with that of Guy. About two-fifths of the hospital is ready for occupation. He then defended the system of lectures, though many people had thought them useless in these days of text-books. He had himself spent no time more profitably than in attending the lectures of the late Sir William Jenner, who made no attempt at oratory and no display of learning, but whose style was that of an honest man, brimful of knowledge which he was eager to impart. The mere reader with his nose in his manuscript might be replaced by the phonograph, but the true lecturer is in sympathy with his hearers, knows when they are interested and when he has failed to make himself understood. The lecturer could treat his subject with more freedom than the text-book and give a comprehensive view of the whole subject. In these days of specialism it is possible for a student's knowledge to be "scrappy"—such as might be that of the aphis to the rose-leaf it feeds on. In specialists' books rarities naturally assumed too much importance to serve as mental pabulum for students. The child who complained that in its Noah's ark "the beetle was as broad in the back as the elephant" might have passed a similar criticism on a treatise lately read on skin diseases, written by fifteen different dermatologists, but which had not the word "itch" in the index.

The reconstitution of the London University was mentioned in several of the addresses and hopes were expressed for its future—hopes which are doomed to disappointment unless great changes are made. The old university was a mere examining-board and its requirements led to cramming to such an extent as to be injurious to the best students.

At St. George's Hospital Dr. Penrose, though he extolled the high standard of its examinations—naturally enough, perhaps, for one who had passed them—hoped that one good effect of the new departure would be to lessen the number of the ordeals a man has to pass before obtaining a degree. He looks forward to the time, not far distant, when a qualification and degree may both be had on passing three or at most four examinations: one at the beginning, one after the scientific part of the curriculum, and one final. This, he said, would meet all necessary requirements and would bring medical examinations into more conformity with those of the other learned professions. How far such a programme differs from that enforced hitherto will be seen when I tell you that the old university insisted on its own matriculation being above the standard of others; after that it required three severe examinations before its lowest degree was obtained. By severe, I mean with regard to book work, for that was ever kept to the front; and however much information might be crammed up for the occasion, you know that such knowledge is a very poor qualification for practice, even if it were not as evanescent as it proverbially is.

Dr. Penrose has evidently felt something of this, for he passed on to remark that it is the part of the teachers to direct the students along the right road, and assure them that it is better to train them to read the sign-posts and find the way than to tell them what is written on the posts and expect them at the journey's end to be able to repeat—not what they have actually seen and heard, but what they have been told they ought to see. Dr. Penrose then passed on to consider some problems concerned with medical education, and strongly urged the claims of laboratory and ward work as both essential and best conjoined.

Professor McFadyean gave an introductory at the Royal Veterinary College in which he showed the valuable results of the experimental methods of investigating disease.

Other gleanings from the addresses would give plenty of sound corn, but for the present the foregoing will suffice.

It is gratifying to see that Glasgow has succeeded in restricting the plague. No new cases since my last. Two deaths occurred during the week—one the baby born in the hospital of the mother who died of plague. There are only twenty-one patients remaining in the hospitals—two doubtful—and the "contacts" in the reception houses amount to only nineteen.

The usual increase of typhoid in autumn has begun. Last week ninety new cases were admitted to the hospitals of the asylum board, bringing the total up to three hundred and twenty-nine. This was an increase of fifty-five over the previous week. There were only eighteen deaths in the week, which indicates a mild type of the disease. Southwark is the most affected district. There about one hundred cases have occurred in the last three weeks. But Dr. Waldo is the energetic medical officer of health there, and every confidence may be felt that nothing he can do is left undone to restrict the outbreak.

Dr. Henry Savage, senior consulting physician to the Samaritan Hospital for Women, died on Wednesday. He took his London M.D. in 1849 and the F.R.C.S. four years previously. You will remember his "Anatomical Illustrations of the Surgery of the Female Pelvic Organs." He was at one time lecturer on anatomy at the Westminster Hospital, but his lifework was in connection with the Samaritan, which he served on the staff, and on the committee after retiring from practice.

The Social Science Association.—The next meeting of the American Social Science Association will be held at Washington, beginning April 16, 1901.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Seventeenth Annual Meeting, Held in New York City, October 15, 16, 17, and 18, 1900.

E. D. Ferguson, M.D., of Troy, President.

(Concluded from page 634.)

Third Day—Wednesday, October 17th.

Dr. C. A. L. Reed, of Ohio, President of the American Medical Association, made a forceful speech in favor of the stand taken by the State Association looking toward better organization of the profession. He pointed out that it ought to take but little time and less effort to accomplish a change that had already been effected in sentiment, and that he who interposed prejudice, preference, or prerogative as obstacles to this consummation should be looked upon and treated as an enemy of progress. He had good reason for believing that the medical profession of to-day, the country over, was ready to take any necessary step, through its organized bodies, that it might present a united front to the dawning century.

An Epidemic of Diphtheria Traced to a Milk Supply.—Dr. Chauncy P. Biggs, of Ithaca, presented this communication. He said that in recent years several epidemics of diphtheria had been reported in which it had been clearly shown that they had originated in the milk supply. In a considerable number of these reported cases the strongest evidence of milk infection had been the fact that a large percentage of the patients had been supplied by a certain milkman, although the way in which the infection had actually taken place could not be explained. The fact remained, however, that the epidemic subsided quickly on stopping the sale of this milk. In one epidemic, the liberal users of boiled milk escaped. In the epidemic at Ithaca, one student in a family of eight had diphtheria while the others escaped. Inquiry showed that all of the family had been using infected milk, but all had partaken of it sparingly except this student. From January 31 to March 7, 1900, thirty cases of diphtheria had been reported to the board of health, and the diagnosis in each instance had been confirmed by bacteriological examination. These cases had occurred in twenty-four households in widely separated parts of the city. Of the thirty patients, two died, one a child of seven years, and the other a child of six years. It was soon discovered that nearly half of the cases had received milk from one dealer, and then it was learned that some of the milk sold by this man had been purchased from another. The milk of the wholesaler proved to have been infected. In only three families had it been impossible to trace the milk supply to the source of infection. There had been only fourteen secondary cases.

Management of Diphtheria in Small Cities from a Bacteriological Standpoint.—Prof. Veranus A. Moore, of Cornell University, read this paper. He said that all persons carrying virulent diphtheria bacilli in their throat, whether suffering from the disease, convalescent or immune, might be sources of infection to those with whom they came in contact. A bacteriological examination enabled one to determine those infected among a number who have been exposed, and also when one recovering from the disease might safely mingle with others. Most of the difficulty met with in the efforts of health officers to conserve the public health could be obviated if family physicians would explain to their patients the reasons for the regulations of the board of health, and the need for both the profession and the laity heartily to co-operate. In the recent epidemic at Ithaca, the bacteriological examinations instituted by the board of health had proved useful not only in controlling the spread of the disease but in tracing the source of infection.

The Tonsils as Portals of Infection.—Dr. Julius Ullman, of Buffalo, read this paper. He gave a sketch of the literature, and showed the probability that the tonsils were portals of infection in scarlet fever, rheumatism, and endocarditis. His conclusions were: (1) The normal tonsil had a physiological function protective to the organism; (2) that being in itself often diseased, its physiological function was often impaired, and instead of being protective, it became a nidus for the growth and distribution of pathogenic germs; (3) that many grave infections had their origin in the tonsils; (4) that acute articular rheumatism and the diseases often associated with it, such as endocarditis and chorea, were in the great majority of cases due to the action of attenuated bacteria or their toxins entering the system through the tonsils; (5) that scrofulosis was often associated with disease of the tonsil.

Report of Some Interesting Cases of Infectious Disease.—Dr. De Lancey Rochester, of Buffalo, made this report. Among the cases cited were three of scarlatina without eruption. Another was that of a child of five years, who had been seen by several competent physicians, all of whom had made a positive diagnosis of scarlet fever. Three days after the completion of desquamation the disease had recurred. This case seemed to be unique.

Present Status of Jonnesco's Operation.—Dr. Marcel Hartwig, of Buffalo, was the author of this communication. He urged the use of the name "Jonnesco's operation" for that procedure more commonly known as neurectomy of the cervical sympathetic, because of the classical work of Jonnesco in this field. In speaking of the physiological effects of this neurectomy, the statement was made that these were quite variable, but the most constant was a narrowing of the pupil. Jonnesco had employed this operation chiefly in epilepsy on the apparently erroneous theory that it should prove curative by the production of an anæmia of the brain. The final results in ninety-seven cases were twelve reported cures. This surgeon had operated upon fifteen cases of exophthalmic goitre, with eleven recoveries, and four patients improved. He had also operated in twelve cases of glaucoma, and these cases showed more or less improvement in vision.

The Treatment of Pulmonary Tuberculosis with Special Reference to the Climate of Arizona.—Dr. Clarence G. Campbell, of New York, read this paper (will appear in a future issue.)

President's Address—The Surgical Management of Umbilical Hernia with Large Ring.—Dr. E. D. Ferguson, in this address, said that the method of denudation was easy and satisfactory when the ring was small. In cases of large ring, a successful result had been the exception rather than the rule. The essential feature of those rings which should be classed as surgically "large" was the inability of the operator to approximate the borders of the ring by vertical sutures without placing these parts in a state of constant and considerable tension. In the development of an umbilical hernia, the yielding began just at the point where the umbilical vessels entered the abdomen, and consequently here the hernial ring would be bounded by the linea alba at its upper and lower portions, and below this would be the blended borders of the lamellæ of the rectus. His own method of operating was as follows: A longitudinal incision was made at the border of either rectus. The anterior layer of the sheath was then separated by blunt dissection, and lateral flaps were cut out, care being

taken to make them as long and broad as possible. They were then turned over to the median line and sutured at their free borders by the cobbler's stitch. It was important thoroughly to coaptate the broad surfaces below the ring.

Tuberculosis; its General Etiology, General Pathology, and General Prophylaxis.—Prof. Victor C. Vaughn, of the University of Michigan, opened this symposium on tuberculosis with this paper, the other papers being on surgical tuberculosis. He said that at the outset he wished it understood that the sole cause of tuberculosis was the tubercle bacillus of Koch. The morphology of this germ was not so simple and constant as had been at first assumed. Branched forms had been found in tuberculous sputum, and many investigators had noted the striking resemblance at times to the ray-shaped microorganism of actinomycosis. Under certain conditions not yet well understood, it seemed to be pretty well settled that the tubercle bacillus assumed some forms of growth which pointed to the probability that the specific germ of tuberculosis was not a true bacillus. At least one pseudo-tubercle bacillus had been found not infrequently in butter, and this had led to confusion in the examination of that article of food for evidence of tuberculosis. An organism quite commonly found in cow-dung had been assumed at one time to be the tubercle bacillus, and as this could easily find its way into the milk, it followed that microscopical examination of milk was not an adequate means of proving or disproving the existence of tuberculous infection. The most striking morphological similarity between the tubercle bacillus and the "timothy bacillus" lay in the fact that both organisms assumed a branched form at times. Culturally, however, they were quite distinct. The timothy bacillus had been shown to be practically without pathological effect on man, but Flexner and others had shown that some at least of the pseudo-tubercle bacilli were pathogenic in man. Some observers had assumed that the tubercle bacilli were capable of living quite abundantly and indefinitely outside of the body as saprophytes. This was a mere assumption, however, without scientific basis. There was nothing to show that any one of these saprophytic organisms was ever converted into the pathogenic organism producing tuberculosis in man. The studies of the pseudo-tubercle organisms had not shown the evidence of the true parasitic nature of Koch's tubercle bacillus. The bacillus tuberculosis was thrown off in the secretions of the tuberculous, and then retained its vitality for a comparatively limited period. Even the tuberculous individual was not a source of danger to others, until he began to cast off the tubercle bacillus in his excretions, and even then with proper precautions he might mingle with his fellows without danger to them. It had been shown time and again that the expired air from the lungs, even in the advanced stages of tuberculosis, was free from the specific infection unless it bore particles of mucus or saliva, as happened sometimes in coughing or sneezing, and sometimes in speaking. The transmission of the bacillus was rarely direct, but might be so, as for instance in the performance of ritual circumcision. Inoculation into the skin resulted in the formation of tubercles, and a gradual extension into the lymphatic glands. When the infectious matter was introduced under the skin, the first evidence of infection might be in the neighboring lymph glands. It was probable that diseased tonsils occasionally served as portals of infection. Rabinovitch had shown that animals with initial tuberculosis, and without detectable disease of the udder, might, and often did, furnish milk containing living and virulent tubercle bacilli. This observation confirmed the opinion that he had expressed some years ago, that every dairy cow should be tested with tuberculin. Cattle seemed to be only slightly susceptible to human tubercle bacilli; on the other hand, the bovine tubercle bacillus had been shown to be more virulent than the sputum variety, and that this virulence increased when it was grown in milk. Tuberculosis always began as a local disease, confined for a greater or less period of time to a minute portion of the body. The destructive changes, as a rule, proceeded slowly until the infection became a mixed one. Most of the deaths from pulmonary tuberculosis were directly the result of mixed infection. That the tubercle bacillus had a predilection for pulmonary tissue was shown by the frequency with which the lungs became involved in the lower animals after subcutaneous and intraperitoneal inoculations, yet it was known that many persons lived for years with a local tuberculosis without the lungs becoming involved. The speaker said that our ancestors had freed the race from leprosy, and he believed the same would be accomplished in time in regard to tuberculosis. Very little could be done, however, without special hospitals for tuberculous patients. In Germany, where the greatest advances had been made, much of the money needed had been raised by insurance companies. In our own country the necessary funds would probably have to be raised by taxation. It was well to remember that there were wide differences in the degree of virulence shown by the tubercle bacilli infecting man. Undoubtedly individuals differed widely in their susceptibility to this disease, but some of these bacilli were so virulent that Dr. Vaughn said he did not believe any living human being could successfully resist their invasion in any large number. Statistics could be readily cited to show the absolute necessity of improving the condition of the poor in connection with our efforts to stamp out tuberculosis. He believed that tuberculosis, so long as it remained an unmixed infection, was an entirely curable disease.

The Diagnosis and Treatment of Laryngeal Tuberculosis.—Dr. Jonathan Wright, of Brooklyn, read this first paper in the series on surgical tuberculosis. Regarding the diagnosis of laryngeal tuberculosis he said that he did not feel that laryngoscopy alone, without the history of other symptoms, was sufficient ground for a diagnosis. It was easy to confound syphilis of the larynx with laryngeal tuberculosis, and the worst feature about such an error was that, whereas laryngeal syphilis yielded readily to appropriate treatment, it became almost as fatal as laryngeal tuberculosis if treated as the latter should be. Tuberculous laryngitis was not usually accompanied by dangerous dyspnœa, whereas syphilitic laryngitis was ordinarily associated with shortness of breath. When there was evidence in the larynx pointing to laryngeal tuberculosis, the tuberculous process in the lungs was usually sufficiently far advanced to permit of its ready recognition. If the examination of the sputum in a doubtful case failed to show the presence of tubercle bacilli, the patient should be at once put on antisyphilitic treatment. In laryngeal, as in pulmonary, tuberculosis he was of the opinion that the climatic treatment was the most important factor in the cure of the disease, yet it should be remembered that in a large proportion of these cases the person was so inevitably doomed that it was cruelty to send him away from home. After an exhaustive study of statistics and an extensive clinical experience, he had come to the conclusion that a permanent radical cure of the local lesion in laryngeal phthisis was not effected by any method of surgical treatment. Palliative treatment was an entirely different matter. It was the height of folly and the depth of cruelty to tell a person suffering from laryngeal phthisis that he could not be cured. It was a fact that lactic acid and

probably some other drugs would stimulate torpid granulations to a more healthy appearance, and cause some decrease in the inflammatory swelling, and perhaps occasionally produce an appearance of cicatrization and temporary cure. The local application of iodoform and especially of orthoform in the elegant prescription employed by Dr. Freudenthal relieved the pain, but probably did nothing more. The internal use of opiates was often indicated and justifiable. Detergent sprays gave temporary relief, but produced a favorable psychical impression. The submucous injection of creosote and lactic acid did not appeal to his knowledge of the pathological condition.

Tuberculosis of the Eye; its Differential Diagnosis, Pathology, and Treatment.—Dr. Charles Stedman Bull, of New York, read this paper. He said that our knowledge of tuberculosis of the eye dated back to 1868. Tuberculosis of the eye was chiefly met with between the ages of five and thirty years, and the tendency was to involve the deeper structures primarily.

Eyelids.—In tuberculosis of the eyelids the lesion usually appeared first in the retrotarsal fold. The lids were often much swollen, but were soft to the touch, and often presented distinct folds around the tuberculous mass. It was exceptional to find the tubercle bacilli in sections of the tuberculous mass, yet they might be found in scrapings from the floor of the ulcer. The neighboring lymph glands were not always swollen. Tubercles of the conjunctiva must be differentiated from trachoma, epithelioma, and syphilitic ulceration. In trachoma, the glands were not involved. The differentiation from epithelioma could be made by the age of the patient. The character of the ulceration, the lardaceous aspect of the mucous membrane, and the engorgement of the glands would usually suffice to make the diagnosis. The ulcerative surface should be cauterized unless near the edge of the lid, when it should be excised. If the lesion was primary, the prognosis was good; if secondary it was always unfavorable.

Cornea.—The cornea was much less liable to tuberculous disease than any other tissue of the eye with the exception of the lens.

Iris.—Tuberculosis of the iris occurred most frequently between the ages of five and twenty-five years, and was more frequently secondary than primary. The diffuse form spread rapidly, and occurred in persons predisposed by hereditary tendency to the disease. It occurred in children as small grayish nodules at the ciliary margins of the iris. It might be confounded with gumma, sarcoma, and leprosy. They might be distinguished from the first by their color and by the presence of glandular enlargements, and the usual signs of pulmonary tuberculosis. When the growths were multiple, non-vascular, and gray, and were accompanied by glandular enlargement, they were usually tuberculous. With our present knowledge, enucleation of the eyeball seemed to be the best treatment.

Choroid.—Tuberculosis of the choroid occurred either as solitary tubercle or miliary tubercles. It was most commonly seen before the age of twenty, particularly in little children.

Retina and Optic Nerve.—Tuberculous lesions of the retina and optic nerve were almost always an indication of a tuberculous meningitis. The changes in the optic nerve were always bilateral and consisted in a papillitis and a typical neuritis.

The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Ear.—Dr. Seymour Oppenheimer, of New York, read this paper. He said that tuberculosis of the ear was characterized by the insidious development of a slight discharge without pain. With this there was slight impairment of the hearing, and the drum was of a bluish-white color and somewhat œdematous. To establish the diagnosis microscopical examination of the pus from the deepest parts or even inoculation experiments might be required. Extensive alterations of structure had usually taken place before attention had been called to the possibility of a tuberculous infection of the ear. Prompt and effective treatment of the nose and throat in persons predisposed to tuberculosis was an important prophylactic measure. In such individuals the physician should carefully abstain from the use of the Politzer douche. The local treatment comprised the use of such non-irritating applications as would insure cleanliness. The usual constitutional treatment of tuberculosis should not be neglected.

Acute Tuberculosis of the Mesenteric Lymph Glands.—Prof. Maurice H. Richardson, of Harvard University, made this contribution to the discussion. He said that in general disseminated tuberculosis of the peritoneum it appeared as miliary tubercles, or in masses of greater or less size. In these cases the mesenteric glands might or might not be involved. Sometimes a single group of glands was involved, and this was associated with general disseminated tuberculosis. The symptoms of acute tuberculosis of the mesenteric glands were so obscure that their interpretation was impossible. In chronic tuberculosis of these glands the diagnosis was comparatively clear. In the acute form the symptoms were often those of an ill-defined appendicitis or of a local peritonitis. In addition to the pain and tenderness of the glands themselves there would be tenderness of the surrounding peritoneum. Therefore the diagnosis in the early stages must be mere guesswork. Most of the cases operated upon had advanced to the stage of caseation and of breaking down. The prognosis of acute tuberculosis of the mesenteric glands had always been looked upon as extremely unfavorable, yet he had often seen at operations many examples of spontaneous cure. These cures could not, however, represent the proportion of good results that should be obtained by early surgical intervention. The chief danger was the injury of large veins, thereby compromising the integrity of the bowel. When there was general dissemination, removal of the diseased glands was out of the question. It was not improbable that the removal of some of the larger glands would lead to the disappearance of many others. When the glands were caseous and suppurating, drainage was demanded.

The Surgical Treatment of Urinary and Uro-Genital Tuberculosis.—Dr. Samuel Alexander, of New York, read this paper. He said that while it was possible for the genito-urinary tract to be the seat of ascending infection, clinical observation did not support this view. Primary tuberculous infection of the genito-urinary tract he believed to be generally of hæmic origin. It was probable that the tubercle bacilli entered the genito-urinary tract from the blood, most often through the kidney, although this organ might itself escape at the time. Clinically speaking, the most common seat of primary tuberculosis in this region seemed to be the epididymis. He had found that it was usually associated with more or less involvement of the prostate or of the prostatic urethra. While tuberculosis of the bladder might be primary, clinical data in proof of this were wanting. The object of treatment in so-called primary tuberculosis of the genito-urinary tract should be curative. The removal of isolated tuberculous foci was not in itself curative. Unnecessary and frequent instrumentation was a common and potent exciting cause of the spread of tuberculosis throughout the genito-urinary tract. By a routine examination of the urine for tubercle bacilli many more cases would be diagnosed early. To

succeed in finding the tubercle bacilli in the urine, it was necessary to collect the sediment by the use of the centrifuge. If the urine had stood for some time after having been voided before the examination was made, or if the sediment had been collected by gravity alone, it was probable that the bacilli would not be found.

Kidney.—In all cases of tuberculosis of the kidney in which operation was not absolutely contraindicated by the condition of the patient, surgical intervention was imperatively demanded. As a general rule, the choice should be given to nephrectomy when only one kidney was affected. This operation, he believed, was indicated even in cases in which there was a beginning tuberculosis of the other kidney.

Epididymis.—He was strongly of the opinion that when the epididymis was diseased, excision of the part did as much good as castration. When the epididymis or testicle was to be removed for tuberculosis, as much of the seminal duct should be removed as could be reached.

Prostate.—He was convinced that primary tuberculosis of the prostate was far from infrequent, though difficult to diagnose. It was often possible by rectal pressure to express a few drops of secretion, and in that to find tubercle bacilli when none of these organisms could be found in the urine. As much as possible of the diseased prostate should be removed.

Bladder.—The surgical treatment of tuberculosis of the bladder was necessarily palliative. In the speaker's opinion, local treatment was absolutely valueless.

The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Bones and Joints.—Dr. E. H. Nichols, of Boston, made some remarks on this subject, illustrating them with lantern slides. He said that in the great majority of cases of tuberculous joint disease coming to autopsy, tuberculous lesions were found elsewhere through the body. Very rarely was the joint lesion the only evidence of infection. Primary tuberculosis was so rare that he himself had never seen it. In spinal caries the tuberculous process usually began in the anterior part of the vertebra. The character of the kyphosis depended upon the extent of the process and the region affected. In cases coming to autopsy an abscess was almost always found. Certain extraordinary deviations of the aorta might occur, especially if the disease in the vertebra developed after the person had attained his growth. Mere angular deformity seldom if ever diminished the calibre of the spinal canal sufficiently to make pressure on the cord. Occasionally pressure on the cord was produced by bony fragments. In rare instances an abscess caused a pressure paralysis. In a very large proportion of the cases of hip-joint disease the process began in the acetabulum itself, and hence, in such cases, excision of the head of the femur did not remove the primary focus. In the ankle joint the primary focus might be in the lower end of the tibia or in any of the tarsal bones.

The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Skin and Superficial Fascia.—Dr. John A. Fordyce, of New York, also gave a lantern exhibition in addition to discussing this subject. Speaking of lupus, he said that it might remain as a single patch for many years. The recurrence of lupus nodules in scar tissue spontaneously formed or following operation was common. Scarification of a lupus patch was sometimes followed by redness and phenomena similar to those observed after the injection of tuberculin. Secondary infection with pus organisms might give rise to considerable crusting, thus obscuring the true nature of the lesion. Epithelioma occurred so frequently as a complication as to indicate something more than a merely accidental relation. Age was a predisposing factor in lupus. The greatest difference of opinion prevailed concerning the probability of the tuberculous process spreading from the lupus patch throughout the body, and while many observers maintained that it was a common result, others declared that in an extensive experience they had not seen the two associated. Late syphilis and epithelioma had a tendency like lupus to clear up in the centre and spread at the periphery. When epithelioma developed on a lupous surface the diagnosis was rather complicated. Blastomycetic dermatitis had been confounded with cutaneous tuberculosis. Tuberculosis around the orifices was usually preceded by marked tuberculosis of the lungs.

Fourth Day—Thursday, October 18th.

The Treatment of Ichthyosis Hystrix by Electric Light.—Dr. George W. Goler, of Rochester, presented a brief report on this subject. The patient was a boy of nine years who had developed ichthyosis at the age of four years. When seen in July, 1900, the affection involved both the upper and the lower extremities. The first treatment was made upon the arm, the area selected being well rubbed with lanolin and then a light from a twenty-millampere lamp was projected through two eight-inch plano-convex lenses upon the arm. This was kept up for twenty minutes, and was repeated on the following day. On the third day the skin had lost its warty character, and at the end of six or seven days had assumed its normal appearance. The other affected portions of skin were treated in a similar manner, and at the end of twenty days, and after eighteen exposures of half an hour each to the electric light, the disease had entirely disappeared. It had not returned since, and the patient now perspired naturally over the area of skin formerly affected.

The Differential Diagnosis of Ectopic Gestation with Special Reference to Early Abortion.—Dr. Hiram N. Vineberg, of New York, read this paper. He said that he was not one of those who thought the differential diagnosis of this condition always easy, and that it could be made by relying solely on one or two prominent symptoms. He had followed the plan of making an exploratory incision into Douglas' culde-sac in a number of doubtful cases, and looked upon this as an important diagnostic aid. If an ectopic pregnancy was found, unless the conditions were specially favorable the operation was completed through a suprapubic incision. Every case of early uterine abortion should be looked upon with suspicion, and when there was much doubt the patient should be anæsthetized. The flow attendant upon a ruptured ectopic pregnancy was apt to occur as a mere "show," appearing and disappearing at intervals. The pain usually experienced was described as like that of labor. Microscopical examination of pieces of membrane discharged may show decidual cells, but even the most expert microscopist could not distinguish between the decidual cells of a uterine and of a tubal pregnancy. An erroneous diagnosis was apt to be made in cases of irregular sacculation of a pregnant uterus, elongation of the cervix, and retroflexion of the uterus.

Dr. Frederick Holme Wiggin related a case in which he would have been misled by a retroflexed uterus if the woman's appearance had not denoted something more serious, thus leading to examination with the uterine sound.

Drs. C. C. Frederick and E. V. Delphey also narrated interesting cases in point.

The Resources of Modern Minor Gynæcology.—Dr. A. H. Goelet, of New York, read a paper with this title. In it he called attention to a rubber sheath which he had had made for laminaria tents, thus per-

mitting of the use of this excellent means of securing uterine dilatation without fear of causing infection. Concerning the topical use of glycerin in gynæcology, he said that strips of gauze moistened with glycerin would be found far better and more comfortable than the usual cotton tampons. He had found a mixture of one part iodine and thirty-two parts glycerin more useful than boroglyceride. He considered uterine irrigation a very important therapeutic resource. He had devised a special form of double metallic irrigating-tube, which could usually be passed in without previous dilatation. If, however, it met with obstruction, it could be withdrawn and a rubber tube slipped over it to give the necessary insulation, and then it could be connected with the negative pole of a galvanic battery until the desired patulousness of the os had been secured. Regarding electricity, he said that despite the fact that surgical gynæcologists had repeatedly endeavored to kill electrical treatment in gynæcology, it was still very much alive, and was doing much good. It was a most valuable gynæcological resource. Galvanism would relax the cervical canal and promote drainage, and so materially aid the treatment of endometritis. It would dispel pelvic congestion and relieve pain dependent upon pelvic exudates much better than any other agent except faradization. He had found a few internal remedies useful in gynæcological cases. The combination of bromide and iodide of potassium was particularly valuable in cases of pelvic pain from the presence of exudates. Bromide of arsenic would often lessen the menstrual flow even in cases in which curettage was indicated.

Dr. Eden V. Delphey, of New York, said that he had used the rubber-coated laminaria tents with much satisfaction. Faradization had proved in his hands a most useful means of relieving pelvic pain and also in treating functional amenorrhœa.

Strabismus and its Management.—Dr. Julius H. Woodward, of New York, presented this paper. In it he described both the paralytic and the non-paralytic forms of strabismus. The symptoms of the former, he said, were confusion of sight, vertigo, double vision, impairment of the sense of perspective, deviation of one of the lines of sight from the object observed, and a confused feeling in the head. The diplopia was the most characteristic and troublesome of the symptoms. The first symptom of non-paralytic strabismus was deviation of the line of sight of the squinting eye away from the object on which the gaze was fixed. If the defect was promptly corrected a considerable degree of vision might be restored. In these cases the patient did not complain of diplopia, for even when it was present the person was not conscious of it. The deformity associated with squint had an important influence upon the temperament of the individual, and this sociological aspect should be kept steadily in mind. In the majority of cases more than one operation would be required. It was frequently advisable to begin the operative work at an early age.

Investigations upon Specific Corporal Gravity and upon the Value of this Factor in Physical Diagnosis.—Dr. Heinrich Stern, of New York, read this paper. He said that it was the density of the tissues and not the absolute weight of the body that was an important factor in physical diagnosis and in life insurance. In his investigation of this subject he had determined the specific gravity of the body by dividing the amount of its absolute weight by the loss of weight sustained when it was submerged in water. He had at first made use of a huge hydrostatic balance for determining the specific gravity, but further study had shown this to be unnecessary, as the result varied but slightly if the body was submerged instead of suspended. Fat had an average specific gravity of 0.0932. The larger proportion of fat in the female naturally made the specific gravity of the average female less than that of the male. The specific gravity of children was less than that of adults, but did not differ materially in the two sexes. The body weight of the aged was above the average for middle life. The specific gravity in the latter in the male was between 1.057 and 1.063, and in the female between 1.051 and 1.061. His studies also showed the relation between the body density and the density of the blood throughout the different periods of life to be so close that it was perfectly feasible to estimate the specific gravity of the body by determining the specific gravity of a drop of blood from the person. The determination of corporal specific gravity would show: (1) Body soundness, (2) body immunity, (3) endurance, and (4) the probable duration of life.

Aseptic Minor Surgery.—Dr. Douglas Ayres, of Fort Plain, gave in this paper a few thoughts on the pre-aseptic period, the thoughts and provings that had gradually led up to the present greatly improved technique, and the arrangement of an office or house by which modern surgical methods could be best carried out.

Amputation at the Hip Joint. A Report of Two Hundred Cases in which the Author's Method of Hæmostasis was Employed.—Dr. John A. Wyeth, of New York, read a paper with this title in which he gave a review of the literature. He said that the first hip-joint amputation by his method had been done in February, 1890. The operation had been done without the two pins in some instances, but since these pins, if properly inserted, were not in the way, and the control of hemorrhage was better, they should be used invariably. A wick of sterilized gauze was inserted into the cavity of the acetabulum because of the free oozing from the muscles. Two other successful methods had been used by surgeons in recent years. One of these was the performance of abdominal section and the control of hemorrhage by digital compression of the aorta. The other, devised by Dr. W. L. Estes, consisted in making a gradual dissection of the tissues, exposing the femoral vessels, and ligating them before their division. The method by laparotomy was objectionable because of the unnecessary entrance of the peritoneal cavity. Compression of the common iliac could not so completely control the hemorrhage as the pins and elastic ligature, because of the free anastomosis of branches of the opposite iliac within the pelvis and on the abdominal wall. In the two hundred and forty-seven cases of disarticulation of the hip that he had collected in this report, the total mortality had been fifty-two, or twenty-one per cent., though this included cases of death from intercurrent disease.

Drs. J. A. Bodine, H. Lilienthal, and W. B. Coley presented reports showing clearly that in their experience the Wyeth method was the best of all.

Report of Three Cases of Intestinal Obstruction due to Meckel's Diverticula.—Dr. John F. Erdmann, of New York, made this report (see page 645).

Intraspinal Cocainization for the Production of Surgical Anæsthesia.—Dr. S. Ormond Goldan, of New York, read this paper. He said that while he did not believe this new method of anæsthesia would supersede the other and better known ones, he felt sure that it would be held as a reserve in special cases. It was generally admitted that the credit of devising this striking method of anæsthesia should be given to Dr. J. Leonard Corning, of New York City, who had published in 1885 a series of interesting papers detailing his experiments in this field. The finest needle through which the cerebro-spinal fluid would pass should be selected. The ordinary long aspirating needles had too large a calibre. He had had constructed special needles made in one piece of four-

teen karat gold. These could be kept sharp by the physician. A sterilized and freshly prepared two-per-cent. solution of cocaine should be used. The needle should be introduced very quickly through the skin, and then very slowly until cerebro-spinal fluid began to drop from the needle. After the cocaine was injected, the syringe should not be removed from the needle for at least two minutes. In a period varying from four to twelve minutes the anæsthesia would be sufficiently complete for operation. In no case had he failed to get the cerebro-spinal fluid, and he had invariably followed most carefully the prescribed technique. The first two cases had been failures, probably because such large needles had been used as to permit the solution to flow out into the tissues external to the canal on their withdrawal. In these cases the cocaine solution had been tested and proved active. The usual quantity of cocaine injected was ℥j xx. of a two-per-cent. solution, and this dose should not be exceeded until it had been proved to have exerted no effect; then a second injection might be given. Beginning anæsthesia was indicated by the patient experiencing a feeling of numbness in the limbs. It was his present practice to give whiskey in every case before performing spinal puncture.

Dr. M. L. Maduro, of New York, said that he had seen complete collapse, and had heard of other complications following this method. He felt sure that, at the present time, few physicians would be willing to submit to this method themselves.

Dr. Bodine thought some of the uncertainties of the method might arise from a too rapid diffusion of the cocaine solution, and suggested that this might be obviated by adding salt solution to the fluid injected, thus increasing its density. Skin infection could be best guarded against by making an incision through the skin before introducing the needle.

Dr. R. H. M. Dawbarn remarked that he had known of this method of anæsthesia having been already tried in a case in which it was required to open a large boil on the thigh. It was not improbable that the cord might be so injured as to lead ultimately to secondary neuroses.

The Technique of Bloodless Work.—Dr. Robert H. M. Dawbarn, of New York, read a paper with this title. He said that the older the surgeon, the greater his respect for loss of blood. Operations on the extremities shoul be made bloodless. The best method was to raise the limb and for several minutes "milk" the blood out of the part. A rubber tube, half an inch in diameter, should be passed around the limb two or three times and fastened with a piece of wet bandage. For the control of medical hemorrhage, especially from the lungs, the most useful procedure was tying a cord around three of the extremities so tightly as to cause the limb to swell. This was kept up until the patient felt faint from the cerebral anæmia produced, and broke out in a cold sweat. After the first limb had been bandaged in this way for a short time, it should be released and the fourth extremity bandaged, and this process should be repeated with each limb in turn. After two or three hours the original hemorrhage should have been sufficiently controlled.

Operative Treatment of Symblepharon by the Use of Thiersch Grafts.—Dr. Wilbur B. Marple, of New York, presented a communication on this subject, in which he advocated his original method of using a shell of glass to hold the graft in position until union had taken place. The graft was stretched over the glass shell, and the latter was left in from three to seven days. If the patient experienced pain after the operation it usually meant that the shell was pressing on the cornea. The graft must be one-half to one-third larger than the defect to be covered, as it would be considerably reduced by contraction at the time, and, to a lesser extent, subsequently. The objection to the use of grafts from the conjunctiva and the mucous membrane of the mouth was that these did not sufficiently resist this subsequent contraction.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 18, 1900.

William H. Thomson, M.D., President.

The discussion of the evening was a continuation of that begun at the last stated meeting.

Advantages and Limitations of Sterilizing and Pasteurizing Milk.—Dr. A. D. Blackader, of Montreal, read this paper. He said that milk obtained under unfavorable conditions and kept at a rather high temperature contained many bacteria, and in addition, their spores and toxins. According to our present knowledge, all forms of bacteria were undesirable in an infant's food. It had been shown that 99.8 per cent. of the bacteria could be destroyed by pasteurization. The older the milk was the more difficult it was to pasteurize it. Pasteurization at 70° C. destroyed the vast majority of the forms liable to produce extensive and rapid change in the quality of the milk. It was necessary in most instances to maintain the pasteurized milk at a low temperature in order to preserve it from further change. However, the same could be said of milk heated to 100° C. Milk exposed to 60° C. or 140° F. had ninety-six to ninety-nine per cent. of its bacteria destroyed. Russell had found that when milk was heated in tubes to 140° F. tubercle bacilli were not entirely killed because the little pellicle which formed on the surface of the milk protected the bacilli to some extent. If this pellicle was broken up complete destruction of the tubercle bacilli was assured. Milk raised to 100° C. was markedly altered in taste, smell, and chemical composition. The albumin and globulin were coagulated, the lecithin and nuclein were destroyed, and the organic phosphates converted to some extent into the inorganic phosphates. For the coagulation of milk in the stomach calcium must be present in a more or less free form. It was probable that the preliminary curdling of milk was an aid to digestion. It was also probable that in milk heated in this way certain useful ferments were destroyed. As long as milk could be rendered practically sterile at comparatively low temperatures it seemed useless and even deleterious to subject the milk to a higher temperature. It was generally stated that milk was pasteurized at 157° F.

Relation of Scurvy to Recent Methods of Artificial Feeding.—Dr. J. P. Crozer Griffith, of Philadelphia, discussed this topic. He said that two years ago the American Pediatric Society had published the collective investigation on scurvy in this country. There were three hundred and seventy-nine cases reported, and in three hundred and fifty-six the nature of the diet at the time of the development of the disease was stated. Food containing or derived from starch seemed to be a powerful etiological factor. The use of cooked or partially cooked milk seemed to be a cause of scurvy in about nineteen per cent. of the infants. Several children developed the disease on a diet of raw milk. The speaker also referred to sixteen of his own cases which showed very plainly the very large proportion of cases in which some proprietary food appeared to be the cause. It was evident also that scurvy developed even when the milk used had been taken raw, or only very slightly heated. One fact that had impressed itself specially upon his mind was, that irrespective of the food much depended upon individual peculiarities.

The Use of Cereals, Emulsions, and Proteids.—Dr. T. M. Rotch, of Boston, read this paper. He said that cereals were added either to increase the nutritive value, or to aid the digestion of the proteids by acting mechanically on the coagulum. The addition of an element such as starch, that never existed in milk except as a foreign element, seemed to him utterly irrational. Barley water was the favorite cereal diluent for milk, although actual experiment showed that there was no difference in the various cereal diluents, provided they were of the same degree of dilution. These statements had received abundant confirmation in some recent experiments conducted by Drs. White and Ladd, of Boston, under his directions. They had been unable to show any marked difference between the laboratory milk and that in which the natural emulsion had been disturbed by the use of the centrifuge. It was true that at times globules of fat would be found on the surface of the milk, but investigation seemed to show that this occurred only in warm weather, and not then unless the milk had been disturbed by transportation for a considerable distance. In his clinical experience he had been unable to find any special difference in the action of such milk and milk that did not exhibit this separation of the fat. Recent experiments seemed to indicate that whey was a better diluent than barley water, and that milk so diluted was less likely to show disturbance of the emulsion.

General Principles of Artificial Feeding, and the Home Modification of Milk.—Dr. L. Emmett Holt read a paper with this title. He said that good breast milk must be looked upon as the ideal food; the nearest approach to it was fresh cow's milk. Though the latter contained all of the elements needed, they were present in improper proportions, and the elements themselves were not identical in composition with those of breast milk. It was for this reason that cow's milk could not be fed to most infants without some modification. Percentage feeding was a great step in advance, but while the formulas succeeded well with some children, they utterly failed with others. Experience had shown that no single formula could be made to do duty generally. The physician must know the approximate quality of the milk used at the home. The formulas actually needed might be grouped into three series: (1) Those in which the fat was three times the proteids, or the ratio in breast milk; (2) those in which the fats were twice the proteids, and (3) those in which the two were nearly equal. As a rule, the first formula was suited for normal cases up to the third month; the second was suited for them from the third to the tenth month, and the third from the tenth to the thirteenth month. Ordinary milk after standing four hours contained in its upper third about all of the cream. A simple plan was to strain into a jar that which was needed for each day, and then to place the jar in a vessel containing ice. The first formula called for the proportion of 3 to 1, or ten per cent. fat, and was obtained by taking one-third of the upper milk. The second formula was represented by half of the milk, or seven per cent. fat.

Dr. Joseph E. Winters said that the physician could not help to be impressed with the fact that infants suckled by a healthy mother were rarely sick, and that while eight per cent. died, fifty-one per cent. of artificially fed infants died. These were the figures from private practice, whereas in the Charity Hospital at Berlin, where the infants were for the most part artificially fed, the mortality varied between fifty-nine and ninety-three per cent. As a result of experience with laboratory feeding he had come to feed new-born infants from the very first day of life, and had found that this practice prevented the loss of weight generally seen in the first week of life. The formula which he found most generally useful in the newly born was, fat 2, sugar 7, and proteids 0.25 per cent. If the infant was premature he increased the sugar to even ten per cent. Cow's milk for infant feeding should contain nothing which was not found in human milk, and it must be pure and fresh. He believed that when one reaches 0.50 per cent. proteids all infants would do better on three per cent. than one one per cent. fat. When one reaches one per cent. proteids there should be the percentage of fat found in human milk—four per cent. It was very important to increase the proteids as rapidly as possible, but it was necessary to do this much more slowly in summer than in winter. In the cool months an infant should be on two per cent. proteids when about four months old. During all the years that he had been using laboratory milk, and with unvarying success, a cereal had not entered into one of his prescriptions. Hundreds of infants had been brought up to full milk on laboratory milk and without any disturbance whatever. For the past three years he had been using the laboratory milk absolutely raw, and the infants had done better than before. There had been less complaints of sourness and signs of fermentation since he had been using raw milk than before with the pasteurized milk. In one instance, some raw milk and some heated milk had been sent on board a steamer. The heated milk had soured first. He had made a trial of gravity cream at one time, and had not found it superior to the centrifugal cream for infant feeding. When milk was immediately cooled to 40° F. after milking, and was kept at that temperature, it would keep sweet a long time. Proper supervision was more of a safeguard than pasteurization.

Dr. H. D. Chapin said that the great defect of percentage feeding was that it took no cognizance of the differences in composition of cow's milk and breast milk. This, he thought, disposed of the argument that the addition of cereals was the addition of a foreign body. Any trouble from the starch could be easily overcome by dextrinizing the gruel, and the mechanical separation of the particles of coagulum made a milk diluted in this way much more digestible than milk diluted to the same extent with water alone.

Dr. R. G. Freeman commented upon the great differences of opinion regarding the effect of heating milk. Some used pasteurization at 155°, others at 167° F., and one physician in this city heated the milk to 190° F. We had been told that breast-fed infants were rarely ill, yet this could not be because the milk was sterile, as the fissured and dirty nipples usually afforded a good opportunity for the introduction of germs. The breast-fed infant got a fresh raw milk containing a few bacteria. Most of the milk received in this city was twenty-four hours old when it was received, and was twenty-four hours older when the baby was through with the day's supply. The long transportation and the opportunities for contamination with pathogenic germs added to the risks of such milk; hence it seemed wise to heat milk. Pasteurization at 155° F. for twenty minutes had practically no effect on the composition of the milk, yet the milk was rendered almost sterile—at any rate the common pathogenic germs were killed.

Dr. Louis Fischer said that as scurvy was known to be produced by feeding heated milk, and that improvement rapidly followed change to raw milk, it seemed reasonable to begin feeding with raw milk. A healthy child should gain six or eight ounces a week. His experience had been that children fed on laboratory milk exclusively were backward in development. Children using this milk were anæmic and their skin was flabby even though they were the children of the wealthy. The theory of percentage feeding had always appealed to him, yet he had never been able successfully to put it in practice. Dr. Jacobi had often

called attention to the frequent fluctuations observed in the composition of mother's milk, and this in itself must throw considerable doubt on the practical value of percentage feeding.

Dr. A. M. Spalding said he had had a good deal of experience with infant feeding and with the modification of milk, and had had good success with the use of raw milk modified so as to make it approach the composition of mother's milk. Milk could be modified so as to adopt it nicely to the wants of the individual. He saw no reason for the addition of cereals.

Dr. Rotch said, in closing, that he had seen very large tough curds vomited by breast-fed infants, but the density of the coagulum was dependent upon the proportion of caseinogen present. By reducing the proportion of caseinogen the coagulum would not be so tough.

Dr. Chapin remarked that under the ordinary conditions of practice it was necessary to split up the curd by some diluent such as the cereals.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 20, 1900:

	Cases.	Deaths.
Tuberculosis	254	166
Typhoid fever	88	16
Scarlet fever	55	1
Measles	36	1
Diphtheria	192	35
Laryngeal diphtheria (croup)	4	3
Cerebro-spinal meningitis	0	0

Leprosy in China.—Dr. Wittenberg, writing on the above subject, states that the pure nerve form is the least common. In such cases, as is well known, the patients may go on for years. As to the mixed form, it is fairly common, but it is a difficult matter to estimate the number of lepers in any given district. The sufferers lead the common life so long as they remain free from destructive lesions. When these occur to any marked degree, the leper is either segregated in a hut or he is allowed to wander about the country sustaining life by begging. At other times the relatives get rid of him by burying him alive, a proceeding to which the patient readily consents. He is given a good meal as a farewell banquet, possibly joins in the funeral procession, following his own coffin, and after partaking of a generous dose of laudanum, philosophically settles down comfortably in his grave. This is Dr. Wittenberg's account, and as it accords with the fatalism of the Chinese there need be no hesitation in accepting it as accurate. The German observer also records cases of direct contagion—for instance, from mother-in-law to daughter-in-law, but no further details in this connection are given.—*British Medical Journal.*

Antivenene.—For some years past Professor Frazer of Edinburgh, and Dr. A. Calmette of the Pasteur Institute, Lille, and others have been engaged in the very laudable endeavor to discover a remedy for snake-bite. This, they believe, has been found in the poison of the reptile itself. The system adopted by the doctors is that of Pasteur, the scope of which since its first inception has become so widely extended as to embrace many diseases formerly regarded as incurable, but now found to be more or less amenable to the new treatment which consists of inoculation with attenuated virus of the disease itself, or with the blood serum of animals which have been immunized by the process, the treatment being employed not only as a cure but as a prophylactic. In the case of snake-bite the remedy consists in the subcutaneous injection of gradually increasing doses of the venom of deadly snakes until the animal treated becomes proof against the poison. The blood serum of an animal thus immunized, known as antivenene, or of the snake itself, is used to cure and protect others. The animals thus treated have been chiefly rabbits, rats, and pigeons, and it is asserted that instead of being injured or weakened by the experiments, they gain in weight and vigor. The doses administered have been proportioned to the weight of the animal, and four methods of administration have been tried experimentally. In the first the venom and the antivenene were mixed together before injection. In the second the two were administered separately but simultaneously, in the third and fourth the antivenene was injected before and after the venom. The latter is of course the only method applicable to actual cases of snake-bite, and it is of special interest to know how long after the bite antivenene may be relied on as a remedy, because the poison of the more deadly of the snakes acts so quickly that no remedy can avail unless close at hand. In some of Dr. Calmette's experiments serum injected an hour and even an hour and a half after a large dose of venom seems to have effected a cure, which would at all events allow time for the application of the remedy should any one competent to administer it be near at hand.

Alcohol in Illness.—Professor Atwater, writing in *Harper's Magazine* upon the much vexed subject of the use or uselessness of alcohol, says: "In talking with physicians about this matter I have been much impressed by the frequent and emphatic statements of their experience in administering alcohol to patients in forms of disease when the bodily activities are at a low ebb. They tell me that they often find that people in such a condition will take without intoxicating effects quantities of alcohol which would under ordinary circumstances produce drunkenness. They say, furthermore, that there are many cases in which the bodily functions are maintained, and life is even saved by alcohol when ordinary food could not be endured. From the standpoint of the physiological chemist this effect of alcohol would seem entirely natural. The bodily functions are weakened and the power of digestion is impaired. While the patient is lying still the labor required of the muscles is not large and the chief need is fuel to carry the body through the time of stress. What is wanted is a material which will not have to be digested, can be easily absorbed, is readily oxidized, and will supply the requisite energy. I know of no other material which would seem to meet these requirements so naturally and so fully as alcohol. It does not require digestion, is absorbed by the stomach and presumably by the intestine with great ease. Outside of the body it is oxidized very readily, within the body it appears to be quickly burned. Why it should have less effect upon the nervous system in some forms of illness than in health is perhaps hard to say, but that it should under these circumstances be an invaluable source of energy is easy to believe."

Drug-Store Physicians.—The latest development of the cheap medical-treatment scheme is a combination of society and druggist. The prospectus of one of these relief bureaus states that for "$1 admission fee and 50 cents monthly dues a family may secure the reduced rates offered by the bureau. The rates are 50 cents a call and 25 cents for a consultation and special rates for chronic cases." The prescriptions are all turned over to the drug stores in the combination, and as one of the subscribers said, "When you

pay for the medicine you begin to realize that you have not got a bargain." A physician who practises his profession in the crowded East Side district, where many of the cheap medical-treatment schemes have flourished, said, "The laws which make a certificate from the Board of Regents' examiners necessary to practise medicine have done much to drive the quacks out and to make the drug-sellers stick to their business, but these clubs and bureaus still keep at it with the help of regular physicians. But the service is unsatisfactory because the physician who is employed by another person to attend to your family, or the physician who gives bargain-counter service, never becomes the friend of the family and is soon dropped for a regular practitioner. The family gladly pay a little more for the satisfaction of speaking about 'our doctor,' a distinction which raises them a degree above their neighbors who employ a club physician or go to the drug store when the bureau doctor may be seen there."

Sale of Patent Medicines in Great Britain.—The stamp duty paid on medicines during the year ended March 31, 1900, amounted to the sum of £288,827, being an increase over the previous year of £22,423. There has been a steady increase in the net receipts since 1894 when the amount was £213,210, the lowest during the past ten years.

The Census.—The *Review of Reviews* for October is rather sceptical as to the large increase of population in this country estimated by some computators, and says, "Is it true then that there has been any appreciable increase during the present decade in birth rate or, on the other hand, any marked decrease in the death rate, which would favorably affect the average annual increase of our total numbers? Doubtless the continued improvement of sanitary conditions in large towns and the general progress in the conditions of living and in the treatment of disease are adding steadily, if not rapidly, to the average longevity of our people. But all indications would tend to confirm the impression that the average annual birth rate is declining rather than gaining in the United States. In France, for example, although the modern improvements in sanitation, treatment of disease, and care of children are diminishing the death rate, there has at the same time been such a falling off in the birth rate that the total population figures are approximately maintained solely by reason of a moderate stream of immigration from Italy and other neighboring countries. It is perhaps true that there are now some localities of considerable extent in the United States, where, if it were not for the fact that there is some immigration, and also that there is a comparatively high birth rate among the immigrants, the total population would by no means hold its own on account of the lower birth rate among the native American element. An analytical study of the facts that the new census will gather must throw much light upon interesting questions touching the present tendencies of population in this country. If the statistics are to be relied upon the increase in population that was due to the excess of births over deaths was about fourteen per cent. for the ten years 1880 90, but, further, assuming the correctness of the immigration statistics for the past decade, if we accept the estimates which call for a population of 80,000,000 this year we shall have to look to the excess of births over deaths for a gain of almost twenty-two per cent. To any one at all familiar with vital statistics it is evident without further discussion that such a radical change in the conditions of population increase in the United States could not possibly have taken place. Even if one were to be content with estimating that we should have gained population at the same average rate in the current decade as in the one preceding it would still be necessary on account of the falling off in immigration to rely upon a considerably higher rate of gain in the excess of births over deaths in order to bring up the total. And there is not sufficient reason to believe that the actual census work will show any such gain."

Medical Commission in South Africa.—It is asserted, and to those able to read between the lines it would appear with some degree of truth, that those gentlemen who have reflected most severely upon the conduct of medical and surgical departments of the British army in South Africa are not so much swayed by motives of humanity or even by the sentiment of patriotism but by the less unselfish aim of the advancement of themselves politically and for the desire of notoriety. Most of those who peregrinated through South Africa in search of information were members of Parliament, who, aware that a general election was at hand, judged that the showing up of abuses of the war would be an excellent battle cry with which to rouse the passions and gain the votes of their constituents. Among this band is numbered Mr. Murray Guthrie, M.P., who, not content with airing his opinions as a witness before the commission, contributes a poorly constructed article to the *Nineteenth Century* of September, in which he, without fear of contradiction, ventilates his views at length. He criticises in a severe and palpably unfair manner the whole working of the British army medical corps and ends by saying, "It can scarcely be questioned that the government and Lord Roberts did everything in their power to meet and even foresee the difficulties that occurred, fulfilling every demand that was made upon them in the most generous spirit and even giving more than they were asked for. I am therefore compelled to urge that the deficiency of doctors and orderlies and nursing sisters was due to a lack of foresight, and that the blame rests on the head of the medical department in South Africa. This being so one is reluctantly brought to the conclusion that the local military authorities were unfitted for the task they had to perform, a task I admit of the greatest difficulty and magnitude and one which I do not think their previous training in any way fitted them to cope with. There was apparent at headquarters, where most of the sickness prevailed, an obvious lack of energy; initiative was non-existent. Had the Royal Army Medical Corps had at headquarters some men of capacity and determination who would have grasped the whole problem and worked it out in time I believe there would have been no occasion for a royal commission."

Consumption of Spirituous Beverages.—H. Bence-Jones, in a paper read before the British Statistical Society, gave the following figures with regard to the above-named subject: The amount of wine that is drunk per head in wine-consuming countries is amazing. In France the consumption per capita is twenty-four gallons a year, while the average Italian drinks twenty gallons annually, and the average Spaniard eighteen. But in mere quantity the beer-drinkers far exceed the wine-drinkers. Thus the annual consumption of the United Kingdom is nearly thirty-two gallons a head; that of Germany is twenty-seven gallons; that of the United States where the Saxon element predominates, is thirteen gallons. The general impression is that Germany heads the list, but this is true only of parts of the Empire. Bavaria leads the world in the consumption of beer, its inhabitants drinking at the rate of fifty-six gallons a head a year. Wurtemberg makes a good second with forty-three gallons a year, while each inhabitant of the Grand Duchy of Baden may be reckoned as drinking thirty-six gallons in a year. But this indulgence is balanced by a very

moderate rate of indulgence in other parts. Taken as a whole, Belgium leads the world in the matter of beer-drinking. In fact, Beligum seems to be a self-indulgent little country, for in addition to this large amount of beer its inhabitants drink per capita twice as much wine and spirits as the English do. Belgium drinks more of alcohol in every form than any other nation (of which statistics are to be had), with the possible exception of Denmark. Denmark is not so much of a beer-drinking country, though its twenty gallons a head annually is a pretty large average; but it has the pre-eminence, affix to it what adjective you like, of drinking more spirits than any other nation—no less than three gallons per head. No other nation consumes more than two gallons per head. The countries which take even so much are France, Germany, Austria, Holland, Belgium, and Sweden. In the United Kingdom, the Russian Empire, the United States, and Switzerland, the average consumption is about a gallon per inhabitant. Of all Great Britain's colonies Canada holds the proud position of being the most sober, indeed it is probably the most abstemious country in the world. The consumption of spirits, too, is steadily decreasing. In 1898 the consumption of spirits was only a little more than half a gallon per head, while of wine there is not consumed more than one-tenth of a gallon per capita. Three and a half gallons of beer are drunk per capita annually. Coffee is being consumed more and more both in Canada and in this country. The consumption of coffee, indeed, in the United States exceeds that of any country in the world. The Americans drink anually eleven pounds of coffee a head, the Germans five, and the French three and a half a head.

Tuberculosis in the Russian Army.—Dr. H. K. Chtchepotiev published last February in *Vratch* the sick rate from tuberculosis in the Russian army during the octennium 1890–97. During that period it is said to have amounted to 4 per 1,000 annually, and the death rate to 1.07 per 1,000. Contrasting these high rates with the condition of things prevailing in other countries, the author finds that the annual admission rates of tuberculosis in the German army is 2.3 per 1,000 of strength, in the Austrian army 3.4 per 1,000, in the French army 5.0 per 1,000, the death rate varying from one-sixth to one-third of the total mortality from all causes. In the French army, according to Makiewicz, out of 1,000 soldiers invalided for tuberculosis 116 had acquired the disease before enlistment, while 197 developed tuberculous symptoms during the first six months of their service and 278 during the second six months. In the course of their second year 254 were found to be affected, leaving only 155 who remained immune until they had served two years and upward. At Kiev Dr. Chtchepotiev found that during the period from January, 1895, to November, 1899, the number of admissions to the military hospital on account of tuberculosis was 527. Of these 111 men had less than six months' service, and 32 less than a year's. The second year furnished 127 tuberculous cases, the third 111, the fourth 95, the fifth 33, sixth and upward 18; 12 of the young soldiers in the first series died in hospital, the remaining 99 being sent to their homes while still able to travel. Dr. Chtchepotiev is strongly of opinion that the great prevalence of tuberculosis in the Russian army is due to entry each year of a number of recruits who carry in their systems seeds of the disorder. Although a great many of the affected soldiers have tuberculous antecedents, hereditary or otherwise, it is also true that of the men attacked after serving a year or more fully half are strong and robust with nothing about them to suggest predisposition or inheritance of family taint. Unfortunately, it is not always an easy matter to recognize incipient phthisis pulmonalis. A recruit who presents easily diagnosed symptoms of tuberculosis can, to a certain extent, be guarded against, but the harborer of latent germs is a veritable anguis in herba. Living as soldiers do more or less promiscuously, sleeping in numerously occupied dormitories where they must inevitably respire air that has already passed through human lungs, it is of the utmost importance that every one of these should be as sound as possible. In order completely to eradicate tuberculosis from the army the most strict inquiry into the previous medical history of every recruit should be insisted on and provided for, together with a far more searching examination of his physical condition than at present obtains. The small additional cost thus entailed would be recouped over and over again, even though but one-quarter of the present loss of efficiency from a preventable cause were to be attained. As a palliative it would be well to provide for the early elimination of tuberculous patients. At present the custom in the Russian army is to retain them as long as they can manage to carry out their duties. Incidentally Dr. Chtchepotiev confirms the fact already noticed by several writers that Jewish soldiers are seldom the victims of tuberculosis.—*Lancet.*

Diagnosis of Tuberculosis of the Kidney.—1. The frequent micturition. 2. Limpid polyuria. 3. Pyuria, spontaneous and persistent. 4. Hæmaturia, slight, and repeated capriciously. 5. Renal tumor.

In young, pale, somewhat feeble subjects we have practically three types: 1. Patient has hæmaturia alone. 2. Patient has hæmaturia and pyuria. 3. Patient has tumor alone.

1. Hæmaturia. The peculiarities of hæmaturia due to renal tuberculosis must be borne in mind. In tumor, much more abundant. In stone, due to exercise and controlled by rest in bed. Frequent micturition, pyuria, albuminuria, and tuberculosis elsewhere, either in genito-urinary tract or any place else in body, make the diagnosis possible.

2. Patient has pyuria and hæmaturia; this usually follows the hæmaturia and the limpid polyuria. The characteristics of the pyuria are those of pyelo-nephritis. To determine that it is tuberculosis: (*a*) Presence of bacilli tuberculosis; (*b*) presence of tuberculous foci elsewhere, especially of bladder around the opening of the ureter; (*c*) general condition; (*d*) absence of antecedent infection.

3. When tumor alone exists, then the diagnosis is alone possible when other foci are to be found, or when the bacilli tuberculosis can be demonstrated in urine or in fluid obtained by puncture.—C. S. Evans, *Cincinnati Lancet-Clinic.*

Food Poisoning by Copper a Fallacy.—The poisonous nature of copper salts is held by Dr. T. W. Hime, medical officer of health of Bradford, England, to afford insufficient ground for the prohibition of the sale of coppered vegetables, and he asserts that there is no more reason for such prohibition than for interfering with the sale of the innumerable kinds of fruits, vegetables, shell-fish, cereals, mineral waters, wines, and animal flesh which naturally contain the metal in some form. These views were advanced in a paper read before the British Association, wherein Dr. Hime urged that if any general prohibition of the sale of foodstuffs containing copper were attempted absolute and general starvation would be the inevitable result. so widely is the natural presence of copper in articles of food extended. But *The Lancet* thinks that on such grounds Dr. Hime might justify arsenic as a useful food preservative, since it is now known to be a normal constituent of the body though in infinitesimal amount. Objection, however, is taken, not to the plan of preserving the color of peas by copper, but to the consumer not being made plainly aware

that such is the case with the provisions he consumes. Some people like their meats roasted, others do not care a tittle whether it is baked or gas-cooked; but it is clearly deception when a person is told that a piece of beef has been roasted which has instead been cooked in the gas oven. Neither does Dr. Hime seem to pay special regard to the important question of personal idiosyncrasy. If the quality of our food supply is to be state protected, with any degree of efficiency, that is a point which must not be lost sight of, for in all attempts to keep up the health of the community all sorts and conditions of men must be reckoned with. In conclusion, *The Lancet* hopes that a statute will very soon be introduced which shall definitely control all methods of coloring and preserving food.—*Pharmaceutical Journal.*

Futile Plague Precautions.—The *Medical Press*, writing on the above subject, says: "For ridiculous inadequacy it would be difficult to surpass the measures adopted in most foreign ports to prevent the importation of plague when these are limited to fumigation of the clothing of the passengers and crew, and the so-called disinfection of the ship. The very idea of disinfecting a ship strikes one as preposterous in view of the myriad of corners and subdivisions which no process of purification can be expected to reach. An efficient medical examination of the personnel and the isolation of suspicious cases for a suitable period are unquestionably the only effectual means of control. The more popular measures merely induce a fallacious confidence which may run counter to the very object for which they are carried out."

Extemporaneous Methods of Water Purification.—Surgeon-Major Schucking of the Austrian army is of the opinion that of the various methods of purification there are only two that can be taken into account for the use of troops in the field: (1) filtration; (2) purification by the addition of chemical agents. Among filters aiming at the sterilization as well as the clarification of water, the Berkefeld-Nordtrueyer alone is so constructed as to meet the exigences of war. But although well adapted for use in field stations, it can only be carried in baggage wagons. Portable filters only clarify muddy water. The use of them therefore requires to be supplemented by some means of destroying micro-organisms. After extensive experiments and researches (Traube, Lode, Kratschmer, Vogel) such a means has been found in hypochloride of chlorine. This chemical agency certainly kills all bacilli in thirty minutes.—*British Medical Journal.*

Concurrence of Typhoid and Malarial Fever.—In view of the statement made in Osler's "Principles and Practice of Medicine" that among a large number of cases of typhoid in which blood examinations were made, in not a single instance were the plasmodia of malaria found, although many patients came from malarious districts, it is well to note that Major M. T. Yare, R.A.M.C., records a case of apparently mild but well-marked typhoid in which the malarial parasite was discovered. From about the twenty-first day his blood was examined and a few crescents were seen, but very few. About a week later, however, he had rigors followed by shivering and then numerous pigmented parasites of the kind figured by Marchiafava and Bignami as pigmented malignant quotidian were found.—*Hospital.*

An Analysis of Ice Cream.—Additional information as to what may be found in that fearful and wonderful concotion sold as ice cream, has been obtained from a recent analysis of samples taken in London, and at Ramsgate, Margate, Dover, and Herne Bay. Some of the samples were obtained from shops. As is well known there is neither milk nor cream in this frozen stuff; boiled starch and maize being the principal ingredients. Some contained gelatin or size, also traces of lead, zinc, and antimony, and others were flavored with acetate of amyl which is extracted from fusel oil, and will produce headache, drowsiness, sickness, and stupor in children. Microbes, it need hardly be said, were found in abundance.—*Tit-Bits.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended October 19, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Kentucky, Lexington	October 6th to 13th	1	
Louisiana, New Orleans	September 30th to October 13th.	1	1
Minnesota, Minneapolis	October 6th to 13th	2	
Nebraska, Omaha	September 30th to October 6th.	1	
Ohio, Cleveland	October 6th to 13th	9	
Utah, Salt Lake City	October 6th to 13th	10	
West Virginia, Wheeling	September 30th to October 6th.	1	
Smallpox—Foreign and Insular			
Brazil, Rio de Janeiro	August 1st to September 15th	..	57
England, London	September 22d to 29th	2	
France, Paris	September 22d to 29th	..	6
India, Bombay	September 6th to 18th	..	3
Calcutta	September 1st to 15th	..	17
Philippines	January 1st to September 8th	35	1
Russia, Moscow	September 8th to 15th	4	
Odessa	September 22d to 29th	9	4
St. Petersburg	September 15th to 22d	9	4
Scotland, Dundee	September 22d to 29th	1	
Yellow Fever—United States.			
New York, New York Quarantine	October 9th	1*	
* On steamer *Havana* from Havana.			
Yellow Fever—Foreign and Insular.			
Brazil, Rio de Janeiro	August 1st to September 15th	..	10
Cuba, Havana	October 5th to 12th	76	14
Mexico, Progreso	September 15th to 30th	3	3
Vera Cruz	September 30th to October 6th.	..	10
Cholera.			
India, Bombay	September 6th to 18th	..	224
Calcutta	September 8th to 15th	.	20
Karachi	September 1st to 16th	34	26
Madras	September 1st to 14th	..	133
Japan, Yokohama	September 1st to 8th	1	1
Plague—Foreign and Insular.			
China, Amoy	August 11th to September 8th.	..	90*
India, Bombay	September 4th to 18th	..	155
Calcutta	September 1st to 15th	..	100
Japan, Osaka	September 17th to 23d	12	
Philippines, Manila	January 1st to September 8th	215	146
Scotland, Glasgow	August 31st to October 6th	29	8
* Estimated.			

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, M.D. 8vo, 842 pages. Illustrated. Lea Brothers & Co., New York.

PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M.D. 8vo, 585 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

ELECTRO-THERAPEUTICS AND X-RAYS. By Dr. Charles Sinclaire Elliott. 8vo, 349 pages. Illustrated. Boericke & Tafel, Philadelphia, Pa.

HEART DISEASE IN CHILDHOOD AND YOUTH. By Charles W. Chapman, M.D. 12mo, 101 pages. The Medical Publishing Company, London.

LABORATORY DIRECTIONS FOR BEGINNERS IN BACTERIOLOGY. By Veranus A. Moore, M.D. 12mo, 143 pages. Ginn & Company, Boston, Mass.

KURZGEFASSTES LEHRBUCH DER KINDERHEILKUNDE. Von Dr. Carl Seitz. 8vo, 499 pages. Verlag von S. Karger, Berlin, Germany.

ANLEITUNG ZUR DIAGNOSE UND THERAPIE DER KEHLKOPF-NASEN- UND OHRENKRANKHEITEN. By Dr. Richard Kayser. 8vo, 169 pages. Illustrated. S. Karger, Berlin, Germany.

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MODERN QUARANTINE IN ITS RELATIONS TO PASSENGERS, CREW, AND CARGO.[1]

By ALVAH H. DOTY, M.D.,

HEALTH OFFICER, PORT OF NEW YORK.

For some years past the conviction has been forced upon me that a careful review of the subject of public health, particularly that part of it which relates to marine sanitation, will show that many of the methods now employed in carrying out this important work are not in harmony with the facts which have been presented by scientific investigation and practical experience, and I believe the time has come when this matter should receive the most serious consideration. The term "commerce destroyer," which has been applied to coast quarantine, has not been used without some justification, inasmuch as such rigorous and unreasonable regulations have been imposed in different sections of the world that commercial intercourse with those sections has been almost abandoned. In the past, excuse may have existed for the enforcement of these measures, as but little was known concerning the cause of infectious disease, the germicidal value of agents known as disinfectants, etc. However, the brilliant researches of Pasteur and of Koch twenty years ago, and the subsequent investigations of other savants, have given to the world indisputable evidence of the germ origin of many of the infectious diseases and have stimulated bacteriological inquiry in all directions. As a result, regarding this subject, we are now in possession of definite scientific knowledge which is in harmony with our practical experience. Therefore but little reason exists for the continuation of some of the methods at present employed in sanitation. If we profess a sanitary science we must abide by its teachings. In other words, we must have the courage of our convictions, no matter to what extent they may conflict with theory. Unfortunately the latter plays a prominent part in many of the quarantine regulations now in force, and while it adds nothing toward protecting the public health, it seriously injures commerce.

Contrary to the popular belief, the most careful investigation both from a scientific and a practical standpoint has demonstrated that the clothing actually worn by well persons is not a medium of infection. This is also true of ships' cargoes. In making this statement, I do not mean to imply that it is not within the bounds of possibility for exceptions to present themselves, but such instances are rare and should not be given undue weight in the consideration of this matter; exceptions confront us many times in public health work. For instance, it is generally accepted throughout the world that the maximum period of incubation of smallpox is fourteen days, and it is for this period that persons who have been in contact with the disease are kept under observation by the health officials. Reliable evidence, however, has occasionally been presented which tends to show that the appearance of smallpox may be delayed until the fifteenth or sixteenth day after exposure. Again, we accept five days as the maximum period of incubation of yellow fever, although instances are cited in which the disease has occurred after an incubation of six or seven days; still we are not justified in making rules and regulations to conform to these exceptions. In discussing this subject some time ago with a very distinguished health official, he emphatically indorsed the statement which I have just made regarding the clothing worn by well persons, and said that in his official experience covering a period of thirty-five years, he remembered but one case in which the clothing worn by a well person could have been regarded as the medium of infection. After an active experience of twenty years, I can bring to my mind but one instance of this kind. This occurred during the epidemic of typhus fever in 1893. I was not surprised, however, to find out subsequently that the man who had succumbed to the disease had been in direct contact with persons who at the time were suffering from typhus. During the different epidemics of smallpox, typhus fever, etc., which have occurred in New York, the physicians, ambulance drivers, and helpers connected with the health department have been in close contact with the patients; the ambulance drivers being frequently obliged to carry the sick in their arms. Nevertheless no evidence that I am aware of, after a careful investigation, has ever been presented to show that infection was carried either to the homes of these officials or to their associates. Cases of smallpox, typhus fever, etc., are frequently found which have passed through the various stages of these diseases before detection. In many instances, the relatives of these patients, living in the same apartments with them, who by successful vaccination or otherwise have become immune, are employed in factories where they are in close contact with others, yet without transmitting the disease. The busy medical practitioner may during the day visit many cases of infectious disease and may go from them to others without previously changing his clothing or performing disinfection. He has reason to believe that he does not act as a medium of infection; he sees no evidence of it in his own home, nor is evidence presented to him that he transmits disease to his patients. If under the circumstances which I have just cited the clothing worn by well persons does not act as a medium of infection, it is hardly reasonable to believe that danger exists in the clothing worn by those who are in good health and have been for a number of days or weeks removed from an infected port or other exposure. Bacteriological research goes far to confirm the results of practical experience to which I have just referred, inasmuch as it has shown that pathogenic organisms can continue their existence for only a few hours when exposed in the presence of sunlight and air. As a matter of fact, many careful observers believe that the activity, at least of some, of the specific organisms is inhibited by an exposure of only a few minutes to air and sunlight and that their activity and power of propagation are not renewed unless brought in contact with proper media. It is upon such evidence that we must base our conclusions in deciding what methods shall be employed to protect the public health.

[1] Read at the meeting of the American Public Health Association, Indianapolis, Ind., October 23, 1900.

As I have already stated, exceptions may exist, and occasionally evidence is presented to us from a reliable source which tends to show that disease is contracted through the medium of the clothing of well persons. It is reasonable to believe that when a person is in close and prolonged contact with a case of scarlet fever or smallpox, for instance, then puts on an outside wrap and removes it after going directly to another apartment but a short distance away, he may transmit infection. However, careful investigation, with the most reliable evidence, shows that this occurs only in rare instances. In connection with municipal sanitation the possibility that such instances may occur should receive proper consideration, and reasonable efforts be made to prevent their occurrence, whereas in marine sanitation this possibility need receive consideration only when infectious diseases actually exist on the arrival of the vessel in port. It is not proper nor does it aid in the advancement of sanitary science to overlook facts. The importance of a clear understanding of this matter, particularly in relation to marine sanitation, cannot be overestimated; it means, as a rule, that we can safely dispense with the disinfection of clothing actually worn by well persons arriving on vessels from infected ports; this not only lessens the detention of ships, but diminishes the expense to commerce. In municipal sanitary work this knowledge is valuable, as we are then reasonably assured that the disease will not spread—at least to any serious extent—through the medium of clothing worn by well persons; moreover, it teaches us to make a more thorough inspection in order to ascertain the origin of an outbreak of infectious disease. Such an inspection will frequently bring to light mild, ambulant, or convalescent cases which otherwise would not be found.

When we have given to the patient his clothing and effects, an apartment, and the required attention, and have surrounded the case with every possible sanitary precaution, and when at its termination we have performed careful and thorough disinfection, we have, I believe, given to the public the full protection which is dictated by practical science.

We have equally satisfactory evidence that a ship's cargo does not act as a medium of infection; if exceptions exist they have not been brought to my attention.

The outbreaks of bubonic plague in European and other ports with which the United States is in frequent and constant communication have brought prominently to our notice the question of the transmission of this disease by rats and other vermin. Our information on this subject is at present by no means complete; although Kitasato and Yersin demonstrated the presence of the disease in rats during the epidemic of bubonic plague in Hong Kong in 1894, we have beyond this but little authentic information on the subject. It is, however, reasonable to believe that in such communities as are found in India and China, where filth, overcrowding, and bad sanitary regulations exist to an extent which is almost beyond belief, the dissemination of infection is so general that even vermin are involved. However, in civilized communities where the ordinary sanitary regulations are carried out, the danger from this source would seem to be very limited. What may be a satisfactory summing up of this detail of the subject from a theoretical standpoint, although entitled to respectful consideration, should not overshadow the practical experience in this direction. So far as I am able to ascertain, no authentic report exists which shows that cargoes of vessels have transmitted bubonic plague through the medium of infected rats or other sources. Since 1870 this disease has been particularly active in India and China and other Eastern countries, where it has visited many important seaports. During this time both sailing-vessels and steamers have been plying between the ports referred to and the United States, carrying cargoes which come directly from the plague-infected districts, and which include raisins, rugs, silks, and other general merchandise. No quarantine restrictions whatever have been placed upon these cargoes, and in no instance has the disease been conveyed to this country. It would seem that a test of thirty years ought to be regarded as satisfactory evidence that bubonic plague is not likely to be transmitted in this manner, either by the cargoes or by the transportation of infected vermin. During the recent outbreak of the plague in Rio Janeiro and Santos, many vessels carrying coffee from these ports arrived at the New York Quarantine Station, probably two during each week, and for two months or more the cargoes were removed in open stream and transferred to the city on lighters, an opportunity thus being given to collect such rats, dead or alive, as could be found on board. These were removed to the laboratory and examined bacteriologically, and in no instance was there the slightest evidence of bubonic-plague infection. During the past six years about thirty-five thousand vessels from different parts of the world have entered the port of New York, and while, save in seven or eight instances, their cargoes have in no way been disturbed, yet not the slightest evidence has been presented that this material has in any way transmitted any form of infectious disease. I may add to this the fact that the most careful investigation has failed to present satisfactory evidence that either foreign or domestic rags act as a medium of infection, although they include all kinds of wearing-apparel which is frequently filthy and offensive. From what source, then, do we receive information which is supposed to give proof that the clothing worn by well persons or the cargoes of vessels act as a medium of infection? I believe it to be principally from vague reports, which have been handed down to us from almost ancient times. These reports, so far as my investigations are concerned, carry with them no scientific or practical proof, and are mainly hearsay evidence. For instance, an outbreak of infectious disease, the origin of which is unknown, appears at a small seacoast town. It is learned that a ship had previously arrived from an infected port, discharged its cargo, and departed; this appears to be a satisfactory explanation and it is decided that the disease was probably introduced by the cargo; but little or no attention is paid to the fact that on the arrival of the vessel the passengers and crew were not subjected to an examination, and that nothing is known of the possible existence of a mild case of infectious disease which may have remained in town or departed with the vessel. The license which theorists assume in dealing with this matter is apparently without any limit. Some time ago a foreign health official very gravely asserted that an outbreak of bubonic plague was caused by the transmission of infection through the medium of some neckties. Other statements are made regarding the origin of outbreaks of infectious disease which are equally ridiculous. No fair evidence is presented to substantiate such theories, which go far toward making public sanitation a farce. I believe that the future will show that if a vessel arrives in port and there are no cases of sickness present on arrival and none have occurred in transit, the vessel and its cargo will in no way act as a menace to the public health. From my own experience I am satisfied that this is true, and I believe that an outbreak of infectious disease when the cause is unknown is almost always due to the presence of mild, ambulant, or convalescent cases which have passed unrecognized. These constitute a great danger to a community inasmuch as there is no protection against them. Cases of smallpox occur in which the patient is apparently well and the eruption is with difficulty recognized. The frequent ex-

istence of mild cases of diphtheria is known to all physicians; mild or walking cases of typhoid fever which are mistaken for malaria, colds, etc., are well-known causes of serious outbreaks of this disease. The frequency with which mild cases of yellow fever occur is notorious; a vessel which arrived at this station some time ago from a port infected with this disease brought a large number of passengers, many of whom were not immunes; these were removed to Hoffman Island for observation and to complete the period of incubation; at the final examination all reported well, and from a visual inspection apparently were so. However, when the thermometers were used, four of the passengers were found to have elevated temperatures and were detained; of these, three were subsequently found to have yellow fever, one case being so mild that the patient could with little exertion have attended to his duties had he been allowed to proceed to his home. At least he could have kept up and around without arousing suspicion as to his condition. Cases of bubonic plague frequently assume a very mild form; of the four cases of this disease which occurred on the steamship *James W. Taylor* arriving at this port from Santos, Brazil, on November 18, 1899, one was fatal and the body was buried at sea. On the arrival of the vessel at quarantine the facts connected with the death of the steward were reported. The remainder of the crew were assembled on deck, reported well, and from external appearance were so. Inasmuch as the vessel came from a plague-infected port and as the symptoms associated with the steward's death were suspicious, the crew were made to remove their clothing and were subjected to a careful inspection, including a glandular examination. At this inspection the characteristic local lesion and the glandular affection were found in three of the crew, and the diagnosis of bubonic plague was then made and afterward confirmed by bacteriological examination. The captain of the ship, who was one of the three members of the crew removed to Swinburne Island Hospital, stated that he felt bad only for a day or so while in transit, and was surprised when informed of the serious nature of the disease. It is possible for such a person arriving on a vessel from a port issuing a clean bill of health or believed to be free from quarantinable diseases, to pass an ordinary inspection, then proceed to some interior town, there to act as a medium of infection without being recognized as such.

I believe the lessons which we are to learn from the facts which I have presented are that mild or ambulant cases of infectious disease and convalescents from these diseases constitute a serious menace to the public health and are chiefly responsible for outbreaks which from time to time occur, and which cannot be accounted for; and that neither scientific investigation nor practical experience justifies us in assuming that either the clothing worn by well persons or a ship's cargo acts as a medium of infection except in such rare instances as I have referred to. The views which I have thus expressed as the result of my scientific investigation and practical experience are in harmony with the policy which I pursue in the treatment of vessels arriving at the port of New York. I believe this to represent scientific sanitation; and while it offers the full protection which we can give to the public, it also relieves commerce of unnecessary delay and expense, a most important consideration.

In the inspection of persons coming from infected ports, it is evident that the ordinary examination, which includes statements from the persons concerned, is not sufficient at all times to detect mild or ambulant cases. It appears to me that the most practical and important addition that we can make to the ordinary method of inspection is the use of the clinical thermometer. This has been in operation at this station for the past two years, and the most satisfactory results have been obtained in detecting mild or ambulant cases. Although I am firmly convinced that the maximum period of incubation of yellow fever is five days, there is no doubt that during the first day or so of the disease, persons affected may present themselves and pass an ordinary inspection. The use of the thermometer at this time, however, will almost always show an elevation of temperature sufficiently high to justify us in causing a longer detention. The statements of persons detained at quarantine cannot be depended upon, and at this station we accept them only as corroborative evidence. Persons from yellow-fever-infected ports, who are detained here to complete the period of incubation dating from the time of departure from the infected port, are never released until their temperatures have been taken. I have already cited one of the number of instances in which the disease has been detected in this manner. Passengers or crews coming from plague-infected ports are not released until their temperatures have been taken, no matter how long they may have been in transit. These are instances of the value of the use of the thermometer at this station. It is frequently necessary to take the temperature of a thousand or more persons on the arrival of a vessel here. Therefore I have constantly on hand forty or fifty first-class properly registered instruments. If these are unreliable, or the exposure is insufficient, this procedure is worthless. What are known as half-minute thermometers are not practical, as they are extremely delicate and break easily. It is very important that those whose temperatures are being taken should be watched carefully, as they frequently take out the instrument, keep their mouths open, or otherwise interfere with the proper registration. A very interesting fact has been observed in connection with this portion of the examination. A temperature of 100° F. does not necessarily signify an abnormal condition, as our records show that this temperature is frequently present in well persons, and is probably due to some slight or transient cause, as it commonly disappears within a few hours. A large percentage of the temperatures range from 99° to 99¼° F. in persons in a normal condition. However, the rules of this department now require the detention of all whose temperatures reach 100° F. or over.

I cannot conclude this article without a reference to modern sanitary regulations, the value of which has been so forcibly presented to us during the past two years. Since 1895 or 1898, the civilized world has been made uneasy by reports from India relative to the terrible ravages of the bubonic plague in that country, and the possibility of its appearance at European and other seaports has caused much apprehension. During the past two years, the disease has appeared at Oporto, Lisbon, Alexandria, Santos, Rio Janeiro, San Francisco, and Glasgow, but in no instance has it proved to be a serious menace to the public health, the outbreaks having been rapidly brought under control, and in all but one of the above places the disease has disappeared. In Glasgow, a city which has an enviable reputation for cleanliness and good sanitary conditions, the duration of the outbreak was exceedingly short, although the disease existed some time before it was recognized. Than the above no more conclusive evidence has ever been presented to show the absolute certainty with which outbreaks of infectious disease can be controlled when good sanitary conditions, thorough inspection and observation, and cleanliness are maintained.

Snake-Bite.—The patient should be kept quiet, encouraged and soothed, and his strength spared. Hot bottles should be applied to the heart. Estimate the dose of venom before making attempts to counteract it by any of the serums advised.—Warren.

INCINERATION *VS.* EARTH SINKS AND CHEMICAL DISINFECTION.

By WILLIAM G. BISSELL, M.D.,

BUFFALO, N. Y.

During the late Spanish-American War from among an enrolment of 182,687 volunteers, 4,015 died of disease. It has been conservatively estimated that this death rate represents about one-twentieth of the number sick with severe illnesses. If this be true, at least 80,300 men were totally unfit for duty for a greater or lesser period of time; and when it will be remembered that the prevailing illness was typhoid fever, and that many of the New York State regiments suffered as a consequence, it is not surprising that Col. Nelson H. Henry recommended to Major-General Charles F. Roe, commanding the National Guard of New York, that an independent investigation be carried on by the State of New York, to be entirely non-political, pertaining to the improvement of sanitary methods in camps of mobilization, so that if the National Guard of this State should again be called upon to serve as volunteers, they would not be subjected to the danger recently encountered. It has long been taught that typhoid fever is a preventable disease, and that its mode of transmission is by the ingestion of water or any food substance containing the bacillus of Eberth. During the late war there was little doubt that the earth interment of excrement was directly responsible for the ravages of this fever, in that it made it possible for the germ, if present, not only to contaminate the water supply, but to be deposited upon food substances by flies. The experience of the navy during this war fully corroborates this view, for although the men were cramped in quarters, and in a much warmer climate, they experienced little or no typhoid fever.

During the first year and a half of the Civil War typhoid fever was epidemic among the troops camped near Washington, and during 1861 and 1862 there was a morbility rate of 78.62 per thousand, and 19.55 per thousand succumbed to the disease. All this was known and thought to be understood when the troops entered the United States service in 1898.

Much has since been written and more stated about "inexperienced volunteers" being the cause of typhoid-fever infection in our army during the Spanish-American War. The truth of these statements might perhaps have some weight were it not a fact that the regulars likewise suffered.

Camp Alger in Virginia, a strictly volunteer camp, with a population of over twenty-five thousand National Guardsmen, occupying poorly selected ground, had but thirty-nine cases of typhoid fever at the end of sixty days occupancy of this camp. Had the troops been moved from this territory after six weeks, as they should have been, they would not have been subjected to the positive evils of the earth interment of excrement which had become, even at this time, an unpleasant feature.

It is the history of all wars, with the exception of the Franco-Prussian of 1870, which might be termed a "constant fight," that preventable diseases have caused more deaths than the bullet. The early Romans, thousands of years before the discovery of firearms, deposited their excrement in the soil, and at the time of the excavation of Pompeii a system of sewering was found constructed along the same lines as that in use in the cities of to-day. There has been no change in principle for excrement disposal from the earlier days up to the present time. Is it surprising that history has repeated itself?

Military camps have not alone suffered from the evil effects of the soil interment of excrement, and nearly any one can name towns which depend entirely upon the privy for its sewage disposal, that have as high a death rate from typhoid fever as did Camp Alger at the end of its occupancy.

I am not endeavoring to uphold the administration of this camp, but simply desire to demonstrate that it was not the "inexperienced volunteers" who were responsible for the transmission of typhoid infection, but rather the method, or better perhaps lack of methods, furnished these volunteers for the disposal of their offal.

The cities of to-day are doing away with the use of the privy. To be sure, a system is substituted which ultimately contaminates the water ways, and for this reason is far from the ideal. How much better it would be if every household had its individual device by which the offal could be completely consumed!

During the latter part of the Spanish-American War the army medical board began to appreciate the dangers of the earth sink and recommended as a substitute the use of zinc-lined wooden troughs containing milk of lime, into which the excrement was deposited, this mixture stirred, and after a time drawn off into tanks and carted to receive its soil interment. At about the same time this board considered the possibilities of the use of heat for the disposal of excrement. Several different devices were experimented with, and after a thorough trial of one month, as is stated in their report, they ventured the opinion that none of the methods tried during this time met the conditions of troops in the field as well as the above "milk-of-lime soil-interment process." This, no doubt, is true if we are to understand that moving bodies are meant by "troops in the field," for as a matter of fact moving troops are not subjected to the evil influences of the earth sink, and it is not necessary to exercise the same precautions. But exception can be taken if it is meant that the milk-of-lime method is more adaptable than burning in camps of mobilization. The use of milk of lime for the chemical reduction of sewage is not new. It coagulates albumin and forms an insoluble precipitate. This was the first process tried by the Commission on River Pollutions in 1868, and was pronounced by this commission to be a failure. The lime coats the bacteria and their spores, forming calcium carbonate. And many investigators have proven that when this outside portion of excrement is removed, the interior of a typhoid stool, for example, is capable of transmitting typhoidal infection. This method does not appeal to one from a labor-saving or pleasant standpoint. The use of milk of lime was the fundamental principle of the Suvern mixture formerly used in Leipsic.

Taking into consideration these facts, the New York State authorities decided to direct their efforts toward methods of incineration rather than chemical reduction for the disposal of excrement, as heat is recognized to be the best-known germicide. The object to be attained is the adoption of some method which will surely and completely consume human excrement in a pleasant and inexpensive manner if possible, but which will without fail prevent the transmission of infection from this source at any cost.

In May, 1899, the following circular letter was sent to many of the more experienced sanitarians of this country and Europe:

DEAR SIR: I have been informed by the New York State National Guard authorities that an opportunity is to be provided in the near future for a series of experiments to be conducted under my direction, pertaining to the practical application of methods of incineration of excrement and garbage, to be used by military forces in field service.

Should you have ideas on this subject, I will be greatly honored if you will acquaint me with same and will endeavor to put in practical operation any beneficial suggestions that may be offered. In the final report on this subject, special credit will be given those

persons offering suggestions that prove, in this connection, of value. Respectfully,

(Signed) WILLIAM G. BISSELL,
Bacteriologist, Department of Health, Buffalo, N. Y.

Of the replies received, many emphasized the necessity for a radical change from the present time-honored army method of excrement disposal, but few offered any practical suggestions.

A communication from Dr. Albert H. Gihon, the retired medical director of the United States navy, was the single exception.

He made reference to an incinerating apparatus, with which, after a comparison of the various types on the market, the New York State National Guard had previously decided to conduct tests.

Dr. Gihon stated that "an instrument I saw in Buffalo a couple or more years ago seemed to me to possess all the requisites, and to be particularly adapted for military field service."

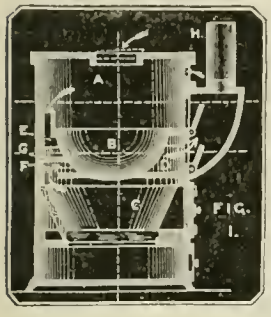

FIG. 1.—Interior View of Incinerator Showing Draught Construction.

The New York State authorities decided in 1899 to construct fifteen incinerators after the principle in question, and experiment with them during the tours of field duty ordered for the Seventh Regiment of New York and Twenty-third Regiment of Brooklyn. These regiments established camps in the near vicinity of the State grounds at Peekskill, and disposed of all their offal by the use of the experimental device.

The accompanying illustration plainly shows the construction of the incinerators, of which *A* is the upper space between the pot or receptacle *B* and the top of the casing; *C* is the fire-box, and *D* is the draught passage; *E* is a passage leading down from an upper space *A* into the draught passage *D*, and *F* is an opening leading from the fire-box up into the draught passage *D*. A deflecting wall *G* is located midway between the passage *E* and opening *F*. The odors from the material in the pot or receptacle are drawn down through the passage *E* by the draught, as indicated by the arrows, and pass through the draught passage *D* into a chimney or smoke pipe *H*, and the products of combustion from the fire-box *C* pass up through the opening *F* into the same draught passage *D*, mingling therein with the odors and gases from the upper space *A*, which are destroyed before passing into pipe *H*.

For use, the incinerators were placed in a convenient location, and pieces of pipe three feet in height were attached to portions, as shown in diagram at *H*. At the time of incineration, the wooden seat supplied with each instrument was replaced by an iron cover. The draught near the smoke-pipe was opened and fire made by using wood as fuel.

These devices were built of the best cast iron, having a steel jacket with asbestos lining, and weighed approximately three hundred pounds each. As to whether they were a success or not will be shown by the attached communications which were received from the medical officers of the Seventh and Twenty-third Regiments.

MEDICAL DEPARTMENT,
SEVENTH REGIMENT, N. G., N. Y.,
PARK AVE. AND 66TH STREET,
NEW YORK, June 30, 1899.

Major William G. Bissell, Surgeon Seventy-fourth Regiment, N. G., N. Y., Buffalo, N. Y.

SIR: I have the honor to acknowledge the receipt of your letter of June 28th. In response thereto it gives me much pleasure to state that from my observation of the incinerators used under your direction in the recent camps of the Seventh Regiment at Crofts' Farm and Lake Oscawana, I have no hesitation in pronouncing them most satisfactory. Of course, I understand that these particular incinerators were not built for military purposes, nor was easy and rapid transportation greatly considered in their construction. But they certainly do completely and rapidly reduce excrement and garbage to ashes without odor, and thus demonstrate their great value for military camps, both from a labor-saving and sanitary point of view.

Could they be considerably reduced in size and weight and be mounted on some sort of low vehicle for quick transportation, their usefulness would be greatly enhanced. Respectfully,

(Signed) CHRIS. J. COLLES,
Assistant Surgeon Seventh Regiment, N. G., N. Y., Acting Surgeon.

MEDICAL DEPARTMENT,
SEVENTH REGIMENT, N. G., N. Y.,
PARK AVE. AND 66TH STREET,
NEW YORK, June 30, 1899.

Major W. G. Bissell, Surgeon Seventy-fourth Regiment, N. G., N. Y., Buffalo, N. Y.

SIR: I have the honor to report that I observed carefully the incinerators in use at Crofts' Farm and Lake Oscawana during the camp of the Second Battalion of the Seventh Regiment, N. G., N. Y. I found that the faces deposited in these had been entirely consumed, that the fourteen in use were quite sufficient, that by their use the digging of sinks was made entirely unnecessary, that a possible source of danger to the battalion was absolutely removed, and that the hygienic condition of the camps was therefore notably improved. If the incinerator could be made more portable and could be mounted on low wheel-trucks suitably covered and screened, the practical use of the apparatus would be furthered. Respectfully submitted, (Signed) JOHN H. HUDDLESTON,
Assistant Surgeon, Seventh Regiment, N. G., N. Y.

CASTLETON, VT., July 4, 1899.

Major W. G. Bissell, Buffalo, N. Y.

SIR: Your letter of June 28th, asking for my personal opinion in regard to the incinerators which were tried during the march of the Second Battalion, has just been received, having been forwarded from Brooklyn.

I was very much pleased and surprised at the success of the trial to which the incinerators were put. Only ten were used, and no sinks were dug; the number was sufficient for the battalion.

During their use there was no perceptible odor or anything that could be considered in any way objectionable.

The incineration of excrement was all done after the battalion had left the camp, so that I did not have an opportunity of seeing that process.

The only suggestion that I have to make is that the incinerators are too bulky and heavy as now made. If made one-half the size and weight, they would be much easier of transportation, and would be large enough for the uses intended. Respectfully,

(Signed) HENRY L. COCHRAN,
Surgeon Twenty-third Regiment, N. G., N. Y.

In accordance with the suggestion that a reduction in size was desirable and the necessity for some class of vehicle for the easy transportation of the incinerators, in the early part of 1900 Gen. Edward M. Hoffman, Adjutant General, S.N.Y., authorized the construction of sixteen incinerators, to be three-fourths the size of those previously experimented with, which allowed of a reduction in weight of one hundred

pounds for each machine, but still maintained a capacity of five gallons to each incinerator.

A contract was entered into with the International Garbage and Excrement Incinerator Company of Buffalo, who built the machines after the suggestions offered. Transportation plans and specifications were submitted to the Harvey Carriage Company, who constructed two wagons carrying eight incinerators each. One wagon was given a thorough trial on the tours of field service from the State camp of instruction of the Eighth, Ninth, Twelfth, Fourteenth, Twenty-second, Forty-seventh, Sixty-ninth, and Seventy-first Regiments. The specification of these wagons was as follows:

NEW YORK STATE WAGON, FOR TRANSPORTATION OF EIGHT (8) INCINERATORS.

Body: Length of body, 15½ feet. Width at ends of body, 4½ feet. Width at centre of body, 6 feet. Height of body, 6½ feet. Sills and frame of body to be constructed of iron. Sills, 2½ inches angle iron; frame, 1½ inches by ⅜ inch. Floor of wagon to be "skeleton" structure, of sheet iron. Floor iron stringers, 2 inches by ½ inch. Sides, ends and top of body to be 16 inches gauge, best quality sheet steel. Rear end of body to have a neatly finished door, 6 feet by 2 feet 10 inches wide. The forward end of body to have a neatly finished window.

Gear: Platform gear, with platform springs, front and back. Springs, 2 inches wide; 8 plates 40 inches long.

Axles: Concord axles, 1⅝ inches by 10 inches.

Wheels: Sarven Wheels. Front wheels to be 3 feet high, 2⅛ inches spoke, 10 inches hub, 1¾ inches rims, 3 inches tread. Hind wheels to be 4 feet high. Other material same as front wheels. Tire 3 inches wide by $\frac{3}{16}$ inch thick.

Painting of body and gear to be of light gray dressing, with asbestos fireproof paint. Workmanship of wagon to be of the best quality. Height of wagon, over all, above ground, not to exceed 8½ feet. Weight of wagon, with load, not to exceed 3,500 pounds. Track of wagon to be 5 feet. Pole of wagon to be constructed of best quality of ash, as also the whiffle trees and cross tree. Forward end of pole to have hook attachment with chains. Wagon to be constructed with serve of brakes for rear wheels, to be operated from driver's seat. Interior of wagon to contain box on either side of entrance, neatly constructed, for transportation of fuel. Front partition of body of wagon to be constructed at such a distance as to allow of a driver's seat; same to be of such structure to permit of transportation of small tentage, etc. Top of wagon to be ventilated. One lamp on interior. Two lamps on exterior. Four metallic rolls for toilet paper in each wagon.

The "march outs" from the camp of instruction consisted in the establishment of a camp near Lake Mohegan, a distance of about nine miles, and each regiment remained there for a period of three days. The incinerators constructed by the State in 1899 were placed in service in addition to the new wagon. This afforded seating facilities for twenty-three persons at the same time, and permitted the collection of one hundred and forty-five gallons of excrement before the destructive process began. In accordance with army custom the seating capacity of any sink should represent at least eight per cent. of the strength of commands, and it can be understood that the number of incinerators in use during this second investigation were taxed to their utmost, as they represented a little over four per cent. of the average number of the troops present.

Incineration was accomplished daily during a period of one month. During the greater part of this time little or no odor was perceptible, notwithstanding the fact that in many instances the climatic conditions were most unfavorable. The fuel used was unseasoned wood, mostly birch with some oak, and was not such as would furnish the hottest fires with a large flame. Failure to incinerate was never experienced, but in several instances some odor was noticeable, this being occasioned when the flame was not sufficient to carbonize the gases, *i.e.*, indol, skatol, and members of the marsh-gas series, as they repassed through the fire pit.

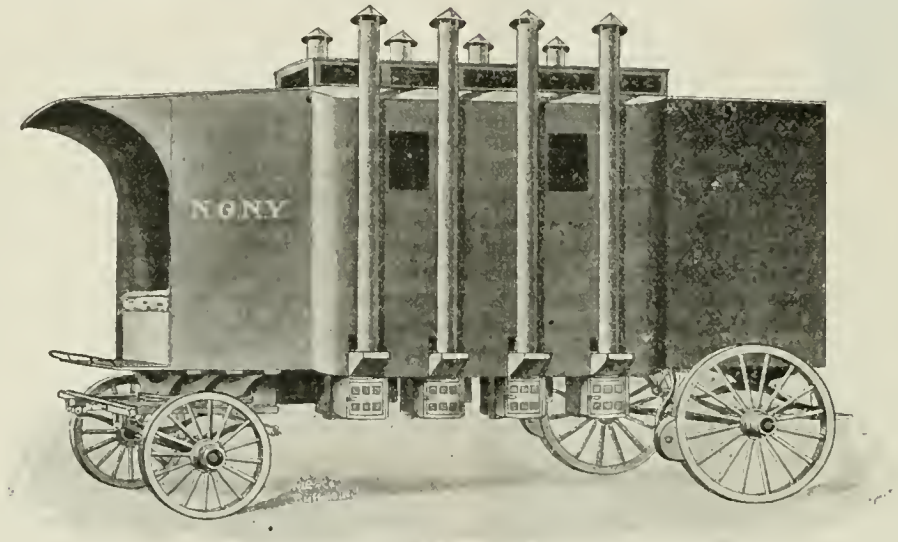

FIG. 2

In order to incinerate without odor it is necessary to have a quick live flame, and it was found that the application of a small amount of tar or oil would materially assist in this connection. Soft pine wood was found to be the best fuel. When odor did occur during the destructive process it was never sufficient to offer a serious objection to the use of the incinerators, as it lasted but a short time and never equalled that which is experienced during the use of an old earth sink. It was decided that for a regiment of six hundred men about four wagons, furnishing thirty-two incinerators, would be required to permit of the daily incineration of all offal.

In August of the present year the Sixty-fifth Regiment, N. G., N. Y., effectually destroyed the excrement from over five hundred men during a tour of field

service of seven days by the use of two wagons, each containing eight incinerators; and in an official report Major Albert H. Briggs, surgeon, who during the Spanish-American War was the sanitary inspector of the Second Army Corps, states: "It is my opinion it (incinerator) is the only proper way to dispose of excrement in camps. I think it would suppress if present and prevent the outbreak of typhoid fever, cholera, etc." That the views of the surgeons who accompanied the troops during the "march-outs" from State camp might be received, the following blank form for report was mailed each organization, and the filled-in copy from Nelson H. Henry, chief surgeon of the Guard, is submitted as example.

Statement from Nelson H. Henry, Surgeon N. G., N. Y.

1. (*a*) Do you consider the use of incinerators, such as operated during the "march-outs" at State Camp during 1900, an improvement over the old earth-sink method for the disposal of excrement? Most decided progressive step and great improvement.

(*b*) Please state reasons for your opinion. A positive and infallible destruction from infection from such source.

2. During collection, in which instance is there the more odor: (1) In vicinity of incinerators, or (2) in vicinity of earth-sinks? The latter.

3. (*a*) Do you consider the odors that arise occasionally under certain conditions during burning of incinerators a decided objection? No; as such odor is harmless.

(*b*) Please state reasons for your opinion.

4. In your judgment would the complete daily incineration of all the excrement in camps of mobilization have a marked influence in preventing typhoid fever? I certainly consider that such plan would minimize the danger of infection and prevent the extension of typhoid fever.

It is the almost universal opinion that incineration is far more efficient for the final disposal of excrement in camps of mobilization, and less objectionable as regards labor, odor, etc., than the use of the "zinc trough milk of lime" or any other device, and would to a greater certainty eliminate the opportunities for camp pollution and render the occurrence of typhoid fever and other preventable diseases almost impossible. The following report was submitted by the United States army detail to the Camp of Instruction for the season of 1900:

ARMY AND NAVY CLUB OF NEW YORK CITY.
July 3, 1900.

Major William G. Bissell, Seventy-fourth Regiment, N. G., N. Y.

SIR: Before completing my tour of duty with the National Guard of New York, I desire to express to you, as sanitary officer of the Camp of Instruction, at Peekskill, and the sub-camp near Lake Mohegan, N. Y., my unqualified approval of the incinerators used by you to dispose of the fecal matter at the latter camp. It is not necessary for me to state here, in detail, all of the advantages of this method of disposing of fecal matter; it is enough to say that I believe your method would be an excellent plan to adopt, especially for large or permanent camps or camps of mobilization.

I want also to state that I observed the operation of your incinerators, both stationary and movable, under nearly every imaginable condition, and that their work was satisfactory. Very respectfully,

HENRY G. LYON,
Captain Twenty-Second U. S. Infantry.

The wagons built by the State, although not ideal as at present constructed, many points requiring alteration, received the highest commendation as to the principles involved.

There seems to be little doubt, according to the views expressed by persons familiar with the progress of the investigation, that the military authorities of the State of New York have discovered a method by which the occurrence of typhoid fever among its troops will be materially lessened, and too great credit cannot be given Major-General Roe and the members of his staff for their untiring efforts in furthering this investigation.

The military authorities of the world are becoming interested in this work, and the following letter is a sample of the many inquiries received during the past few months:

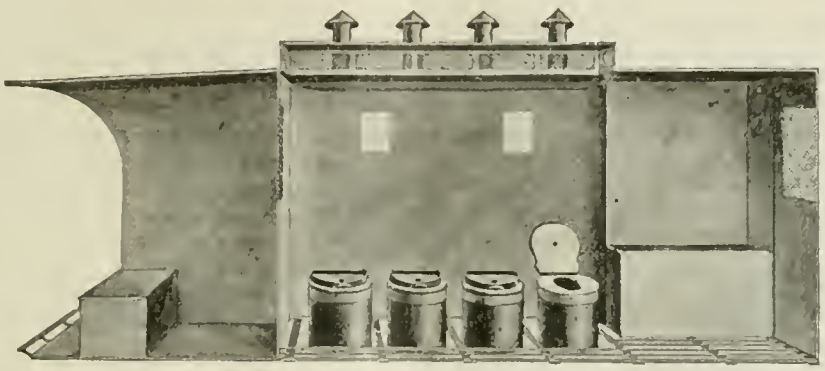

FIG. 3.—Picture of Interior of Wagon.

MILITARY ATTACHÉ BRITISH EMBASSY,
WASHINGTON, August 22, 1900.

Major William G. Bissell, Surgeon, Seventy-fourth Regiment, N. G., N. Y.

MY DEAR SIR: The attention of the British war office has been called to the portable incinerator invented by you, and which, I think, I had the pleasure of inspecting at Peekskill camp last year. The director-general of ordnance in London is anxious to obtain one of these incinerators for trial, and has directed me to find out where one could be purchased, and particulars of the price, etc. Yours very truly,

A. H. LEE,
Lieutenant-Colonel Military Attaché, British Embassy.

There is one thing certain, just so long as the antiquated earth method for the disposal of excrement is practised in military camps of mobilization, just so often will history repeat itself as regards the ratio between deaths from preventable diseases and bullets. Instead of continued government expenditures in investigating armor plate, projectiles, etc., a much more profitable result could be obtained by inaugurating improvements for camp sanitation.

Let the Spanish-American War at least be the Na-

tional Guardsmen's object lesson, and if no other remedy can be had, let the National Guards of the individual States inaugurate methods for the protection of the "inexperienced volunteer."

SOME CASES OF ACUTE APPENDICITIS.[1]

By ALEXANDER B. JOHNSON, M.D.,
SURGEON TO THE NEW YORK HOSPITAL.

Among some forty cases of acute appendicitis operated upon by the writer during a period of rather more than one year, there are certain ones which appear to him worthy of record on account of unusual complications, and certain others in which recovery took place in spite of extensive involvement of the peritoneum in the inflammatory process.

These latter appear to the writer to demonstrate fairly well the value of abundant saline irrigation of the peritoneal cavity through a moderate incision and without evisceration, in cases of widespread purulent peritonitis.

The following list exhibits the various types of the disease:

Number of cases, 40. Number of deaths, 5. Mortality, 12 ½ per cent.

Causes of death: 1. Acute appendicitis, perforation, general purulent peritonitis, shock.

2. Acute appendicitis, perforation, general purulent peritonitis, peritoneal sepsis.

3. Acute appendicitis, perforation, general purulent peritonitis, nephritis, septic diarrhœa, exhaustion.

4. Acute appendicitis, perforation, localized peritonitis with abscess, acute mesenteric lymphangitis, suppuration of the retro-peritoneal glands, septic pneumonia, pyæmia.

5. Acute appendicitis, abscess, intestinal paresis, persistent vomiting.

Types of the disease: Acute appendicitis, perforation, progressive purulent peritonitis—3 cases, 3 recoveries.

Acute appendicitis, perforation, progressive fibrino-purulent peritonitis—3 cases, 1 death.

Acute appendicitis, perforation, general purulent peritonitis—8 cases, 3 deaths. Mortality, 37 ½ per cent.

Chronic appendicitis, abscess, intestinal obstruction by bands—1 case.

Acute appendicitis, localized peritonitis, abscess filling the pelvis—9 cases.

Acute appendicitis, gangrene of the appendix, abscess, suppurative mesenteric lymphadenitis, pyæmia—1 case, death.

Acute appendicitis, gangrene of the appendix, circumscribed abscess—12 cases.

Acute gangrenous appendicitis, localized peritonitis—3 cases.

Acute appendicitis, localized peritonitis—1 case.

Acute appendicitis, recurrent, abscess—1 case.

The appendix was removed in 34 cases.

In 6 cases the appendix could not be identified, and the duration and character of the inflammatory process were such as to lead to the belief that the appendix was destroyed.

No previous attacks in 30 cases. Several attacks in 4 cases. Relapsing appendicitis in 2 cases. Two attacks in 2 cases. One previous attack in 1 case. Nine previous attacks in 1 case.

The number of cases which may be fairly described as cases of general purulent peritonitis were eight. Three of these were fatal—a mortality of thirty-seven and a half per cent. The number of cases of progressive purulent peritonitis accompanied by only a small amount of fibrinous exudate, in which a large part of the peritoneum was the seat of purulent inflammation, but in which a considerable area remained free from infection, numbered three with three recoveries. The cases in which an extensive fibrino-purulent exudate existed, but in which a considerable part of the abdomen was protected more or less perfectly by adhesions, numbered three with two recoveries and one death. The remaining cases included several in which unusual complications existed, and among them were also several in which an extensive but strictly limited fibrino-purulent exudate existed among the intestines.

To avoid misunderstanding I desire to define the pathological condition which I have characterized by the designation "general purulent peritonitis." By this I mean cases in which fluid, purulent in character and not merely cloudy serum, appears, at the time of operation, to occupy the pelvis, both flanks, the region beneath the liver, the region of the spleen, the general surface of the small intestines, and in some cases the space between the liver and the diaphragm.

In none of the cases operated upon was the lesser cavity of the peritoneum explored, and I suppose that, at least in those cases which ended in recovery, it is safe to assume that the peritoneum lining this cavity was healthy; and this being the case, I cannot quarrel with those who upon a strict anatomical basis assert that the cases operated upon were not cases of general peritonitis.

In addition to the purulent exudate, flakes of fibrin were present in greater or less amount, partly free and partly attached here and there to the peritoneal surface which appeared in the wound.

In some of the cases the coils of intestine which presented themselves near the wound were distinctly inflamed and more or less dull in appearance; in some the peritoneal surface seen was injected, but not dull. In all, the intestines were distended to a greater or less extent.

The method of operation was the same in the cases of general purulent peritonitis without much fibrin and the cases of fibrino-purulent peritonitis with more or less distinct limitation of the infected areas. The incision was from three to four inches in length, made parallel with the fibres of the external oblique aponeurosis between the outer border of the right rectus muscle and the iliac spine, with this bony point opposite its centre. In two cases a second incision was made upon the opposite side of the abdomen, and in these a widespread fibrinous exudate existed, and the barriers between the separate foci of pus were unusually firm.

When the abdomen was opened and it was noted that the belly appeared to be infected in all directions, the appendix was sought for and removed as rapidly as possible. The stump was usually inverted in the centre of a catgut purse-string suture, reinforced in cases in which the wall of the cæcum appeared infiltrated and friable with one or more mattress sutures of the same material. The cautery and catgut ligature were employed in some cases.

The appendix being disposed of, the various regions of the abdomen were carefully explored in turn to determine the extent of peritoneal invasion. The pelvis, being the commonest site, was explored with a gauze pad on the end of a holder, and if a purulent collection was detected, a long glass tube open at one end and five-eighths of an inch in diameter was inserted to the bottom of the pelvis, and through it a quantity of hot sterile salt solution at a temperature of 116° or 118° F. was allowed to flow from an irrigator held about four feet above the patient's body.

The wound was held open with the left hand during the irrigation, and the tube was moved about with the

[1] Read before the Surgical Section of the New York Academy of Medicine, October 8, 1900.

right hand, gently breaking up any adhesions, and the washing was continued not only until the water returned perfectly clear, but for a while thereafter.

The ascending colon and the region beneath the liver were then explored, and if found infected they were washed out in a similar manner. Next, a sponge holder containing a pad of gauze was pushed across to the opposite iliac region and flank, and if pus appeared these regions were treated in the same way.

Next, after exploration the tube was pushed in the direction of the spleen, and then to the anterior surface of the stomach in front of and behind the omentum, and then into the space between the liver and the diaphragm.

Lastly, the pelvis was again thoroughly irrigated and then gently dried with large, loose masses of sterile gauze pushed down with a sponge holder, the intestines being meanwhile protected as far as possible with the fingers of the left hand. No intestines were removed from the cavity of the belly at any time, and during the manipulation their escape was prevented by the left hand held over the wound. The fibrinous plaques which sometimes covered the coils of gut were not disturbed.

A large glass drainage tube was then inserted to the bottom of the pelvis and repeatedly packed with sterile gauze strips, until no more fluid appeared upon the gauze. In some cases a second glass tube was passed upward along the ascending colon. A small strand of iodoform gauze was then inserted to the bottom of the tube in the pelvis, and another small strand was sometimes led from the base of the appendix outward. The superficial wound was then loosely packed with sterile gauze to keep it open and to permit the escape of any free fluid which might find its way to that neighborhood. A voluminous dressing was then applied. The packing in the glass drainage tube was replaced four times during the first twenty-four hours; there was usually a profuse watery discharge into the external dressings, which were changed as often as they became soiled. If the patient did well the glass tube was removed on the third day; and if any fluid appeared still to accumulate at the bottom of the pelvis, a strand of iodoform gauze was placed in situ through the tube and held in position by a probe while the tube was being withdrawn. In general it was noted that those patients whose entire belly was washed in the manner described suffered but little or not at all from shock. The pulse was even diminished in frequency and improved in quality in some of the cases when the irrigation was finished.

In several cases in which there was an elevated temperature at the time of operation, the thermometer showed a drop nearly to normal in a few hours. An example of this is offered by Case XXV., one of general purulent peritonitis in a boy eighteen years old, operated on during the third day of the attack. At the time of operation his temperature was 103.6° F.; pulse, 120. Within six hours after the operation his temperature fell to 99.6°, his pulse to 90, and there were only trifling elevations of temperature thereafter.

A similar improvement in the general condition soon after operation was noted in all the patients who recovered, except one. In this case (No. XXXIII.), in addition to a general purulent peritonitis, the patient, a boy of nine years, was suffering from an intense degree of septic absorption together with intestinal paresis which bade fair to prove fatal. His temperature remained high, the amount of discharge from the wound was large, he was unconscious for four days; then improvement became manifest, and he eventually recovered.

The only case in which the operation seemed to add markedly to the shock already existing was Case VIII. A man aged thirty-nine years, suffering from typical peritoneal sepsis, was operated on about thirty hours after the infection of the belly had become general. At the time of operation his temperature was subnormal; pulse, 130. The general condition was very unfavorable. He died in two hours.

The ordinary method of subcutaneous and rectal stimulation was used in such of the cases as seemed to require it. Irrigations of the lower bowel with salt solution repeated every few hours appeared to do good in certain instances. The injection of sulphate of magnesia into the gut through the abdominal wound at the time of operation was not practised. Calomel in minute doses frequently repeated, or sulphate of magnesium used in the same way, together with enemata, was depended upon to produce early evacuations of the bowels. Their use was commenced in from twenty-four to forty-eight hours from the time of operation.

Several of the patients who recovered appeared at the time of operation to be in a most unfavorable condition; not only were there present the signs of severe sepsis with its concomitant symptoms of a rapid pulse of poor quality and a septic facies, but the appearance of the interior of the abdomen was in several instances exceedingly unfavorable.

I am inclined to think that had the intestines been removed from the belly and washed and wiped, the patients would not have recovered. It seems at the present time hardly necessary to mention this method of treatment in cases of purulent peritonitis except to condemn it, and yet I am informed that several prominent surgeons in this country are still in the habit of practising it.

Granting that a certain proportion of these patients recover after evisceration, yet I am inclined to think that the same good result might have been accomplished by less dangerous means. All who have tried this method must admit not only that the immediate effect of such procedures is a severe strain upon the already lowered vitality of the individual, but also that subsequent paresis of the bowel is a not uncommon and dangerous sequence. Of course, the septic process itself is a frequent cause of paralysis of the gut, but I have more than once had the opportunity of observing the condition of a much-handled coil of intestine, healthy at the time of operation except for a perforating wound necessitating suture; while five days and more after the original operation I have seen such a coil distended, intensely congested, flabby, its muscular coat evidently paralyzed, although the interior of the belly had apparently remained quite aseptic.

In the twenty-six cases in which the involvement of the abdomen was less extensive and was strictly limited, there were presented, as already noted, several different types of the disease.

The operative technique employed was a moderate or small incision; in the cases which appeared before operation to be milder in type, the intermuscular incision was used. No effort was made, in abscess cases, to avoid opening the healthy peritoneal cavity. When the presence of pus was suspected the healthy coils of gut were protected in the usual manner with gauze pads. The abscesses were slowly and cautiously evacuated, though the fear of opening up healthy regions did not prevent a persistent search for the appendix.

A few cases presented such dense adhesions as to render extensive dissection dangerous to the integrity of the gut. They were all old cases of abscess in which it appeared probable that the appendix was largely destroyed. The writer is not aware that any of these patients suffered from subsequent attacks, although he has made no especial effort to acquaint himself with their later histories.

In the cases presenting large abscesses which extended to the bottom of the pelvis, irrigation of the abscess cavity as before described was practised, and

a glass drainage tube was inserted during the first forty-eight hours.

Whenever it appeared safe, the abdominal wound was sutured in part. A small strand of iodoform gauze was led out from the stump of the appendix, and if no purulent discharge occurred it was definitely removed in from four to seven days. Among these twenty-six cases there was one death. The history of this case will be given later.

Among the forty cases there were four in which the appendix having been removed, a small fecal fistula formed in the wound, to close spontaneously after a period varying from one week to a month. Among the six cases in which no appendix was found there occurred one fecal fistula, which closed spontaneously in a short time. In one case a large fecal fistula occurred apparently from the sigmoid flexure or rectum. It closed after curettage some months after the operation.

Two cases presented complications of an unusual character. Their histories are numbered XI. and XXXVII.

Case I.—Acute appendicitis, progressive fibrinopurulent peritonitis, secondary subdiaphragmatic abscess; recovery. Joseph N——, male, aged sixteen years, admitted April 9, 1899. First attack. Duration three days. Onset sudden. General abdominal pain, localized after twelve hours in the right iliac fossa. Vomiting.

Examination: Abdomen distended and tympanitic. Muscular rigidity marked on the right side. Temperature on admission, 103.8° F., pulse, 120.

Operation: Appendix situated behind the colon. Much pus filling the pelvis and extending upward as far as the liver. Limiting adhesions imperfect. Saline irrigation of the entire belly.

Pathology: Appendix strictured one inch from base, beyond which it was gangrenous and perforated, containing two concretions.

Glass-tube drainage in pelvis, gauze drainage along the colon from below. Normal course until the tenth day, when a marked rise of temperature occurred, accompanied by abdominal pain and tenderness at the free border of the ribs on the right side.

Second operation on the fourteenth day. Vertical incision from ribs three inches downward through the rectus. Large collection of stinking pus evacuated from between the liver and the diaphragm. Slight fecal fistula followed from colon, which gradually closed. Normal recovery.

Case II.—Acute gangrenous appendicitis. John D——, male, aged nineteen years, admitted August 8, 1899. No previous attack. Duration four days. Onset sudden. General abdominal pain, localized after six hours in the right iliac fossa. Vomiting. On admission normal pulse and temperature. Abdomen not distended. Muscular rigidity not marked. Appendix felt low down close to Poupart's ligament. Appendix as large as an index finger. Entire mucous membrane gangrenous. Gauze-wick drainage. Normal wound-healing.

Case III.—Acute appendicitis, localized peritonitis. Kate W——, female, aged sixteen years; no previous attacks. Duration of present attack one week. General abdominal pain, localized after twenty-four hours in the right iliac fossa. Vomiting and constipation. Intermuscular operation. Distal end of appendix obliterated. Proximal end acutely inflamed. Gauze-wick drainage. Normal wound healing.

Case IV.—Acute gangrenous appendicitis, localized peritonitis. Charles J——, male, aged eighteen years. Nine previous attacks; none of them severe. Duration of present attack three days. General abdominal pain, localized after twelve hours in the right iliac fossa. Vomiting. Intermuscular operation. Appendix greatly enlarged. Gangrenous near its tip. No perforation. Gauze-wick drainage. Normal wound-healing.

Case V.—Acute appendicitis, abscess. Thomas H——, male, aged thirty-six years. No previous attack. Duration of present attack twenty days. General abdominal pain, localized after forty-eight hours in the right iliac fossa. Occasional vomiting. Has continued at work up to the present time.

Examination: Temperature, 101.2°; pulse, 96. A large tender mass in the right iliac fossa extending to the median line. Large thick-walled abscess cavity opened. Appendix not found. Gauze drainage. Intestinal concretion evacuated upon the third, and two more concretions upon the eighteenth day. Slight fecal fistula; closed spontaneously at the end of the month. Discharged cured at the end of two months.

Case VI.—Acute appendicitis, abscess. John M——, aged seventeen years. No previous attack. Four days, general abdominal pain, localized in the right iliac fossa after five hours. Vomiting; constipation. Abdomen distended, not rigid. Small tender mass in the right iliac fossa. Temperature, 100.4°; pulse, 100.

Abscess to the outer side and behind the colon containing a large concretion. Appendix one-half gangrenous; removed. No stricture demonstrable. Gauze drainage. Normal healing.

Case VII.—Acute gangrenous appendicitis. William W——, male, admitted February 3, 1899. No previous attack. Duration of present illness two weeks. Sudden onset. General abdominal pain, localized after twelve hours in the right iliac fossa. Constipation. Considerable tumor in the right iliac fossa. No rigidity. Temperature, 100.8°; pulse, 100.

Intermuscular incision. Gangrenous appendix removed with curette from the centre of a mass of granulation tissue lying rather high up to the outer side of the colon. Hole in colon, representing base of appendix, sutured. Normal wound-healing.

Case VIII.—Acute appendicitis, general septic peritonitis; death. Cornelius F——, male, aged thirty-nine years, admitted February 15, 1899. No previous attacks. Duration of present attack eight days. General abdominal pain and vomiting. Pain localized the second day in the right iliac fossa. Day before admission patient suddenly became much worse, vomiting growing severe, with intense general abdominal pain. Examination upon admission: temperature subnormal; pulse 130 and poor quality. General condition bad, abdomen distended and generally tender. Frequent vomiting.

Operation, February 15, 1899: Appendix not found; abdomen everywhere the site of general purulent peritonitis. Flushing of abdomen with hot saline solution; death in two hours.

Case IX.—Acute appendicitis, general septic peritonitis; death. Fred. E. M——, aged twenty-four years, male. No previous attacks. Five days before admission vomiting and general pain, localized after forty-eight hours in the region of the appendix; continued at work until the third day, when he went to bed.

On admission, large, stout man, profoundly septic in appearance. Temperature, 103½°; pulse, 108. Abdomen distended, tender, and tympanitic.

Operation: Appendix perforated and gangrenous, large abscess opened; the abdomen contained everywhere a thin sero-purulent fluid. Saline irrigation. Died septic on the second day with a temperature of 107°.

Case X.—Acute appendicitis, general purulent peritonitis; Cure. Michel F——, aged twenty-one years, admitted September 13, 1899. No previous attacks. Five days ago, general abdominal pain, localized

after twenty-four hours in the right iliac fossa, accompanied by vomiting. Since then and up to the time of admission the pain and tenderness had advanced to the left side of the abdomen. The entire abdomen tympanitic and tender. Temperature, 100.6°; pulse, 80.

Incision into either iliac region. Appendix swollen, perforated at the base. Entire lower three-fourths of the abdomen the seat of purulent peritonitis. Saline irrigation; glass-tube drainage into both iliac fossæ. Normal wound-healing. Discharged cured November 21st.

Case XI.—Acute gangrenous appendicitis, septic peritonitis, suppurative mesenteric adenitis, pyæmia. Susie W——, aged eighteen years, colored, admitted November 17, 1899. No previous attack. Thirty-six hours before admission, general abdominal pains, localized after six hours in the right iliac fossa, accompanied by tenderness and vomiting. Chill on the day of admission, tenderness and muscular rigidity marked on the right side. no tumor. Temperature, 101.8°; pulse, 92.

Operation on the day of admission: Moderate-sized collection of pus in the neighborhood of the appendix without limiting adhesions. Appendix found wrapped up in omentum, lying below the caput coli and slightly to the inner side. Meso-appendix and adhesions ligated; and omentum (one and one-half inches), after being separated from appendix, ligated in sections and end cut away. Appendix freed and opened one-fourth inch from caput coli; probed, and found pervious; cauterized, ligated with catgut, and cut away. Stump again cauterized. Saline irrigation, washing and sponging down into the pelvis, dry sponging into small intestine area and up toward the liver; in these directions it appears dry, the pus being only about the appendix and in the pelvis. Iodoform gauze packed to stump of appendix and into wound. Glass drainage tube with iodoform wick into pelvis. Sterile dressing and abdominal binder applied. Mucous membrane gangrenous throughout its whole length; three-fourths inch from base is a stricture, then a concretion three-eighths inch long, then a pin-hole perforation and complete gangrene. Chill followed by temperature of 105.2°. Signs of consolidation in right upper lobe, November 19th.

November 20th: Tube removed, wound quite clean; two chills, one in the morning, one in the afternoon. Upper lobe quite clear of signs of consolidation, lower right lobe has some bronchitis. Blood shows no malarial organisms. Chill in the morning and one in the afternoon of November 21st. Vomited four times during the day. Chill in the morning and one in the afternoon of November 22d. Vomited once. Chill in the morning, slight chill in the evening of November 23d. Sputum contains no tubercle bacilli. Chill in the morning, no pulmonary consolidation November 24th. Vomited once; general condition is unchanged, looks septic; chilly in the morning of November 26th. Urine negative; moderate tenderness in right hypochondrium and in right lumbar region; some resistance and muscular rigidity in regions of tenderness.

Second operation, November 27, 1899: Incision just below and parallel to right costal border, four inches in length. A mass of glands, ovoid in shape, two and one-half inches in long diameter, found behind hepatic angle of colon in front of the right kidney. Aspiration of foul putrid pus. Incision and removal of most of the mass. Packing. No other masses felt. Death ten days later with continued symptoms of septico-pyæmia, namely, chills, extremely high and remittent fever, delirium, stupor, and exhaustion. No autopsy.

Case XII.—Acute appendicitis, progressive fibrino-purulent peritonitis, persistent vomiting; death. Peter G——, aged eighteen years, admitted March 6, 1899. No previous attacks. Ten days ago he was seized with general abdominal pain, accompanied by a chill. He did not vomit. He continued at work during the two following days. Six days ago the pain became much more severe; he had another chill, and the pain localized in the right iliac fossa.

Examination: Poorly developed boy. Marked tenderness and rigidity over the lower part of the abdomen upon the right side. Temperature, 102.2°; pulse, 102.

Operation, March 7, 1899: Large abscess lying to the outer side of the colon together with a large collection of pus in the pelvis. The appendix was long, extended downward into the pelvis, and was perforated at its tip. Saline irrigation, followed by glass-tube drainage. The patient suffered from continued vomiting, which became fecal on the fifth day in spite of lavage. The bowels continued to move. There was no apparent extension of the peritonitis. The wound remained fairly clean and there was no rise of temperature above 101° until just before death, which occurred on the eleventh day after the operation, from exhaustion.

Case XIII.—Acute appendicitis, abscess; cure. Edward F——, aged twelve years, admitted February 24, 1899. No history of previous attacks. Two days ago general abdominal pains, accompanied by vomiting, located after six hours in the right iliac fossa. Next day a chill followed by an increase of pain and prostration. Constipated.

Examination: General abdominal tenderness, most marked in the right iliac fossa; together with muscular rigidity in the lower part of the right side of the abdomen. T., 100.8°; P., 116; R., 36.

Operation, February 24th: The appendix was found behind the colon wrapped in omentum, which formed the wall of an abscess of moderate size. Appendix strictured at proximal end and perforated at centre opposite a sharp kink. Pelvis free. Packing. Normal healing. Left hospital well.

Case XIV.—Acute appendicitis, abscess: cure. Thomas McK——, aged ten years, admitted March 3, 1898. No previous attacks. Nine days ago general abdominal pain, localized after twelve hours in right iliac fossa. Continued vomiting. No chill.

Examination: Well nourished; slight abdominal distention, everywhere tympanitic. Tenderness most marked over base of appendix. T., 101.4°; P., 120.

Operation, March 4, 1898: Colon adherent: large abscess evacuated. Appendix three inches long, strictured in two places, perforation at middle, gangrene of mucous membrane. Large secondary abscess filling pelvis. Salt irrigation, glass drainage, and yellow packing. On the tenth day a large lumbricoid worm emerged from the wound together with fecal matter. A large fecal fistula persisted.

January 13, 1899: Secondary operation revealed an opening into both large and small intestine rather deep in the pelvis. Curettage of cavity and packing. No attempt to close fistulæ.

April 30, 1899: Fecal fistulæ have closed spontaneously. Left hospital, well, May 17, 1899.

Case XV.—Acute appendicitis, abscess; cure. H. B——, male, aged twenty-three years, admitted April 9, 1899. One year ago had an attack of appendicitis lasting one week. Four months later another similar in character. On the day of admission he had general abdominal pain, located after two hours in the right iliac fossa, accompanied by vomiting.

Examination: Well-nourished man. Rigidity, pain, and tenderness over right iliac fossa. T., 101.8°; P., 108.

Operation twenty-four hours later: Abscess behind

colon. Appendix strictured near base and perforated at centre. Left hospital, well, May 22, 1899.

Case XVI.—Acute appendicitis, abscess; cure. James K——, aged eleven years, male, admitted May 1, 1899. No previous attacks. Seven days ago vomiting and general abdominal pains, localized after five hours in right iliac fossa. Diarrhœa. For past two days a mass has been noted in region of appendix.

Examination shows a well-nourished boy. Tender mass in right iliac fossa. T., 101.8°; P., 112.

Operation, May 1, 1899: Large abscess extending down into pelvis. Appendix bent sharply close to tip and perforated at that point. Glass-tube drainage into pelvis. Left hospital well.

Case XVII.—Acute appendicitis, abscess; cure. V. F——, male, admitted April 13, 1899. No previous attacks. Six weeks ago had pain in right iliac fossa. Kept at work for two weeks, after which he had chills at irregular intervals, accompanied by fever and sweating.

Examination: Well developed; large tender mass filling right iliac fossa. T., 102°; P., 116.

Operation April 14, 1899: Large abscess opened lying to outer side of colon and upward. Appendix not identified. Slow convalescence.

Case XVIII.—Acute appendicitis, abscess; cure. Patrick T——, aged twenty-seven years, admitted October 3, 1899. No previous attacks. Four days ago vomiting and general abdominal pain, located in right iliac fossa after twenty-four hours. General muscular rigidity.

Operation, October 4th: Abscess, gangrene of appendix, perforation, and concretion. Packing. Left hospital well.

Case XIX.—Recurrent appendicitis, abscess. George E——, aged six years, admitted May 17, 1899. Had two previous operations for appendicitis, at neither of which was appendix removed. A week ago another abscess appeared.

Operation, May 18th: Abscess opened; left hospital well.

Case XX.—Recurrent appendicitis, progressive fibrino-purulent peritonitis. William W——, aged nine years, admitted December 4, 1898.

Previous history: An attack of abdominal pain two months ago, lasting a few days.

Present illness: Five days ago sudden severe abdominal pain and vomiting. Pain chiefly in the left side of abdomen, low down.

Examination: T., 101°; P., 108. General condition poor. Abdomen distended, tense, tympanitic, and tender. Tenderness most marked in the left iliac region.

Operation, December 4, 1898: Incision in left iliac region. Peritoneum opened; small intestines agglutinated by recent adhesions, which being separated a moderate amount of pus escaped from among the coils of the small gut. Incision on right side. Similar adhesions toward median line, which being separated pus in moderate quantity escaped. A large congested appendix found dipping into pelvis and crossing to left side of belly. Appendix, stricture one-half inch from base, beyond that inflamed and distended with pus. Salt irrigation; packing of both wounds. Normal healing.

Case XXI.—Recurrent appendicitis, abscess. F. S———, male, aged forty-two years, admitted September 25, 1899. Had two previous attacks. Eight days ago present attack began. Pain and tenderness in right iliac fossa. Fever. Examination showed considerable tumor. Intermuscular operation, September 26, 1900. Abscess contained six ounces of pus. Appendix gangrenous; concretion: perforation at apex of appendix. Small fecal fistula still open after one month.

Case XXII.—Acute appendicitis, abscess; cure. Lilian D——, aged twenty-nine years, married, admitted November 26, 1899. No previous attacks. Three days ago vomiting and general abdominal pains, located after twenty-four hours in right iliac fossa. Sharp chill accompanying onset. Bowels open. Examination shows a strong healthy woman, abdomen distended and tympanitic. Rigidity, pain, and tenderness in right lower abdomen. T., 104°; P., 128; R., 30. Large abscess extending into pelvis. Appendix gangrenous and perforated, containing a large concretion and three small ones. Glass-tube drainage to pelvis. Temperature fell at once after operation. Wound-healing. Left hospital January 28, 1900.

Case XXIII.—Acute appendicitis, general peritonitis, septic diarrhœa. James R——, aged forty-two years, male, admitted January 22, 1900.

Previous history: Diarrhœa for three months, with emaciation. For past month has had continuous pain in lower abdomen, worse in the right side. Twenty-four hours ago sudden, very severe abdominal pain in lower part of abdomen and vomiting. Vomiting has continued. T., 101.6°; P., 100; R., 32. Whole abdomen tender, most marked below; muscular rigidity, free fluid in belly made out by percussion. Pulse weak. Patient much prostrated. Urine, albumin present, hyaline and granular casts.

Operation, January 22, 1900: Large amount of free pus in peritoneal cavity. Appendix perforated at tip. Free irrigation through glass tube. After operation wound discharged but little pus and continued to appear clean. Patient suffered from severe diarrhœa. No gastric disturbance until seventh day, when vomiting occurred. Patient passed but very little urine, containing albumin and casts. The temperature was but slightly elevated until the ninth day, when it rose to 101.8° just before death, which occurred from exhaustion. There was no reaccumulation in the belly.

Case XXIV.—Acute appendicitis, progressive purulent peritonitis. Marie K——, aged twenty-one years, admitted January 1, 1900. No previous attacks. Twenty-four hours ago, sudden severe abdominal pain, located after six hours in right iliac fossa: vomiting; marked chill.

Examination: T., 101.6°; P., 114. Abdomen moderately distended, tympanitic, and rigid. Tenderness everywhere marked, but most so over the base of the appendix.

Operation, January 1, 1900: Appendix gangrenous; no adhesions. Glass-tube irrigation of entire abdominal cavity. Abundant pus extending from the bottom of pelvis to the liver on the right side. Purulent fluid washed from left side of abdomen in moderate amount. Glass drainage tube to bottom of pelvis. Yellow gauze strip upward to liver. Wound-healing. Discharged well, February 6, 1900. Temperature fell at once after operation to 99.5°, and rose but twice to 100° thereafter, on the second and third days.

Case XXV.—General purulent peritonitis, acute appendicitis. George R——, aged eighteen years, admitted December 24, 1899. No previous attacks. Two days ago, sudden general abdominal pain, located in a few hours in right iliac fossa. Vomited several times; constipated.

Examination: T., 103°; P., 140; R., 24. No tumor, marked rigidity on right side; both sides of abdomen tender. Abdomen moderately distended and tympanitic.

Operation, December 24th: On opening of peritoneum free pus escaped from all directions. Appendix strictured at the base, mucous membrane gangrenous throughout, perforated near the base. A portion of gangrenous omentum removed with appendix. Pus appeared to be present in every portion of abdomen, with but little fibrin and few or no limiting adhesions.

Entire belly washed out with hot salt solution, and glass tube inserted. Glass drainage to bottom of pelvis, another upward toward liver. Temperature dropped at once from 103° to 99.6°, and pulse from 120 to 90. Temperature remained nearly normal thereafter. Bowels moved on third day after magnesium sulphate. Left hospital, well, February 9, 1900.

Case XXVI.—Acute appendicitis, progressive purulent peritonitis; cure. James G——, aged twenty-nine years, male, admitted January 6, 1900. No previous attacks. Chronic alcoholic. Abdominal discomfort and occasional vomiting for past two months. Last night sudden severe pain in lower abdomen, localized after a few hours in right iliac fossa, with vomiting.

Examination: Pain and tenderness in right lower half of abdomen, most marked in right side. No tumor. T., 104.9°; P. 110.

Operation, January 6, 1900: Free pus. Appendix gangrenous. Extent of peritoneal surface already infected large. Irrigation. Appendix large and strictured at base; distended with foul pus, gangrenous; no perforation. Left hospital, well, February 6, 1900.

Case XXVII.—Acute appendicitis, abscess; cure. Harold B——, aged sixteen years, male, admitted December 17, 1899. No previous attacks. Four days ago sudden severe peri-umbilical pain. Vomiting and fever. Pain located in right iliac fossa after twelve hours.

Examination: T., 104.2°; P., 120. Pain and rigidity and tenderness over right iliac fossa. Belly tympanitic.

Operation, December 17, 1899: Normal peritoneum opened; sacculated small abscess on outer side of colon containing two drachms of pus. Appendix perforated near base, behind a tight stricture. Distal extremity of appendix atrophied. Remainder inflamed and greatly thickened. Normal convalescence. Left hospital, well, February 17, 1900.

Case XXVIII.—Acute appendicitis, abscess; cure. Mary J——, aged twenty-three years, single, admitted November 21, 1900. No previous attack. Three days ago general abdominal pain, vomiting, chill next day. Pain and tenderness localized after forty-eight hours in right iliac fossa.

Examination: Large tender mass occupying whole of iliac fossa. T., 100.8°; P., 104.

Operation, November 21, 1900: Large localized abscess extending to bottom of pelvis. Appendix half gangrenous and perforated. Irrigation and yellow-gauze drainage to bottom of pelvis. Left hospital well, after convalescence delayed by a persistent sinus, which closed rapidly after administration of iodide of potassium and mercury.

Case XXIX.—Acute appendicitis, abscess; cure. William W——, aged seventeen years, admitted November 8, 1899.

Previous history: Numerous mild attacks during past two years.

Present illness: Two days ago general abdominal pain, located after twenty-four hours in right iliac fossa. Chill after twenty-four hours. Diarrhœa.

Examination: T., 102.6°; P., 96. Abdomen tympanitic. Rigidity marked on right side, and tenderness.

Operation, November 9th: Large circumscribed abscess extending to bottom of pelvis. Appendix strictured, containing concretion, partly gangrenous and perforated. Irrigation and packing. Wound-healing normal except for a temporary fecal fistula which closed spontaneously. Dismissed, well, January 7, 1900.

Case XXX.—Acute gangrenous appendicitis, abscess; cure. Julia C——, aged twenty-nine years, married, admitted March 22, 1900. No previous attacks. Twelve days before admission general abdominal pains, nausea, vomiting, and prostration. Pain localized after twenty-four hours in the right iliac fossa. A chill on the fifth day. Bowels moved daily. Pain in the region of the appendix continued to grow more severe until admission. Day before admission another chill.

Examination: There is a tender mass in the right iliac fossa the size of an orange. Firm and resistant, tympanitic. T., 102.2 ; P., 108.

Operation, March 23d; Large abscess opened to the inner side of and below the cæcum, extending well down into the pelvis. Appendix not found. Probably destroyed. Normal wound-healing. Temperature fell to normal soon after the operation. Left the hospital, well, May 8th.

Case XXXI.—Acute gangrenous appendicitis, abscess; cure. Maggie M——, aged twenty-two years, admitted April 2, 1900. No previous attacks. Five days ago severe pain in the right lumbar region, localized after twenty-four hours in the right iliac fossa. Bowels constipated.

Examination: Pain and tenderness and rigidity in the right iliac fossa. Temperature and pulse normal.

Operation, April 3d: Intermuscular incision. Cæcum buried in adhesions. Operation largely extra-peritoneal. Appendix partly gangrenous. Small circumscribed abscess. Gauze drainage; normal wound-healing; left the hospital, well, May 8th.

Case XXXII.—Acute gangrenous appendicitis; cure. Mamie R——, aged nineteen years, admitted March 27th. One mild attack of appendicitis three years ago. Four days ago general abdominal pain, localized after twelve hours in the right iliac fossa.

Examination: On the third day had a chill in the morning. Abdomen not distended. T., 100°; P., 90. Pain and tenderness in the right iliac fossa without rigidity. There is a tumor the size of a small orange to the inner side of the right anterior superior spine, exceedingly tender.

Operation, March 28, 1900: When the peritoneal cavity was opened the distal extremity of the greatly swollen appendix was found immediately beneath the abdominal wall, buried in recent adhesions and firmly attached to the inflamed cæcum. The appendix was long and bent upon itself. Its base was situated behind the cæcum. Removed in the ordinary way. There was no pus. The appendix was four inches in length; there was an impervious stricture at its middle, beyond which its canal was greatly dilated, filled with pus. The mucous membrane showed several gangrenous areas. Gauze drainage and partial suture of the wound. Normal wound-healing. Left the hospital well.

Case XXXIII.—Acute appendicitis, general purulent peritonitis. T. McS——, aged nine years, admitted December 2, 1899. No previous attacks. Four days ago he was suddenly seized with general abdominal pain, accompanied by vomiting, which was localized upon the following day in the right iliac fossa, although tenderness is said to have been marked over the whole abdomen. The vomiting has continued. The bowels have been constipated. On the day before admission his abdomen became distended. The distention has increased.

Examination: T., 102°; P., 128. He appears to be very ill. He is rather apathetic. His tongue is dry and brown. The abdomen is markedly distended, but not very tender except over the appendix region. There is slight muscular rigidity. No mass palpable. Enemata failed to move the bowels.

Operation, December 2, 1899: Incision over base of appendix. When the peritoneum was opened, pus in abundance gushed out under considerable tension. The pelvis was found full of pus and another large collection beneath the liver. Irrigation through glass tube showed abundant pus everywhere throughout the greater peritoneal cavity. There were slight but im-

perfect fibrinous adhesions here and there throughout the abdomen, which were broken down with the hand and with the tube. The appendix lay behind the caput coli; its mucous membrane was strictured in two places; between the strictures was a concretion, and the mucous membrane was gangrenous. Beyond the second stricture the appendix was thickened, perforated, and contained much pus. Prolonged irrigation of the entire peritoneal cavity with the Chamberlain tube and hot saline solution. The colon at the base of the appendix was infiltrated and in an unfavorable condition for suture. A purse-string suture was applied and mattress stitches were inserted over it. Large glass-tube drainage to the pelvis with iodoform-gauze wick. Packing at the base of the appendix. After the operation the patient vomited repeatedly. His temperature remained high, he was unconscious for several days, when improvement in his general condition became manifest. Upon the ninth day, the wound having become fairly clean, a fecal fistula was noted, which in spite of rest in bed persisted as a superficial sinus leading directly into the calibre of the gut until it was closed by suture four and one-half months later.

Case XXXIV.—General purulent peritonitis. Henry N——, aged seventeen years, admitted April 8, 1900. No previous attacks. Six days ago severe general abdominal pain, localized after three days in right iliac fossa, and accompanied by repeated vomiting. He has steadily grown worse, and upon admission to the hospital his temperature was 104.4°, pulse, 116. The abdomen is moderately distended, everywhere rigid and tender; the tenderness is, however, slightly more marked over the region of the appendix. The signs of free fluid in the abdominal cavity are fairly well marked. There is no circumscribed tumor.

Operation, April 8, 1900: Incision over base of appendix. Peritoneal cavity opened. Thin purulent fluid flowed out. Cæcum with the appendix pulled out of wound. Mesentery ligated; portion of mesentery between ligature and appendix divided. Purse-string suture around base of appendix. Appendix amputated one-half inch distal to stump. Stump cauterized. Glass-tube irrigation of every part of whole abdomen; large quantity of pus, with scarcely any limiting adhesions around it, was washed out from pelvis. More pus was obtained from the region above the appendix area, under the liver, and from the opposite side of the abdomen to the spleen. Glass tube inserted into pelvis and iodoform gauze packed to its bottom.

Pathology: Appendix three inches long, large perforation in distal end. Stricture about middle; a large concretion dropped out of it as soon as it was manipulated when found during the operation. Secondary abscess opened eleven days later through the left rectus muscle at the level of the umbilicus, after which the patient did well.

Case XXXV.—Frank D——, aged twenty-four years, admitted March 2d. No previous attack. Four days ago was seized with nausea and vomiting and general abdominal pains, which became localized in about six hours in the right iliac fossa. Symptoms have steadily grown worse up to admission, vomiting has continued.

Examination: T., 106.6°; P., 96. There is marked muscular rigidity of the right side of the abdomen over the base of the appendix. No definite tumor felt.

Operation: Incision over base of appendix. Small abscess opened behind the cæcum. Appendix strictured near the base, impermeable. Beyond this distended with thin pus, small perforation near the apex. Gauze drainage. Partial suture of the wound. Normal convalescence.

Case XXXVI.—James H——, aged twenty years, admitted April 9, 1900. No previous attacks. Became ill March 31st with sore throat, fever, chill, and general abdominal pain, followed by slight pain in right iliac fossa, which lasted only two or three hours. On April 3d pain in iliac fossa recurred and continued constantly until April 5th, when it suddenly became very severe. Bowels regular, no nausea or vomiting.

Examination: Well-nourished, strongly built man. Abdomen, upon pressure marked tenderness in lower umbilical and lumbar regions. Greatest tenderness in the right iliac region, most acute a little below site of base of appendix. Considerable rigidity over right iliac region. T., 103.6°; P., 100; R., 24.

Operation, April 10th: Distinct tumor felt in lumbar region, just above iliac crest. Incision in the lumbar region parallel to the border of the ribs. Peritoneal cavity opened. An abscess of considerable size was found situated behind and to the outer side of the colon. At the lower portion of the abscess the appendix was identified; it was very long and extended upward behind the colon, and was perforated at its tip. Length of appendix was six inches. The lesion appeared to be limited to its distal extremity. Suture of upper portion of wound. Normal convalescence.

Case XXXVII.—Chronic appendicitis, abscess, intestinal obstruction by bands, operation; recovery. Charles M——, aged twenty-nine years, admitted to Roosevelt Hospital January 8, 1900, with following history. During the past ten years he had three severe attacks of appendicitis. In the opinion of his attending physician, his last attack, which occurred about four months ago, was accompanied by severe pain, vomiting, fever, prostration, swelling of the abdomen, and obstinate constipation lasting five days. There was evident involvement of a considerable part of the peritoneum, diagnosticated as general peritonitis; he recovered from this attack incompletely, and during the past three months, while able to be about, has had constant discomfort in the region of the appendix, with tenderness upon pressure. His stomach has also given him some trouble, he has had numerous attacks of vomiting, his bowels have been fairly regular. He remained in the hospital under observation for a fortnight or twelve days, and was operated upon January 20th. During this time he had a slight evening rise of temperature on several occasions. There was a sense of increased resistance to be felt in the right iliac fossa, together with moderate tenderness on pressure.

Operation: Intermuscular incision. When the peritoneal cavity was opened the cæcum was found bound down firmly to the iliac fossa by old adhesions. When these were separated an abscess cavity was opened behind the cæcum containing only half a drachm of pus. Upon exploration the abscess cavity was found to communicate on the one hand with the open end of the partly destroyed appendix, one inch in length, and upon the other, distant an inch and a half from the base of the appendix, with the lumen of the large intestine, through an opening about one-third of an inch across. The appendix was amputated and inverted in the usual way, and the opening in the gut was sutured. A strand of gauze drainage; partial suture of the wound. The wound remained quite clean, but the patient began soon after the operation to vomit occasionally; his bowels were hard to move. His temperature was slightly elevated from time to time and he continued to suffer a certain amount of abdominal pain. Upon the thirteenth day following the operation a small movement of the bowels occurred, but the continued vomiting had greatly weakened the patient. Upon the fourteenth day symptoms of intestinal obstruction were well marked, the vomited

matters began to have a fecal character, his abdomen became distended, and nothing passed per rectum in spite of repeated enemata.

Operation on morning of the fifteenth day: Median incision. Coils of distended small intestine presented in the wound. Upon following them to the right the following conditions were noted. A coil of small intestine was firmly adherent to the ascending colon for an area of several inches in length along its inner surface. A second coil of small intestine adhered to the first coil in a similar manner. Passing transversely from the ascending colon toward the median line was a broad band of dense organized adhesions crossing the two coils of small intestine, to be attached to the mesentery near the middle line. The division and separation of these bands and adhesions was followed by severe bleeding, necessitating ligatures and pad pressure for its control. Further exploration showed also similar broad adhesions among the coils of small intestine situated in the pelvis. They were also spearated. Upon dividing the above-described fibrous bands the patency of the small gut was restored. These bands and adhesions were evidently the result of an ancient inflammatory process. Suture of the wound, with gauze-wick drainage. The patient made a slow but perfect recovery and left the hospital, well, early in March.

Case XXXVIII.—Acute appendicitis, progressive purulent peritonitis; recovery. H. M——, aged fifty-three years, male. A history of repeated attacks of abdominal pain accompanied by tenderness in the right iliac fossa, extending over a period of several years. None of them was severe enough to confine him to his bed. During the afternoon of April 16, 1899, he was suddenly seized with severe abdominal pain, localized after five hours in the right iliac fossa, at which time he had a chill accompanied by a rise of temperature to 103.5°. There was tenderness over the base of the appendix, involving also the entire right lower portion of the abdomen.

Operation was postponed by the patient for twelve hours. When the abdomen was opened thin pus escaped in considerable quantities. There were no limiting adhesions. The pelvis was filled with thin purulent fluid. The appendix was strictured about midway its length and perforated at its tip; it was amputated and the stump inverted. Irrigation of pelvis and neighborhood of appendix with hot saline solution; a glass-tube drainage to bottom of pelvis; packing to stump of appendix. Convalescence normal, except for the escape of a small amount of fecal matter from the stump of the appendix. The fistula closed after cauterization and packing.

Case XXXIX.—Acute appendicitis, general purulent peritonitis. Frank C——, aged eleven years, admitted April 12, 1900. No previous attacks. On April 6th, sick-headache accompanied by vomiting; no abdominal pain. April 9th, suddenly attacked with severe pain, localized from first in right iliac fossa. Vomited very freely for two days; no chill.

Examination: Tenderness almost entirely localized in right iliac fossa. A tumor, the size of a lemon, distinctly felt under anæsthesia close up under anterior superior spine of ilium. Considerable abdominal rigidity, most marked over right iliac fossa: but to some extent over whole of abdomen. T., 102.4°; P., 120; R., 24.

Operation, April 12th: Four-inch incision over the base of the appendix. Much pus filling the pelvis, found among the small intestines, apparently involving a large portion of the peritoneal cavity. The appendix lay behind the cæcum and was perforated. The entire abdominal cavity was irrigated with hot saline solution through a glass tube. Appendix removed. Glass-tube drainage to pelvis, iodoform packing to stump of appendix; partial suture of the wound. Normal convalescence.

Case XL.—Acute appendicitis, abscess; recovery. J. S——, aged twenty-three years. History of slow convalescence from typhoid fever six months before present illness, leaving him in a weak anæmic condition. Two weeks ago, never having had a previous attack, he was seized with vomiting and severe abdominal pain, localized after a few hours in the right iliac fossa. His condition since then has grown steadily worse, he has suffered from constant pain in the region of the appendix, has been confined to his bed, and has himself observed a tender mass slowly increasing in size in the region of the appendix. He has had a continued fever.

Examination shows the patient to be a rather poorly nourished individual; his face is distinctly septic in appearance. T., 103°; P., 100. The abdomen is not noticeably distended, but everywhere tympanitic. The right iliac fossa is occupied by a mass as large apparently as a fœtal head at term. Percussion note over the tumor is tympanitic. There is moderate muscular rigidity.

Operation, March 8, 1900: Incision four inches in length over tumor. Cæcum adherent to abdominal wall by fibrin. Large abscess extending to the bottom of pelvis was opened behind caput coli. It was walled off by dense adhesions from the general cavity of the belly. Appendix not found; it was apparently destroyed. Irrigation of hot saline solution through Chamberlain's tube. Iodoform-gauze packing. Normal convalescence.

The Parasitic Nature of Eczema.—P. G. Unna in making bacteriological studies of seventy-four cases of this disease was able to differentiate twenty-three types of coccus. These he arranges in five classes, according to their tendency to group formation. Those which do not show any such predilection, *i.e.*, the monads, form the first class, the dyads the second, tetrads the third, and octads and hekkaidekads the fourth and fifth. Of these twenty-three types twelve were found to give no results on inoculation into animals, four produced lesions somewhat impetiginous in nature but not at all resembling eczema, five types caused appearances strongly suspicious of the disease, and finally two gave all the characteristics typical of true eczema and are to be regarded as the producers of the disorder. One of these was found in over one-half of the cases examined and the other in only two instances, but then in pure culture. Carrying the investigation a step further and inoculating human beings it was found that absolutely typical eczematous lesions were produced by the two types under consideration. For these two the author proposes the names of Diclimactericus eczematis albus flavens and Monoclimactericus eczematis vivescens, while to a third strongly suspicious form he would apply the appellation Triclimactericus eczematis tenuis.—*Wiener klinische Rundschau*, September 16, 1900.

The Restoration of Function to Ankylosed Joints.—V. Chlumsky refers to the large percentage of failures attending efforts at cure of fixed articulations either by manipulation or open operation. The usual causes of this condition lie either in contractures of the soft parts or in bony or fibrous outgrowths of the articular surfaces. By massage it may be possible to restore the atrophied muscular tissues, and function may temporarily be improved by the non-bloody brisement forcé or by excision of the new growths, but the amelioration is apt to be evanescent, for the re-formation of the obstructing masses is not prevented. With the idea of imitating the false joints

sometimes occurring at the site of fractures owing to the interposition of muscle fibres, etc., between the separated ends, the author introduced foreign bodies of various sorts into the joints of dogs and rabbits after having resected portions of the articular surfaces. Thin plates of celluloid, silver, pewter, and rubber were used at first, but later it seemed preferable to employ substances capable of absorption, and decalcified bone, ivory, and magnesium were tried. The results in the animals experimented on were very encouraging and while no definite technique for the human subject can yet be formulated, further work will doubtless be productive of valuable therapeutic measures.—*Centralblatt für Chirurgie*, September 15, 1900.

Leontiasis Ossea.—W. H. Stephenson reports a case of this rare disease, which is characterized by an overgrowth or hyperostosis of all or some of the facial or cranial bones, without any concomitant affection of other parts of the body. The patient, a man of twenty-seven years, had first noticed a slight, hard, painless swelling on the left side of the lower jaw when thirteen years of age. About eighteen months ago a similar swelling had commenced on the right side of the lower jaw, and had gradually increased in size, but was not accompanied by any marked pain. During the last twelve months he had noticed that the bones of his nose had been growing larger, the nose had become increased in thickness and breadth, and the left nostril had become almost occluded. With the exception of neuralgic pains in the lower jaw of the left side, extending up to the temple, the patient had good health. The etiology of this disease is obscure. No treatment appears to be of any avail.—*The Medical Chronicle*, September, 1900.

The Leper Colony at Robben Island.—This island, Jonathan Hutchinson writes, is on the West coast of Africa, slightly north of Cape Town in Table Bay. He found that the lepers segregated there received almost no medical attention owing to the neglect of the medical officers, and that transportation thither was practically equivalent to imprisonment for life. He protests against such methods of caring for these unfortunates. His explanation and thoery of the origin and spread of leprosy at the Cape is the great amount of salted fish used. Much of this is sent to the interior, for it is light and easily carried. He believes that it is desirable that leper houses, comfortable hospitals and asylums, should be built. Lepers nearly always die, and that very soon, of tuberculosis and pneumonia. —*Medical Press and Circular*, September 26, 1900.

Disturbances of the Stomach in Relation to Diseases of the Chest.—J. M. Patton says that of diseases of the chest pulmonary tuberculosis occupies the most prominent place in connection with gastric disorders. Tuberculous ulceration in the stomach is rare compared with that of the intestines. This may be due to the germicidal action of the gastric juice, but more likely to the small amount of lymphoid tissue in the stomach and its deep situation. Gastric tuberculosis presents no definite symptoms. It occurs somewhat more frequently in males than in females. Clinically it is not of great importance, because death occurs from advanced tuberculosis of other organs, and because it is seldom diagnosticated though frequently suspected.—*Clinical Review*, October, 1900.

Flügge's Theory and its Application to Surgery. —Roberto Binaghi from the results of his researches concludes that the staphylococcus is the germ most frequently present in the air of surgical rooms. The more people usually found in these rooms, the greater the number of germs. They are found in greatest abundance in the lower strata of air. In operating-rooms the author has never found them before or during an operation but always after it. In clinic rooms they are present during and after the hours of treatment. In dispensaries and waiting-rooms staphylococci are constantly present. It would appear that they are infrequent when the temperature and pressure are low, as in February and March. The author thoroughly believes in Flügge's opinion that even when personal asepsis has been strictly observed, the mere motion of persons in an operating-room may, by causing light currents of air in which germs are suspended, cause infection of the wound. The number of persons in an operating-room should be reduced to the minimum. —*La Riforma Medica*, September 22 and 24, 1900.

Malarial Hæmoglobinuria.—James M. Parrott clinically and therapeutically divides the disease into two varieties, the asthenic and the sthenic. The latter is engrafted upon the more or less robust, though its more characteristic manifestations are preceded, as are the asthenic, by symptoms which are generally supposed to be those of ordinary malaria. The asthenic variety is engrafted upon one with a previous malarial cachexia. It occurs in those who are debilitated and weakened and whose excretory organs are functioning below normal because of certain organic pathological changes universally recognized as those of chronic malaria. The author gives in detail the symptoms of the two varieties. As to the treatment, the administration of quinine is a subject which admits of much discussion. This much should be said, that in sthenic cases seen before the beginning of the fourth day, quinine should be given. The alkaloid is not to be used in the asthenic cases except in very small doses, within the first few hours after the initial symptoms. Normal saline solutions properly used are of the utmost value. In sthenic cases the author sometimes bleeds from one arm and infuses into the other. This may be of especial service when suppression of urine threatens. The saline solution can be used by hypodermoclysis with good results. High rectal saline injections are very valuable. Whatever the form of treatment, nature must always be assisted to eliminate the poison, and the system supported until it can do so.—*The Carolina Medical Journal*, September, 1900.

Some General Considerations in the Treatment of Hysteria and Neurasthenia.—B. C. Loveland classifies his treatment for these disorders under five heads. 1. So far as possible correct errors of physique. Look for evidences of lithæmia, malaria, uterine disease, syphilis, cystitis, catarrhal disease in any part, eye-strain, dyspepsia, and constipation—any disease affecting the nutrition or any irritation which may in a reflex way cause nerve waste. 2. Institute healthful surroundings and healthful habits. Change of scene, abundance of fresh air, cheerfulness. 3. Hydrotherapeutics and calisthenics as equalizers of the circulation and natural nerve tonics. Both should be under supervision of the physician. 4. Correcting the mental attitude by properly and tactfully applied suggestion. By this is not meant hypnotism, but rather that we should set the patient to expect such and such results, the result being far more apt to follow than if such a state of expectancy is not induced. 5. Medicines. Strychnine is useful in these cases only in very small doses. Valerian, or pil. camphor, hyoscyamus, and valerian makes a good and harmless sedative. Bromides have their place. Phosphate of sodium is one of the best laxatives. Medicines alone never cure the cases, and careful attention should be given to physical and mental hygiene as most important factors in the treatment.—*Medicine*. October, 1900.

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MOSQUITOS AND YELLOW FEVER.

DR. CHARLES J. FINLAY, of Havana, was the first to advance the proposition that the mosquito was the agent of transmission of yellow fever. It is now nearly twenty years since he denounced the insect as such in a Havana medical journal. Dr. L. Gererd, then surgeon-in-chief to the Panama Canal Company, came to the same conclusion, as the result of experiments performed upon himself, and made his opinions public in the *Canada Medical Record* in 1882. Others have from time to time declared their belief in the theory, but until Manson and Ross succeeded in demonstrating that a species of mosquito played a most prominent part in the etiology and propagation of the malarial infection, interest in the matter had become somewhat faint. However, the success of the British investigators in probing to a great extent the mystery of the dissemination of malaria, coupled with the serious outbreak of yellow fever in Havana, would seem to have stirred up the sanitary authorities of this country, and to have suggested to their minds that there might be something, after all, in Dr. Finlay's ideas.

But before going into the question of the work accomplished recently by the commission of United States army surgeons in Havana, it may be as well to epitomize Dr. Finlay's theory as stated in the MEDICAL RECORD, May 27, 1899. In the first instance he does not regard the mosquito as the intermediate host of yellow fever, but considers that the disease can be communicated directly by the mosquito to man. He argues by the process of exclusion that the malady is not infectious by direct contact, by the inhalation of the emanations of a sick person, or by the use of contaminated food or drink. Therefore Dr. Finlay contends that the yellow-fever germ is pathogenic only when introduced in a less trivial manner, probably by inoculation under the epidermis or even directly into a blood-vessel.

After the facts brought to light by Dr. T. H. Smith as regards the transmission of Texas fever by means of the cattle tick, this theory was to a certain extent modified so as to include the important circumstance that the faculty of transmitting the yellow-fever germ need not be limited to the parent insect, directly contaminated by stinging a yellow-fever patient, but may be likewise inherited by the next generation of mosquitos descended from the contaminated parent.

This, in short, was the situation with respect to the mosquito-yellow-fever question at the time when the United States commission began its investigations in Havana. The commission consisted of Dr. Reed, surgeon U.S.A., and Drs. James Carrol, A. Agramonte, and Jesse W. Lazear, acting assistant surgeons U.S.A.

The conclusions which they reached were made the subject of a paper read recently before the Public Health Association at its last meeting in Indianapolis, Ind. The studies were divided into two parts, the first of which dealt strictly with the bacteriology of the disease and the second with the rôle that the mosquito plays in its propagation.

Summarized the conclusions were as follows From the first part of the studies: (1) The blood taken during life from the general venous circulation, on various days of the disease, in eighteen cases of yellow fever successfully studied, has given negative results as regards the presence of bacillus icteroides (Sanarelli). (2) Cultures taken from the blood and organs of eleven yellow-fever cadavers have also proved negative as regards the presence of this bacillus. (3) Bacillus icteroides (Sanarelli) stands in no causative relation to yellow fever, but when present should be considered as a secondary invader in this disease. The deductions drawn from the second part of the studies read thus: "The mosquito serves as the intermediate host for the parasite of yellow fever, and it is highly probable that the disease is only propagated through the bite of this insect."

While the conclusions relating to the Sanarelli bacillus make a part of the record they cannot be regarded as in any way convincing when we take into account the mass of testimony to the contrary. At best the observations were very limited in extent and can carry only a proportionate amount of weight to the contrary view of a very generally accepted opinion.

The conclusions of the second part are far more suggestive and interesting, and were arrived at as the result of eleven experiments upon non-immune human subjects who allowed themselves to be bitten by mosquitos which had been previously fed upon yellow-fever patients. Of these experiments nine results were negative and two positive. In one of these two positive cases, other sources of infection were, it is stated, clearly excluded: The offending mosquito, Culex fasciatus Fabr., was also isolated.

The commission is to be warmly congratulated upon the work is has done thus far, but is it not claiming rather too much to assert that "it is highly probable that the disease is only propagated through the bite of the mosquito," especially when the fact is taken into consideration that the case mentioned above is the only one in which a typical attack of yellow fever has followed the bite of an infected mosquito, all other sources of infection having been excluded? The theory, of course, is identical with that of placing upon mosquitos the onus of spreading malaria, and the Culex fasciatus Fabr. may be proved as much of a sinner as its brother the Anopheles.

In the mean time, however, it will be judicious to "hasten slowly," as well as to bear in mind that yellow fever differs widely in its mode of outbreak and

in other important characteristics from malarial fever, more resembling in many respects the bubonic plague. This much concerning yellow fever is agreed upon by the majority of investigators: That the disease is not contagious in the strict sense of the word, but that its micro-organisms will infect certain circumscribed areas or zones, conveyed thither perhaps by fomites; that maritime commerce has hitherto been the principal means of its dissemination; that it is conveyed neither by food nor by water, but by aerial diffusion; that soil has no apparent influence on its origin or spread, but that climate undoubtedly has.

Dr. A. H. Doty, health officer of the port of New York, in an article in the *North American Review*, 1898, sagely remarks: "Although there may be some doubt as to what are the climatic conditions necessary to propagate yellow fever, there is no difference of opinion as to what are the local requirements. I refer to filth and defective drainage. There is no city in the world to-day where yellow fever is epidemic, which does not afford substantial proof of this truth."

Inspector-General Turnbull, R.N., read a paper on the subject of yellow fever at the recent meeting of the British Medical Association, in which he contended that environment was the immediate cause of yellow fever, and that whenever improved sanitation supplanted a wholly unsanitary state, yellow fever disappeared. It is true that there are no facts known with regard to yellow fever which render the proposition that the malady is spread by the mosquito quite tenable; on the contrary, many appear to be unfavorable to such a theory. In this connection it must be remembered that yellow fever in a given district is not always coincident with the existence of mosquitos. In the epidemic of Jacksonville in 1888, the mosquito, while present, was by no means in such number as to constitute a pest. McHenry, Miss., in 1897, was almost free from the insect, as was likewise the case in some of the stricken districts of Florida in 1888. Although this does not absolutely disprove the new theory, the spread of the disease in every instance was duly explained by fomites in the nature of bedding or wearing-apparel packed in an epidemic centre.

In the absence of any new facts bearing on either side of the question at issue, therefore, it is quite evident at this stage of the argument that the whole matter requires a great deal more sifting before a definite opinion can be expressed. In conclusion we wish to express our unstinted admiration of the noble and unselfish conduct of Drs. Lazear and Carrol in offering themselves as subjects for experiment for the furtherance of science. The first-named fell a martyr to his devotion, but his name will be duly inscribed on the roll of fame and reverently remembered as an enthusiast who risked and lost his life that humanity at large might profit thereby.

Two Sets of Triplets.—Two sisters, twins, married two brothers, also twins, less than a year ago in Huntington, W. Va. On the same afternoon last week each sister gave birth to triplets.

THE CORRELATION BETWEEN SEXUAL FUNCTION, INSANITY, AND CRIME.

It is probable that no part of the body is without relation to all other parts, and that disease of any organ will not be without influence upon the remaining organs. Such a conception is justifiable from a knowledge of the interrelation of function and from a belief in the production of internal secretions. The symptoms that arise in the sequence of removal of glandular structures believed to possess such internal secretions are principally referable to the nervous system, and they have been most conspicuously observed in connection with disease or destruction of, or operation upon, the thyroid gland, the uterus and ovaries, and the pancreas. Great importance—too much, we are inclined to think—has always been attached to the onset and the cessation of, as well as abnormalities in, the processes of ovulation and menstruation in the development of various morbid manifestations, although it does not seem impossible that, in one predisposed to mental derangement, such conditions may act as the exciting cause. At the conclusion of a paper on the correlation between sexual function, insanity, and crime, read before the section of psychology at the recent meeting of the British Medical Association, Macnaughton-Jones (*British Medical Journal*, September 22, 1900, p. 789) expressed the belief that functional disorders of ovulation are frequently attended with mental aberration, and in a proportion of cases originate the mental disturbance. The same statement is applicable to disorders of ovulation dependent upon pathological causes. He held that, in the great majority of such cases, the disturbance is of a neurasthenic character and is associated with various visceral or other neuroses, while in only a small proportion does the alienation assume so grave a type as melancholia, mania, or dementia. In his opinion, when in an insane person ovulation and its external manifestation, the menstrual discharge, are erratic or absent, the erraticism or absence may be a consequence of the general and insane condition and not a causal factor in its production; but under any circumstances such abnormal menstruation appears to have an aggravating effect on the insanity, and there is sufficient evidence to support the view that when such irregularity—especially if it be due to a pathological cause—exists, it should be treated therapeutically or by operative measures. It was thought that the question of a gynæcological examination of an insane woman must be a matter for the discretion of the psychologist, influenced by the gynæcological view as to its expediency from the signs and symptoms present in the sexual organs. For many reasons this is not advisable as a universal practice with our present knowledge. It was pointed out that sufficient evidence is now advanced to justify the removal of the adnexa or the uterus in insane women when there are gross lesions of the former or tumors of the latter. Here again such operation must be advised in accordance with the psychological condition of the patient and the type of her insanity. The conclusion was reached from a mass of evidence, including some of the largest experi-

ences in Europe, Canada, and America, that in healthfully minded women who suffer from diseases of the genitalia there is no special risk of post-operative insanity; on the other hand, if there be a psychopathic predisposition that has existed prior to and independently of the sexual disease, there is in such cases a larger percentage of post-operative mental disturbance than follows other operations. In such women the prudence of a radical operation may have to be carefully discussed. The post-operative mental effect does not appear generally to be of a serious or permanent nature. It may be generally affirmed that when mental disease of a graver type follows upon sexual disorder, there has been in the woman affected an underlying and often unrecognized psychopathic predisposition; the disorder of menstruation or the disease in the genitalia completing the chain of the vicious circle needful for the final manifestation of the mental condition. Finally the contention was made that the relation of aberrant sexual function or disorder of menstruation to any criminal act ought to be taken into consideration in determining the responsibility of the woman.

News of the Week.

More Army Surgeons Wanted.—In his annual report to the Secretary of War, Surgeon-General Sternberg says that the present medical staff, consisting of one hundred and ninety-two surgeons, is insufficient for the needs of the service in view of the large number of coast-defence stations and the troops operating in Cuba, Porto Rico, Hawaii, and the Philippines. The contract surgeons, Dr. Sternberg says, have rendered excellent service, but the situation demands a permanent increase in the number of regularly commissioned surgeons.

New Site for the Harvard Medical School.—The old Francis estate in Brookline, Mass., has been purchased, and is now held in trust as the proposed future site of the Harvard Medical School, and the allied departments of veterinary medicine and dentistry will also be located on the recently acquired land. The school, during the comparatively short period of its residence in the present building, has outgrown its accommodation, and the land furthermore is desirable for the future use of the Boston Public Library, which is already feeling the need for more space. An appropriation for the School of Comparative Medicine has already been made from the H. L. Pierce bequest to Harvard University. Space is furthermore provided for a possible University Hospital.—*Boston Medical and Surgical Journal.*

The Descent of Man.—A despatch to *The Sun* from Berlin states that, at the recent congress of German anthropologists at Halle, Professor Klaatsch, of Heidelberg, read a paper contending that the direct descent of man from apes was no longer maintainable. His conclusion was based on the construction of the biceps muscle of the thigh. He contended that it was a mistake to regard man as the most perfectly developed mammal in all respects. His limbs and teeth do not show any high degree of development, and he is superior to other animals only in his extraordinary brain development.

A Falling Birth Rate in Berlin.—It is not in France only that the birth rate is declining, for some recently published official statistics show a continuous decrease in the Berlin birth rate, which is now only 29 in 1,000. The number of children born during the period covered by the statistics was 450,000, which, if the birth rate had been the same as in the whole of Prussia, would be 700,000.

Students of Medicine in Italy.—During the session of 1899–1900 there were 6,648 students in attendance at the medical schools of the numerous Italian universities, being distributed as follows: Naples, 2,009; Turin, 783; Rome, 530; Bologna, 504; Pavia, 496; Genoa, 358; Padua, 309; Palermo, 270; Florence, 260; Pisa, 218; Modena, 152; Catania, 167; Parma, 175; Messina, 128; Siena, 81; Cagliari, 75; Sassari, 54; Camerino, 35; Perugia, 29; Ferrara, 15.

Raw-Meat Cure of Tuberculosis.—An institution was opened a few months ago in Belgium for the purpose of carrying out Richet's alleged "cure" for tuberculosis by an exclusive raw-meat diet. After a trial of not more than three months, the experiment has been abandoned, those in charge of the hospital asserting that there was no efficacy whatever in the method.

An American Nuisance in London.—"Zionist" Dowie has been lecturing in London and several hundred medical students have been silly enough to advertise him by attending his meetings and creating a disturbance. At one of the meetings he told the noisy students that they had been incited to make a disturbance by their teachers who feared that faith healing would ruin their practice. At the next meeting the students assembled in greater force, and shouted, sang songs, blew trumpets and whistles, sounded rattles, and caused a great uproar. Dowie summoned the police, who ejected three of the disturbers. This incensed their comrades, who stormed the platform. Dowie bolted through a side door. Fifty of his supporters met the rush and a fierce fight ensued, in which sticks were used. The police eventually cleared the hall.

A Convalescent Hospital in the Philippines.—It is stated in Washington that plans are under consideration for the establishment of a first-class sanatorium within convenient distance of Manila, in order to place that city on the same footing in that respect as other large cities in the Orient. A sanatorium is regarded as necessary for dwellers in the tropics. The place selected is Beago de la Trinidad, about four thousand seven hundred feet above sea level, with a salubrious climate, the thermometer never rising above 75° in the daytime and the nights being cool and exhilarating.

New York State Association of Railway Surgeons.—The annual meeting of this association will be held at the Academy of Medicine, New York City,

on Thursday, November 15, 1900, under the presidency of Dr. J. L. Eddy, of Olean. The secretary is Dr. C. B. Herrick, of Troy.

The Philadelphia Medical Club on October 26th tendered a reception to Dr. Maurice H. Richardson, of Boston.

Dr. S. Baruch, of this city, has been awarded a silver medal and a diploma at the Paris Exposition for his plates and statistics showing work done in providing free cleansing baths for the poor. In this exhibit the aim was to show the sanitarians of the world that we have solved in America the problem of free cleansing baths, which have been in full operation in Buffalo and Chicago for several years. There are no other free cleansing baths in the world.

The Mississippi Valley Medical Association will hold its next annual meeting at Put-in Bay, Ohio, on September 10, 11, and 12, 1901. The officers for this meeting will be: *President*, Dr. A. H. Cordier, of Kansas City, Mo.; *Vice-Presidents*, Drs. C. F. McGahan, of Aiken, S. C., Charles L. Minor, of Asheville, N. C.; *Secretary*, Dr. Henry E. Tuley, of Louisville, Ky; *Treasurer*, Dr. Dudley S. Reynolds, of Louisville, Ky.; *Chairman of Committee of Arrangements*, Dr. J. C. Culbertson, of Cincinnat.

The Southern Surgical and Gynæcological Association.—The thirteenth annual meeting of this association will be held in Atlanta, Ga., on November 13th, 14th, and 15th, under the presidency of Dr. A. M. Cartledge, of Louisville, Ky. The secretary is Dr. W. E. B. Davis, of Birmingham, Ala. The programme contains forty titles of papers to be read.

Dr. Bulkley's Lectures on Diseases of the Skin.—The third course of clinical lectures on diseases of the skin will be given by Dr. L. Duncan Bulkley in the out-patient hall of the New York Skin and Cancer Hospital, Second Avenue and Nineteenth Street, on Wednesday afternoons, commencing November 7th. These lectures, the previous courses of which have been largely attended, are free to all members of the medical profession.

Philadelphia Hospital.—The Council's committee on charities and correction has recommended favorably the appropriation of $130,000 for the erection of new buildings as additions to the Philadelphia Hospital, as follows: $50,000 for enlarging the buildings of the insane department; $35,000 for erecting a children's hospital; $10,000 for erecting a maternity house; and $35,000 for erecting a building for the treatment of infectious diseases.

Pan-American Medical Congress.—The third Pan-American Medical Congress will be held, as already announced, in Havana on December 26th, 27th, 28th, and 29th. There will be three general sessions. At the opening session in the Marti Theatre there will be present, besides the congressists, members of various scientific bodies and other invited guests. The report of the secretary-general will be read, and there will follow an address of welcome by the president of the congress. There will also be an address by Governor Wood, and two scientific addresses. At the second general session there will be four scientific addresses, one by a Cuban physician. At the closing session the report of the treasurer will be read, one scientific address will be presented, brief remarks will be made by the representatives of several countries, and the secretary-general will announce the place chosen for holding the fourth congress. The section meetings will be held daily from 8 to 11 A.M. and from 3 to 5 P.M. The dues for members of the congress will be $10 in gold. Each member who purposes reading a paper is requested to send to the secretary an abstract, not exceeding three hundred words, not later than November 15th. It is thought that about one thousand physicians will attend. Three hundred of the delegates will be Cubans. A large number will come from Mexico, travelling on a Mexican warship. Many American physicians are expected. The executive committee consists of Dr. Juán Santos Fernandez, president; Gustavo Lopez, vice-president; Tomàs V. Coronado, secretary; Enrique Acosta, treasurer; and Vicente K. Valdés, José I. Torralbas, and Edwardo F. Pla. The address of the secretary is Prado, 105, Havana, Cuba.

Pathological Society of Philadelphia.—At a stated meeting held October 25th, Dr. Simon presented for Dr. Hidago Nagouchi a communication on the "Influence of Cold upon the Plague Bacillus," based upon observations made during midwinter in northern China. It was found that even quite low temperatures had little injurious influence upon the micro-organisms, which are much more susceptible to elevations above the optimum. Dr. James F. Schamberg read a paper entitled "Pathology of the Skin in Scarlet Fever," accompanied by an exhibition of sections and photographs illustrative of the lesions. Dr. L. N. Boston demonstrated a forceps for holding microscopic slides. Dr. A. O. J. Kelly exhibited organs from a case of acute phosphorus poisoning, occurring in a young child that had swallowed about a dozen match-heads. The viscera, the skin, and the mucous membranes were the seat of small hemorrhages, and the liver was enlarged and fatty. Dr. A. A. Eshner exhibited a specimen of cerebral hemorrhage, an extensive extravasation of blood having taken place into the basal ganglia and being visible from the lateral ventricle. Dr. F. A. Packard exhibited anthracotic lungs from a miner who had presented symptoms of pulmonary gangrene, and relief from which appeared urgently indicated. An incision into the lung was made and drainage provided for, but although the local condition improved, except for the development of cutaneous emphysema, the patient failed to rally and apparently died from toxæmia and exhaustion. Post-mortem examination disclosed a bronchiectatic cavity at the apex of the right lung, with a gangrenous cavity in the lower lobe.

Philadelphia County Medical Society.—At a stated meeting held October 24th, Dr. Arthur Dare demonstrated a new hæmoglobinometer, in which a thin layer of undiluted blood is compared with corresponding standardized color discs. Dr. Henry W. Stelwagon gave a brief account of a visit to Pro-

fessor Finsen's light institute at Copenhagen, describing the treatment of lupus by means of natural and artificial light concentrated upon the disease foci with the aid of lenses. Daily exposures for an hour are made, but the treatment must be continued for a long time. It is questionable if the results are better than they would be if the same attention were given to details in the application of other remedial measures. Dr. Augustus A. Eshner reported some anomalous cases of typhoid fever, one unusually severe, one extremely mild, two with hemorrhagic tendencies, one possibly unattended with intestinal ulceration, one simulating miliary tuberculosis, one with intercurrent malarial fever in a puerperal woman, one associated with pulmonary tuberculosis and pneumonia, and one associated with syphilis and pulmonary tuberculosis. Dr. Norman B. Gwynn read a paper on "The Presence of Typhoid Bacilli in the Urine, and the Disinfection of Such Urine." After reference to the relative frequency with which typhoid bacilli are found in the urine in cases of typhoid fever, experiments were detailed showing that mercuric chloride and chlorinated soda are the best disinfectants for the urine after it is voided. Ammonium formaldehyde may be employed for the purposes of sterilizing the urine in the genito-urinary tract.

Insanity among the Troops in the Philippines.—In his annual report to the Secretary of War, Surgeon-General Sternberg says regarding insanity among the troops: "In the army, regulars and volunteers, during the calendar years 1898 and 1899, there were reported on the monthly reports of sick and wounded 347 cases of insanity, and 202 of these cases, or 58.2 per cent., were committed to the government hospital for the insane. One hundred and thirty-five cases, or 66.7 per cent. of the commitments, recovered in an average period of 3.9 months, 13 were improved, 6 died, and 48 remained unimproved. Ninety-six of the 347 cases were reported on the monthly reports of troops serving in the Pacific islands, and 32 of these, or 33.3 per cent., were sent to the government hospital for the insane. Seventeen cases, or 53.1 per cent. of those committed, recovered in an average of 3.6 months, 2 were improved, 2 died, and 11 remained not improved."

Suing for Expert Fees.—Dr. R. A. Witthaus, whose bill for $18,550 for examining the stomachs of Mrs. Katherine J. Adams and Henry C. Barnett, under direction of the district attorney, in the Molineux case, was not paid on account of the small amount in the sinking-fund, will sue the city to recover the full amount of his bill.

Dr. Leopold Javal, the eminent French ophthalmologist, who has just been made officer of the Legion of Honor, recently lost his sight as the result of glaucoma. He began his career as a mining engineer, but having undertaken the translation of Helmholtz's "Optical Physiology," he was so much interested that he studied medicine and took up ophthalmology as a specialty. Some years ago he was elected member of the Chamber of Deputies, and was instrumental in passing the "Seven Children Law," which exempts from taxation the parents of families of not less than that number. He now devotes his attention to the improvement of the means of enabling the blind to read and write.—*The Medical Press and Circular.*

The Flushing Hospital.—The trustees of this hospital have issued a statement to the effect that the institution may be obliged to close its doors because of lack of funds. The city gives the hospital $6,000 and it has an income of $3,000 from pay patients, but the expenses are about $14,000.

Obituary Notes.—Dr. Moses C. White, of New Haven, Conn., died at his home in that city on October 24th, at the age of eighty-one years. He was born in Paris, Oneida Co., N. Y. He first studied for the ministry and was for several years a missionary in China. He then studied medicine and was graduated from the Yale Medical School in 1854. He was for many years pathologist to the State Hospital, and was a member of the faculty of the Yale Medical School. Two sons, one a physician, Dr. Caryl S. White, survive him.

Dr. William Arthur Zabriskie died at his home in this city on October 27th from fracture of the skull received by falling and striking his head on the sidewalk. He was forty-two years of age, and was graduated from the College of Physicians and Surgeons in 1882.

Dr. William J. Nelson, of Middletown, N. Y., died on October 26th at the age of forty years. His death was indirectly due to an injury to the spine received while a student at college, when a fellow-student cut a rope from the hammock in which Dr. Nelson was swinging, throwing him to the ground.

Dr. Edward Addison Hervey, of Rossville, Borough of Richmond, died on October 26th in his seventy-seventh year. He was born in South Durham, N. Y., on January 24, 1824, and was graduated from the University Medical College in this city in the class of 1859, receiving the Elliot prize for proficiency in anatomy.

Dr. Edward Robinson Squibb, of Brooklyn, died on October 26th of cardiac trouble after a short illness, at the age of eighty-one years. He was born in Wilmington, Del., and was graduated from the Jefferson Medical College, Philadelphia, in 1844. He entered the naval medical service, and was surgeon in charge of the Brooklyn navy yard when the Civil War began. About this time he resigned from the navy and became a manufacturing chemist. He retired from active business about fifteen years ago. He was a member of the American Medical Association, the New York State Medical Association, the Kings County Medical Society, the Metropolitan Museum of Art, and the Philosophical Society of Philadelphia. A widow, daughter, and two sons, one of whom is Dr. Edward H. Squibb, of Brooklyn, survive him.

Dr. Laurence Turnbull died at Philadelphia on October 24th, at the age of seventy-nine years. He was a native of Scotland, coming to this country at the age of twelve years. He was a graduate in pharmacy, and in 1845 was graduated from Jefferson Medical College. He served as resident physician in the Philadelphia Hospital, and was for thirty years prior to

1887 one of the physicians to the Western Clinical Infirmary and Howard Hospital, subsequently becoming a manager of this institution. He was in 1877 made aural surgeon to Jefferson Medical College Hospital. He was the first surgeon in the United States to trephine the mastoid for ear disease. He was the author of a "Manual of Anæsthetic Agents and their Employment in the Treatment of Disease," and of a "Clinical Manual of Diseases of the Ear."

Dr. George A. Muehleck died at Philadelphia on October 25th of typhoid fever, at the age of forty years. He was a graduate in classics of the University of Tübingen and in medicine of the University of Heidelberg. He was a member of numerous medical societies, and pathologist to St. Agnes Hospital.

Dr. Alexander H. Johnson, of Newark, N. J., died suddenly at Indianapolis while in attendance upon the meeting of the American Public Health Association. He was a member of the Newark board of health.

Progress of Medical Science.

Boston Medical and Surgical Journal, October 25, 1900.

Physiological Dilatation and the Mitral Sphincter as Factors in Functional and Organic Disturbances of the Heart.—Morton Prince says that whenever the heart is obliged to do an increased amount of work, whether this be due to increased stimulation of the heart or to increase of the resistance against which the blood is thrown, the heart physiologically dilates. This dilatation within normal limits may be so great that the volume of the blood thrown out at each contraction may be trebled or quadrupled. At the end of systole the heart may be larger than it was before at the end of diastole. The sphincters may be so dilated that the valves cannot close the auriculo-ventricular orifices, and thus physiological regurgitation may result. Normally this is observed under nervous excitement and severe physical exercise. The same law of necessity applies to diseased hearts as to healthy hearts, and, for example, the dilatation observed in aortic stenosis may be physiological rather than pathological. In general systemic conditions, such as the febrile diseases, anæmia, Bright's disease, etc., the dilatation and regurgitation are of the same sort, due either to an absolute increase of resistance or to a relative increase; in the latter case because of a weakened heart working against normal resistance. Unless this is recognized there is great danger of confusing this purely physiological condition, which probably exists in a great many such cases with serious cardiac disease, and in consequence giving an unfavorable prognosis.

Congenital Dislocation of the Hip Joint.—E. H. Bradford, discussing the various procedures for the cure of this condition, says that it is manifest that for the best result as little injury as possible should be done to the tissues. Little is inflicted if the following procedure be carried out: An incision is made along the outer and anterior edge of the femur, reaching from above the greater trochanter to two inches below the lesser trochanter. The upper portion should be curved slightly upward so as to uncover the head and neck of the dislocated femur. The tensor vaginæ and gluteus medius muscles are separated. When the femur is reached, the femoral insertion of the rectus is pushed aside, and the attachments of the psoas and iliacus are pushed away by a periosteum elevator. The capsule is then opened and cut across, first on the head, in the line of the axis of the neck, and then from the neck downward toward the acetabulum in front and behind. The finger is inserted, the acetabulum exposed, and the size of the capsular neck estimated. The capsular insertion on the femur is then entirely cut away, as well as the ligamentum teres, and the head of the femur pulled aside. This should be placed in the acetabulum and the incised capsule stretched around the neck and secured by catgut sutures to the cut tissues around the neck, or to the opposing parts of the cut capsules.

A Case of Contracting Scar of the Palm of the Hand Remedied by a Flap from the Abdomen.—F. M. Briggs reports a case in which, following laceration and burning, the entire palmar surface of a woman's left hand was composed of cicatrix. The author describes the operation by means of which a new palm was created by a flap from the abdomen. The result is wholly satisfactory. The skin of the new palm is soft and pliable, and is fully doing its work. The operation not only has substituted good skin for weak cicatrix, but has restored the function of the useless hand. Taking such a flap from the abdominal wall insures good nutrition, provided a long base line is left for the pedicle, and the skin grafted in the manner described makes an excellent substitute for the original skin. The author believes this to be the first case in which this particular method of plastic work has ever been attempted in the treatment of such a defect.

Removal of the Greater Part of Stomach for Carcinoma; Closure of the Pyloric End; Anastomosis between Jejunum and Cardiac End; Recovery.—By W. A. Brooks, Jr.

Autopsies and Physical Examinations.—By District-Attorney R. O. Harris, East Bridgewater, Mass.

The Coroner System in the United States at the Close of the Nineteenth Century.—By S. W. Abbott.

Medical News, October 27, 1900.

Repairing the Abdominal Wall in Ventral Hernia.—Carl Beck describes his operation on a ventral hernia in the scar of an appendicular incision. The scar was incised and the peritoneum exposed. After the few adhesions were disposed of and the different abdominal layers carefully denuded, an approximation of the muscular tissues was found to be impossible. Consequently, the rectus was incised alongside its internal margin to the extent of nearly half its thickness. Two transverse incisions connecting the outer and inner margins of the muscle and extending down the substance of the muscle to the same extent, the lower one being as near Poupart's ligament as possible, and the other one below the umbilicus, completed the outlining of the flap, which was carefully lifted. Beginning at the internal marking of the incision, the upper layer of fibres of the rectus was also divided, until the flap so formed could be lifted near the outer margin, with which it remained connected in the manner of a hinge. The reverted flap was now fastened to the muscular remnant with iodoform-silk sutures. The ties uniting the fascia consisted of formalin-catgut, which was also selected for the subcutaneous suture. Four relaxation sutures were applied through the skin three-quarters of an inch from the wound-margin, so that there was no direct contact with the wound-line. Recovery was uninterrupted. Two months after the operation no protrusion occurred while the intra-abdominal pressure was increased by the efforts of coughing.

A Plea for More Frequent Avoidance of Exsection of the Ovaries in Connection with Operations upon Diseased Tubes.—Philander A. Harris states that less than three years ago he abandoned the routine practice of removing the ovaries with their diseased tubes. He spares as much ovarian tissue as possible. He remembers but two instances in which a surgical menopause followed double-tube amputation or excision during this time. To the woman of respectability, the knowledge that she is not as other women are will be a strong factor in causing her unhappiness. The writer believes that sufficient ovarian stroma may be saved to maintain menstruation and ovulation in at least ninety per cent. of all the bilateral tubal amputations and exsections for the so-called purely inflammatory lesions of and primarily in the tubes, and that a cure of pelvic pains does not depend on the removal of the ovaries, but on a removal of the disease from the Fallopian and uterine sinuses. A woman with sufficient ovarian stroma for menstruation and ovulation, but with one tube exsected and the other amputated, is not likely to conceive. Still pregnancy is possible in her case.

The City and its Consumptive Poor: A Plea for a Municipal Sanatorium Outside of the Corporate Limits.—By Alfred Meyer.

Present Status of Interstate Reciprocity Concerning Licenses to Practise Medicine.—By Emil Amberg.

The Importance of Rest in Pulmonary Tuberculosis.—By Carroll E. Edson.

New York Medical Journal, October 27, 1900.

"Thimbles" for Massage and Stripping of the Seminal Vesicles.—J. R. Eastman thus describes an instrument he has devised and the method of its employment: The thimbles imitate in shape the slightly bent finger, and are of nickel-plated brass three inches long, thus adding about an inch and three-quarters to the length of the massaging fingers. The distal end is broadened to the width of an inch and swells rather flatly in its full breadth from the palmar surface. The patient stands with knees straight and body slightly bent forward at right angles, and the instrument is introduced with the palmar surface of the entering finger upward, the concavity of the thimble toward the

sacrum. When the instrument has been gently introduced as far as possible, the perineal muscles having become relaxed, the finger and thimble should be so turned that the palmar surface of the finger faces the bladder. The broadened and projecting anterior face of the distal end of the thimble will now rest high up on the body of the vesicle or above it. While gentle pressure is maintained, the thimble should be drawn slowly forward along the line of the vesicle with counter-pressure over the abdomen. By passing the instrument successively backward and forward, the vesicle may be thoroughly emptied.

Disturbances of Gastric Motility and their Significance.—Eleven cases of gastric disease are briefly reported by A. Macfarlane, in order to emphasize the importance of motor disturbances; three are cases of carcinoma, one involving the pylorus, two affecting the lesser curvature; three are cases of pyloric stenosis after ulcer; four are cases of gastro-neuroses; and one is a case of perigastritis with pyloric stenosis due to carcinoma. If reliance had been placed upon the chemical examination alone, it would have been impossible to make a diagnosis, because the same variations in the secretion of hydrochloric acid were present equally in the carcinomata and in the neuroses. When the motility is considered, it is seen that all the organic lesions were markedly affected, while the neuroses showed no disturbance.

A Case of Total Eventration.—Report of a case by C. G. Schmidt. The child was born by the aid of forceps. The viscera were covered only by peritoneum as a protection, through which they could be plainly seen. The child was seized with peritonitis and died on the fourth day.

Effects on Digestion of Food Prepared by the Use of an Alum Baking Powder.—By E. E. Smith.

Supplementary Report on a Recurrent Tonsillar Tumor.—By R. P. Lincoln.

The Suture and the Value of Dry Sterilized Catgut.—By J. H. Carstens.

Labor, Including the Use of the Forceps.—By Austin Flint, Jr.

Fractures of the Nose.—By Thomas Amory DeBlois.

Journal of the American Medical Ass'n, Oct. 27, 1900.

Laryngeal Stenosis due to Complication of the Thyroid Cartilages.—Emil Mayer reports at length the case of a soldier who was struck on the right frontal bone by a Mauser bullet, which went through the superior maxilla downward and backward, cut through the posterior portion of the soft palate, and entered the neck. Here it was deflected, probably by the hyoid bone, and entered the thyroid cartilage, thoroughly comminuting it, cutting into the œsophageal wall, when, being spent, it dropped into the stomach. The eye had not been injured. Under cocaine anæsthesia, attempts were made to pass the hard-rubber fenestrated Schrötter tube of small calibre. These were used till dilatation occurred, followed by an attack of coughing by which a mass of lymph was ejected. A large chink resulted, and some air could be inspired, and the man was able to speak in a hoarse but strong voice. Larger-sized tubes were used, and finally a large-sized O'Dwyer tube was inserted. He was fed by means of the stomach tube. After a considerable course of treatment, the writer had a tube made whose head was as low as possible, with no retaining swell, and with a threaded opening for a screw piece, and finally a hollow introducer. Intubation was then simple. The patient was then sent away for change of air. His condition is materially improved, and he will, with an intubation tube that permits deglutition, probably attain eventually a perfect cure.

Gastro-Intestinal Hæmorrhage in the New-Born.—Edward H. Small reports a case of this nature. A long list of etiological factors has been given for this condition. Many more cases occur in institutions than in private practice—pointing to an infectious nature. Various organisms have been found. The course of the disease is very definite, soon ending in death or complete recovery; it is self-limited; the temperature is elevated; in most cases it is a general and not a local disease, not limited to one spot. These facts, together with its greater prevalence in institutions and the bacteriological findings, all point to its infectious nature and suggest its relationship to the acute infectious diseases. It is a very serious disease; the mortality, according to a number of authorities, varies from thirty-five to seventy-nine per cent. Various lines of treatment have been recommended, the most recent being the use of a solution of gelatin, both by mouth and by the rectum, with a favorable result in one case. The writer found his hypodermic use of morphine more beneficial than anything else.

Chronic Inflammation of the Tear Passages.—Willis O. Nance states that lacrymal disease constitutes from two to three per cent. of all eye cases. Females are more liable to the affection than males. The disease occurs at all ages. Chronic inflammation of the lacrymal sac sometimes occurs as a sequel of smallpox, measles, and scarlet fever. Syphilis, by necrotic inroads of the bony canal, may cause an attack of dacryocystitis by mechanical obstruction of the passages. The treatment should be directed (1) toward the removal of pathological processes and malformations of the nasal chamber; (2) toward the restoration of the patency of the pas ages; (3) toward the alleviation of all the factors conducive to the production of ocular irritation; (4) toward the proper correction of any existent dyscrasia.

Papillomata of the Larynx in Children.—Edward T. Dickerman concludes that: (1) Papilloma of the larynx is, especially in this country, a rare disease. (2) In a number of cases they undergo spontaneous cure. (3) Intralaryngeal methods should always be tried first, unless dyspnœa is pronounced, when tracheotomy should be done at once. (4) After tracheotomy, intralaryngeal methods should be tried. (5) The patient should wear a tube for six months after the growth has disappeared. (6) Thyrotomy should be considered only as a last resort.

The Reciprocal Relations between Consumptives and Society.—By S. G. Bonney.

Case of Fatal Fœtal Ichthyosis.—By Annie Sturgis Daniel and Louise Cordes.

How Shall We Induce Immunity in Tuberculosis?—By H. B. Weaver.

Unusual Papillomatous Growth in the Larynx.—By Joseph S. Gibb.

A Few Points on Appendicitis.—By J. Henry Barbat.

The Serums in Tuberculosis.—By Paul Paquin.

Philadelphia Medical Journal, October 27, 1900.

The Etiology of Yellow Fever: A Preliminary Note.—Walter Reed, James Carroll, A. Agramonte, and Jesse W. Lazear, from their study of yellow fever, conclude that: (1) The blood taken during life from the general venous circulation, on various days of the disease, in eighteen cases of yellow fever, successively studied, has given negative results as regards the presence of bacillus icteroides. (2) Cultures taken from the blood and organs of eleven yellow-fever cadavers have also proved negative as regards the presence of this bacillus. (3) Bacillus icteroides (Sanarelli) stands in no causative relation to yellow fever, but when present should be considered as a secondary invader in this disease. From the second part of their study they conclude that (4) The mosquito serves as the intermediate host for the parasite of yellow fever, and it is highly probable that the disease is only propagated through the bite of this insect.

The Inter-Relationship between Cardio-Vascular Disease and Renal Disease with Particular Reference to the Diagnosis and Treatment.—By Aloysius O. J. Kelly.

Restitution of the Continuity of the Tibia by Transplantation of the Patella into an Extensive Osteomyelitic Defect.—By N. Senn (illustrated).

The Significance of Diacetic Acid in the Urine.—By C. K. Johnson.

A Case of Progressive Pernicious Anæmia.—By L. M. Van Meter.

The Lancet, October 20, 1900.

The Treatment of Severe Cases of Diphtheria with Saline Infusions.—E. E. Laslett states that in the acute stage saline infusions are employed to dilute the toxin by the introduction into the system of an additional amount of fluid which helps also to flush out the kidneys. In the late stage they are used when along with the persistent vomiting, nutrient enemata are also rejected. Inasmuch as the fluids of the body are thus constantly diminished, the blood must become more viscid and the action of the heart be impeded. Saline infusions tend to prevent this state of affairs. Laslett used two teaspoonfuls of common salt to the pint of water, utilizing as a site of injection the loose skin below and outside of the right breast. Gravity was the force employed, the bag being held about three feet up. He found that from ten to fifteen ounces can be injected in half an hour. The child does not seem to mind the operation at all. Fifteen cases are reported. The only safe conclusion drawn (seven died, but the type was severe) is that the treatment seemed to have some influence in diminishing both the frequency of onset of symptoms of heart failure and their severity when they did occur.

The Prophylaxis of Malaria and the Destruction of Mosquitos in the Island of Asinara.—By C. Fermi and Dr. Tonsini. This island lies off the Italian coast and is used as a colony for convicts. The authors instituted measures for the destruction of the mosquito in the larval stage by pouring petroleum over all the stagnant water pools, by destroying the adult insects in the convicts' rooms by va-

rious powders, gases, etc., and by protecting the inhabitants against the insect, thoroughly screening and disinfecting them. The following is a summary of the results obtained: (1) The anopheles was almost never found in any of the dormitories, and the culex pipiens was much diminished in comparison with former years. (2) No case of primary malaria originating in the island was observed, for of the nine cases which occurred, two came from Castiadas, one from Isili, and six were relapses. In the preceding year there had been ninety-nine cases, of which forty had been contracted in the island.

The Clinical Study of Heart Disease.—Norman Moore, in a Hunterian lecture, discusses the significance of murmurs in general, and the differential features of those commonly met in clinical practice. He finds that one of the most difficult points to determine in relation to the physical examination of the heart is whether or no there is an adherent pericardium. In his opinion this diagnosis can be made with absolute certainty in only one case, and that is when mitral stenosis without other valvular lesion is present. This form of valvular disease is never on its own account associated with hypertrophy of the left ventricle. If, therefore, with mitral stenosis the left ventricle is hypertrophied and if there are no signs of chronic interstitial nephritis, then the hypertrophy is certain to be due to an adherent pericardium. This is a rare association of changes, and in every other condition the diagnosis of adherent pericardium is beset with difficulties.

The Value of Anti-Streptococcic Serum.—G. S. Walton reports two cases, both resulting in recovery; one was of a puerperal woman and the other of a child with a gangrenous throat in which diphtheria bacilli were present.

A Rare Case of Fracture of the Os Calcis by Muscular Force.—By R. Thompson.

Operation v. Truss in the Inguinal Hernia of Childhood.—By R. Hamilton Russell.

Three Cases of Gastrotomy for Hæmatemesis.—By C. W. Mansell-Moullin.

A Case of Anthrax; Excision of Pustule; Recovery.—By E. C. Bousfield.

A Point in the Diagnosis of Aneurism of the Aorta.—By W. Broadbent.

John Locke as a Physician.—Address by William Osler.

British Medical Journal, October 20, 1900.

A Clinical Lecture on the Prevention of Valvular Disease of the Heart in Cases of Acute Rheumatism.—Richard Caton outlines his treatment of acute rheumatism as follows: In the first place the rheumatism is stopped as soon as possible and all aggravation of it by chills prevented. The patient is kept absolutely at rest in bed, clothed from head to foot in a warm flannel garment. Salicylates are given in full dose, often with alkalies, and cholagogues in such measure as to cause free evacuations but no diarrhœa. The diet is confined to milk and light farinaceous food; no red meat is given for a long time. The patient is kept in bed long after all pain and fever are gone, for while the salicylate treatment removes pain and fever in twenty-four or forty-eight hours, it does not remove the rheumatic entity itself in less than two or three weeks of steady administration. Out of many hundreds of cases the writer has had only about fifteen per cent. of cardiac troubles, which is a low average. Even with this treatment there will be some cases of cardiac trouble, and of course it often happens that mischief in the heart has begun before the patient has presented himself for treatment. In such cases the patient must be kept strictly in bed, the head should not be raised, and no excitement be allowed. He must have the most perfect physiological repose possible. This will make the longest intervals between the systoles, and keep down blood pressure as far as practicable. Local help should be given to nature. This is accomplished by applying small blisters, each in size rather larger than a shilling, over the upper part of the chest between the clavicle and the nipple on either side. Only one blister is applied at a time, and after each a small poultice is placed on the blistered surface. This involves practically no pain. The principle of this treatment is the action of the blisters on the cutaneous nerves and the resulting stimulation of the trophic nerves of the affected part. This stimulation of trophic and vasomotor nerves results in extra nutritive and reparative activity, and restoration takes place which without such aid might not have been accomplished. The heart is in special relation with the first four dorsal intercostal nerves—this explaining the position indicated for application of the blisters. It is important that all inflammatory exudation should be absorbed and removed from the endocardium and valve cusps as early as possible. The iodides and mercury are used for this purpose. Rheumatism should be most carefully treated in children.

On Oöphorectomy in Cancer of the Breast.—In reviewing the history of this surgical procedure, Stanley Boyd refers to Beatson's suggestion in 1896, that the removal of both ovaries might be useful in the treatment of inoperable cancer of the breast, reasoning in the following way: In lactation there is rapid multiplication of mammary epithelium, the cells undergoing fatty degeneration as fast as they are formed; they then break down, fall into the lumina of the gland acini, and come away in the milk. In cancer the mammary epithelium also multiplies rapidly, but instead of undergoing fatty degeneration and being cast off, it distends the acini, penetrates into the lymph spaces of the breast, and there floating in a nutrient fluid it continues multiplying and forcing its way onward toward the lymphatic glands. Oöphorectomy in the cow maintains fatty degeneration of the epithelium of the lactating breast, and Beatson thought it might induce fatty degeneration of the epithelium of the cancerous breast. Accepting menstruation as the evidence of ovarian activity, he was inclined to believe that the cessation of lactation was due to the re-establishment of the influence of the ovaries, which influence had been suspended by the gravid uterus, and thus removal of the ovaries resulted in the indefinite continuance of lactation. He thought it possible also that cancer of the mamma might actually be due to some "ovarian irritation" or to "some defective steps in the cycle of ovarian changes," and that their removal might bring cancerous cell-proliferation to a standstill or induce fatty degeneration of the cells as in lactation. The writer presents a table of forty-one cases. He also knows the results in thirteen other cases, making a total of fifty-four. Of these fifty-four cases, nineteen (thirty-five per cent.) were more or less markedly benefited, thirty-four were not benefited, or only doubtfully so, and one resulted in death from exhaustion. He believes that oöphorectomy should be offered in cases other than the very acute, in women over forty, with no visceral or bony lesions, in fair condition, and before the menopause. In extensive primary cases and recurrences as much as possible of the disease should be removed; healing should be attained, lest the operation fail in its object and malignant ulceration be started. Work must still be experimental. The writer believes it desirable to amputate arms which are so heavy from œdema that by their weight they prevent the patient from getting about—this, of course, at the patient's request.

A Well-Marked Family Predisposition to Various Manifestations of the Rheumatic State.—H. T. Nixon reports the following family history: The father and mother had not suffered from acute rheumatism; the paternal grandmother had had seven attacks of this disease and finally died from heart disease. As to the children: (1) Male, aged twenty-five years; suffered from first attack at age of fifteen, and six weeks after convalescence had a second attack; now has mitral stenosis and regurgitation. (2) Female, aged twenty-two years, has not had rheumatism. (3) Male, died at fifteen from acute rheumatism and heart disease; was an epileptic. (4) Female, aged seventeen years; first attack at fifteen during which she developed mitral regurgitation; she was in bed a month and developed chorea at once on leaving bed. At seventeen a second attack was ushered in by tonsillitis. During this attack she developed pericarditis, pleurisy, aortic stenosis, and regurgitation, and later subcutaneous nodules appeared over both external malleoli. (5) Female, aged fifteen years; had chorea every spring for three years; the fourth year an attack of rheumatism during which mitral regurgitation developed. (6) Female, aged twelve years, no rheumatism, but chorea at eleven, and now has mitral stenosis. (7) Female, aged ten years; had acute rheumatism and now has mitral stenosis and regurgitation. (8) Female, aged eight years, has not had acute rheumatism. Four of this family were attacked by this disease one after the other and were in bed at the same time. The writer has obtained a rheumatic family history in sixty-two per cent. of his one hundred and three cases.

On the Resting Position of Anopheles.—L. W. Sambon and G. C. Low criticise the report of Mr. Austen in regard to the position taken by mosquitos when resting. The writers in their observations have noted that the Anopheles belonging to the species claviger (Fabr.) never stand on their heads but rest on their feet with the posterior part of the body slightly inclined away from the support on which they rest. The inclination of the body was less when the insect rested on its three pairs of legs, and formed a maximum angle of about 45 when it poised on the two first pairs and stretched out the last pair free. Both Culex and Anopheles frequently sit with the last pair of legs lifted away from the support. But while the legs of Anopheles claviger stretch out with the tarsi pointing downward, those of the various species of Culex observed by the writers presented the tarsi curled upward in a very characteristic manner. He adds that it is evident that the observations made by Ross and Austen in Sierra Leone were quite

correct, but that they erred in extending to the whole genus a character which is peculiar to a few species which they had observed only in Anopheles costalis. Although the resting attitude of mosquitos is not important in the diagnosis between the Culex and Anopheles genera, it will always be valuable in the differentiation of species.

Four Cases of Recurrent Mammary Carcinoma Treated by Oöphorectomy and Thyroid Extract.—G. Ernest Herman refers to the reports of two cases, and gives the history of the last two cases of this nature. Benefit was experienced in each instance. After referring to Boyd's table, in which seventeen cases seemed to have been favorably influenced by the operation, he adds that twelve of these patients had been given thyroid extract. Twenty-one cases were not benefited and only five of these had had thyroid. This would point to the extract as being concerned in the result. He believes that the fact that benefit does follow the combination of oöphorectomy and thyroid extract should first be established and later the cases be defined in which benefit might be expected. Then it can be decided what share of the result each factor in the treatment is entitled to.

Plastic Operation for Incontinent. Ani, and Some Remarks upon the Innervation of the Muscles which are Concerned in the Plastic Operation for Sphincter Ani.—By K. G. Lennander and Martin Ramstroem (illustrated).

Three Cases in which the Superior Cervical Ganglion of the Sympathetic was Removed, with Remarks upon the Operation.—By F. F. Burghard (illustrated).

Presidental Address on and Clinical View of Some of the Mechanisms of the Heart and its Valves.—By William Ewart (illustrated).

Observations upon Injuries to the Internal Semilunar Cartilage of the Knee-Joint.—By Joseph Griffiths (illustrated).

On the Substitution (when Practicable) of Subastragalar for Syme's Amputation.—By J. Hutchinson (illustrated).

Prostatectomy in Two Stages, with an Account of Seven Cases.—By W. Bruce Clarke (illustrated).

Antistreptoccus Serum in Pulmonary Tuberculosis.—By Thompson Campbell (with chart).

Unusual Case of Malignant Disease in Early Infant Life.—By H. J. Clark (illustrated).

Note on the Treatment of Abscess of the Liver.—By Eugene Laurent (illustrated).

Presidential Address on the Study of Clinical Medicine.—By R. Douglas Powell.

The Surgical Treatment of Exstrophy of the Urinary Bladder.—By John Berg.

The Open Operation for Talipes (Equino-Varus).—By A. M. Phelps.

Glaucoma Fulminans.—By A. V. Leche.

French Journals.

Cyclic Albuminuria of Adolescence.—The author of this paper, H. Dauchez, in his report of two cases, shows that this affection can sometimes be associated particularly with the gouty diathesis and sometimes with an infection, *e.g.*, typhoid fever. Dauchez has studied especially the first of these forms, and gives the following notes: The patient, a girl aged thirteen years, suffered continuously from evening albuminuria in December, 1898, and during the first five months of 1899 excepting April—in the beginning influenced by milk diet. The patient, of undoubted gouty ancestry, arthritic and diabetic, was very rapidly relieved by the milk diet. The evening albuminuria reappeared periodically during six or eight months at the menstrual epochs, independent of atmospheric influences. Intercurrent febrile affections caused a distinct but transitory albuminuria. This trouble seems associated with a profusion of leucocytes in the urine, as well as epithelial débris and oxalate crystals, but no casts. The kidneys always remained permeable to methylene blue. The patient was cured at the end of the tenth month, but she had had every month a discharge of albumin in the evening with no appreciable cause, varying from 0.50 to 3 gm. She has now passed four months without albuminuria. Arthritis, gout, menstruation, and adolescence predispose to this renal trouble without fever. The fevers cause a return of the condition. Pregnancy can also have the same effect. Without a course of treatment very severe and very prolonged, which is absolutely necessary for cure, marriage ought not to be advised.—*Journal des Sciences Médicales de Lille*, October 6, 1900.

Experimental Repair of Tissues.—Paul Carnot speaks of the different processes of repair of tissues, whether they take place in the course of normal life, or follow the local action of a traumatic substance, or are the result of a diffuse infectious toxin. In the first case the method of repair is so diffuse that it is difficult to observe. The repair following traumatism is most favorable for experimental analysis. The repair following the lesions caused by infectious toxins is like that in the first class, generally diffuse and hard to study. Most tissues are capable of a certain plasmogenic power and can proliferate actively. There are certain biological conditions which greatly influence tissue repair: local infections, for example, hinder regeneration of tissues and cause fibrous cicatrization, or even the complete absence of repair. On the other hand, several mechanical or chemical excitants of cellular proliferation are known: mechanical contact of an inert foreign body, massage of tissues, iodine, cantharides, certain saline solutions, and certain toxins in small doses. Organic extracts have an action on the homologous organ. If we are still in almost absolute ignorance of how to influence morphogenic function, we may influence the plasmogenic function of tissues in partly regulating and directing cellular proliferation, and so causing repair of tissue.—*La Presse Médicale*, October 3, 1900.

Concerning the Gravity of Rheumatism in the Child, from the Point of View of Cardiac Complications.—M. H. Barbier declares that articular rheumatism in children is an affection of grave import on account of the frequency and severity of the cardiac lesions incident thereto. Various authorities state the percentage of cardiac affections to be eighty-one per cent., or even as high as eighty-seven per cent. The onset of rheumatism is often marked by general phenomena, fever, headache, vomiting, etc., which show that in children rheumatism has more the course of a general infectious malady than that of a multiple arthropathy, and that the visceral localizations in the heart in particular are not in relation to the intensity of the articular manifestations. The majority of cases of rheumatism in children which Barbier has observed, accompanied by more or less grave cardiac complications, have yielded in a few days to treatment by sodium salicylate. Death may occur in from three to six months after the beginning of rheumatism in children previously in good health. It is probable that the severity of the cardiopathies in the child are mainly due to pericarditis. It causes in a great number of cases a fatal termination.—*Journal de Médecine de Paris*, October 7, 1900.

Alimentary Glycosuria in the Gastro-Enteritis of the New-Born.—Eugène Terrien reports the results of forty-two examinations of alimentary glycosuria in nurslings suffering from gastro-enteritis. In order to obtain reliable results, it is necessary to conform to a uniform technique (nature of the sugar employed, dilution, mode of administration). Alimentary glycosuria occurs physiologically in the infant only when the dose is raised to 5 gm. of sugar or less of pure glucose, 4.5 gm. of pure lactose to a kilogram of body weight. In gastro-enteritis it occurs with doses of 3.5 gm. and even less. Alimentary glycosuria was observed in nearly half the cases. It is in direct relation with two factors: diarrhœa and emaciation. Perhaps a conclusion as to the functional insufficiency of the liver might be drawn from these results, but the author does not wish to encroach on this subject.—*Journal des Praticiens*, October 6, 1900.

Lipomata of the Parotid.—Baudet speaks of the rarity of these tumors, and classifies them under three heads: (1) Superficial subaponeurotic lipomata; (2) deep subaponeurotic lipomata; (3) intraglandular lipomata. The size is variable—half a hen's egg, a lemon, etc. An adeno-lipoma the size of an infant's head has been recorded. These tumors occur as a rule between the ages of thirty and fifty years. The parotid lipomata hitherto recorded have been on the left side. Their growth is slow and regular. The diagnosis is difficult. Cysts and enchondromata must be excluded. Ablation by a bistoury is the only treatment, when they are large enough to be removed.—*Gazette des Hôpitaux*, October 6, 1900.

Treatment of Dysentery by Methylene Blue.—M. Berthier calls attention to the histological origin of this substance as a medicine. It has been widely used in the laboratory. As used in dysentery it is interesting from several points of view: Its simplicity is recommended in comparison with mercury, which is managed with difficulty, and as compared with ipecac, which is not well borne by the organism. Methylene blue is efficacious and rapid in its action. It quickly causes the pain of this illness to subside. It is a parasiticide, cholagogue, and its effects are soothing, while it exerts no harmful or irritating action.—*La Médecine Moderne*, October 10, 1900.

Boiling Water in Local Infections.—Moty concludes that: The action of boiling water is much superior to that of hot water; it is more easy to localize and more penetrating than gas at a high temperature, and does not require any special preparation. It ought, on account of its power, to be used carefully. Its action is rather tonic than antiseptic. So far it does not appear that the cranial and thoracic cavities can be subjected without danger to the action of

hot water, which ought elsewhere to be carefully accommodated to the important organs which may be in the neighborhood of the part to be treated.—*Le Bulletin Médical*, October 6, 1900.

Contribution to the Treatment of Psychoses by Repose in Bed.—Casteras concludes that repose in bed has a quieting effect on the organism; it attenuates the symptoms, but has only a little influence on the course and duration of psychoses; it facilitates the supervision of patients, but is accomplished at much expense; this method cannot be a general one, but is only an addition to other therapeutic means; it ought to be based on perfect knowledge of the personal idiosyncrasies; its employment has not always given the results hoped for.—*Le Nord Médical*, October 1, 1900.

Menstrual Troubles in Certain Maladies of the Stomach.—M. Boimond states that these troubles are observed chiefly in neuro-arthritic patients. They are dysmenorrhœa and amenorrhœa. The most frequent cause is dilatation of the stomach with hypoacidity; hyperacidity is rarer. Menstrual troubles without anatomical lesion are a nervous syndrome observed in predisposed subjects.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 4, 1900.

Münchener medicinische Wochenschrift, October 9, 1900.

A Case of Hysterical Fever.—Wormser and Bing say that the prejudices which existed formerly against a belief in the possibility of fever of purely hysterical origin are now without foundation, since the existence of one or more heat-regulating centres has been proven. Just as any of the motor or sensory centres may be involved in a hysterical seizure, so the heat centre is not exempt and may exhibit disturbances of function due solely to nervous impulses. Although such cases, when reported, have always been regarded with a good deal of professional scepticism and considered as explicable either on the ground of unrecognized organic lesion or malingering and deceit on the part of the patient, there are some instances on record in which such fallacies could be excluded, and this number the authors increase by a very detailed account of a case coming under their own observation. The patient, an unmarried woman aged twenty-four years, with a very neuropathic family history, at the age of puberty manifested the first signs of a rapidly developing hysteria of medium intensity. In addition to various subjective and objective stigmata elicited in the history there were actually present under observation anæsthesia, analgesia, hyperæsthesia, dermatographia, migraine, ovarian crises, diplopia, contracted visual field, achromatopsia, astasia-abasia, tremor, and convulsive seizures. The hysterical temperament was well marked in the emotional crises, the instability of temper, precocious and excessive sexual irritability, and the tendency to exaggeration and simulation of symptoms. Under these conditions, in consequence of gonorrhœal infection pelvic trouble developed which necessitated first the partial and then the total ablation of the uterus and adnexa. The abdominal condition was greatly improved by the operation, but the inauguration of the artificial menopause was followed by unusually stormy molimina; in addition to the customary vasomotor disturbances—headache, obesity, etc.—a greatly increased tendency to hysterical attacks manifested itself, which was especially well marked at the time of the periods. After several such seizures, eight weeks after operation the patient suddenly ran up a temperature of 104.7° F., which dropped back to normal again in a space of three and a half hours. This disturbance of the heat-regulating function was followed by an attack of hysterical *petit mal* with delirium and unconsciousness. The fever was not due to the muscular energy liberated during the convulsion, since this did not occur till after the drop had commenced; and the minuteness with which other possible causes were searched for and eliminated apparently leaves no doubt that this is an indubitable case of high fever due solely to nervous disturbances.

The Occurrence of the Bacillus Xerosis in Progressive Phlegmon, Secondary Wound Infection, and Otitis Interna.—Warnecke in three different cases was able to isolate an organism corresponding to the bacillus xerosis in its biological characteristics. In the first of these, operation for a chronic fetid suppuration with ostitis of the mastoid was followed by extensive infiltration of the tissues and progressive cellulitis which invaded the neighboring areas of the scalp and in the neck reached down to the clavicle. There was great discoloration of the parts invaded, with burrowing in all directions, and even the most energetic treatment was unavailing to check the spread of the process. At the autopsy there were found purulent arachnitis with thrombosis of the sigmoid, transverse, and occipital sinuses, with metastatic abscesses in the lower lobes of both lungs. The second case is also one of secondary wound infection, but ended in recovery, and resembles the first only in the presence of the same organism, the high temperature, and the intense discoloration of the wound edges. In the third case a fatal arachnitis with metastases in the lungs was produced by the same bacillus. The organism resembles the diphtheria bacillus in appearance, and segmented and involution forms are frequently present. Different cultures showed great polymorphism, and agar culture apparently furnishes the most favorable medium; bouillon growths evincing a tendency to the club shape even when only twenty-four hours old. Gelatin is not liquefied, bouillon is made cloudy and shows a deposit in twenty-four hours, and glucose is not fermented by the bacillus, which imparts an acid reaction to litmus whey.

A Case of Acute Formalin Poisoning.—J. Klüber describes a case which is interesting in being probably the first reported instance of formalin poisoning. The patient, who had accidentally swallowed an unknown amount of a weak formalin solution, was found unconscious and covered with cold perspiration, but at first did not exhibit any other symptoms. The stupor, which resembled that accompanying alcoholic intoxication, persisted for a number of hours; there was complete anuria for nineteen hours and redness of the conjunctiva and pharyngeal mucosa. The diagnosis was made by the chemical examination of the fluid drunk and the demonstration of formic acid in the urine. The treatment was apparently symptomatic, and the patient made a good recovery.

The First Beginnings of Idiopathic Enlargement of the Heart, and the Significance of Dilatative Cardiac Muscular Weakness in Military Service.—By Eugen Wolffhügel.

The Therapy of Chronic Middle-Ear Disease and the Question of Cholesteatoma.—By E. Leutert.

Metapneumonic Abscess, with Pure Cultures of the Diplococcus Pneumoniæ.—By Roeger.

Berliner klinische Wochenschrift, October 1, 1900.

Physiology and Pathology of Bile Secretion.—Albu reports certain observations made in the case of a woman with a biliary fistula. The latter had existed for nine years. Various diets were taken, and it was found that one of milk, eggs, soup, white bread, vegetables, and fruit caused a more abundant outflow of bile than a diet in which meat figured largely. The author thinks that it is not possible to determine from experiments on animals just what remedies will in man produce an increased bile flow, and thinks that many investigators have mistaken an outflow of bile from accumulations in the various biliary reservoirs for an actual increase in its formation in the liver cell.

Experimental Bence-Jones Albumosuria.—G. Zuelzer's observations were made on the case of a dog which had been poisoned with pyrodin. In the course of the case albumose appeared in the urine, and Zuelzer believes that this is a constant feature of this form of poisoning in dogs. Other observers have found it for a short time, but it has been covered up by the albuminuria which quickly appears. In the animal of Zuelzer, the albumosuria lasted for five days before albuminuria appeared. The former substance has been found in cases of myelogenous sarcoma in the human organism and regarded as pathognomonic therefor. Doubtless some of the instances in which the so-called peptonuria has been found in pernicious anæmia were really cases of albumosuria.

Neumann's Modification of Fischer's Phenylhydrazin Test for the Detection of Sugar in the Urine.—By Marguliez.

The Rôle of Fixed Cells in Inflammation.—By P. Baumgarten.

The Effect of Oil Enemata on Metabolism.—By E. Koch.

Hypnotics.—By O. Binz.

American Journal of the Medical Sciences, October, 1900.

Internal Hydrocephalus following Cerebro-Spinal Meningitis.—Elliott P. Joslin reports a case, with accounts of seven other cases. Internal hydrocephalus has been known to be a result of epidemic cerebrospinal meningitis since 1805. The symptoms consist of paroxysms of severe headache, and also of pains in the neck and extremities, with vomiting, unconsciousness, convulsions, and involuntary evacuations of fæces and urine. The attacks either occur in a fairly regular type, or make pauses which not rarely last for weeks, during which the activity of the mind and senses may be unimpaired, the appetite excellent, the sleep restful, and the patient in good spirits and gaining strength. If we fall into the error of supposing that the disease has taken a favorable turn, a new attack dispels the illusion. Generally speaking, the cure of secondary hydrocephalus is impossible, but Ziemssen states that he has seen some cases in which a complete, and others in which an incomplete, recovery took place.

Primary Splenomegaly; Endothelial Hyperplasia of the Spleen.—David Bovaird reports two cases in children, with autopsy and morphological examination in one. He thus summarizes their clinical relations: Case I.—Great en-

largement of both liver and spleen, simple anæmia, slight enlargement of superficial lymph nodes. Case II.—Enormous splenic enlargement and moderate enlargement of the liver, simple anæmia, slight enlargement of superficial lymph nodes; affection of thirteen years' duration. Patient's sister had enlargement of spleen beginning at practically the same age. It may therefore be safely assumed that whatever the disease, it is the same in the two cases. From both the history of the patients and the clinical observations, it is apparent that the enlargement of the liver is secondary to that of the spleen. The author holds that these cases represent an affection hitherto unrecognized.

The Value of Pedicled Flaps in Injuries of the Hand.—W. E. Schroeder says that when one desires simply to cover the palm, dorsum of hand, or the palmar surface of the thumb, flaps may be taken with freedom from the chest or abdomen. When the palmar surface of the fingers has been destroyed, it is much better to have double pedicles, and these can best be obtained from the hip. Furthermore, this position is reasonably comfortable. In young and old patients, however, such a procedure would be very trying and scarcely justifiable. The advantages of the method are: (1) Mobility; (2) elasticity; (3) certainty of taking.

Sarcoma and Cirrhosis of the Liver.—W. W. Ford reports a case in which the presence of cirrhosis of the liver was explained by the intemperate habits of the patient. It is more difficult to explain the presence of a huge mass of sarcomatous tissue in the right lobe of the liver. It was a definite sarcoma of a combination of round and spindle cells, and its presence cannot be explained unless it be considered as a primary tumor. Its association with cirrhosis of the liver must be considered quite unique.

Report of a Case of Melæna Neonatorum Due Apparently to an Infection by the Bacillus Pyocyaneus.—By William R. Nicholson, Jr.

A Critical Summary of the Literature on the Diagnostic and Therapeutic Value of Lumbar Puncture.—By Alfred Hand.

Primary Echinococcus Cysts of the Pleura.—By Charles Cary and Irving P. Lyon.

Distortion of the Aorta in Pott's Disease.—By Thomas Dwight.

Journal of Laryngology, October, 1900.

Treatment of Otitic Pyæmia.—Dundas Grant says that expectant treatment is useless. Non-surgical treatment consists in the use of diuretics and purgatives, and in the pure septicæmic cases of alcohol, quinine, ammonia, and nourishing diet. Antistreptococcus serum may be injected. Surgical treatment should commence with free incision of the drum membrane, removal of broken-down desquamated epithelium in the tympanic cavities, and in the presence of pyæmic symptoms the petromastoid cavity must be opened without delay. In acute cases, the mastoid cells and antrum must be freely exposed, all diseased bone and granulation tissue scraped away, and the peripheral cells be opened up to the very tip of the mastoid. In chronic cases, if there is evidence of thrombo-phlebitis of the jugular vein in the neck, this may be ligatured previous to the radical operation. In the absence of such evidence we proceed at once with the radical operation, and then expose the sigmoid sinus by a continuation backward of the breach in the bone and explore it. If it is thrombosed and there is evidence of puriform disintegration high up in the sinus, it may be freely incised and the purulent débris removed with a spoon. If firm healthy clot occlusive is reached the cavity may be cleansed with sublimate solution, dusted with iodoform and boric acid, and lightly plugged with iodoform gauze.

Pathology and Treatment of Toxic Paralyses of the Larynx.—Watson Williams sums up the treatment as follows: (1) We should resort to appropriate general treatment of the infective disease when that is the cause of the paralysis. Measures should be directed to the removal of the poison in the circulation and tissues in the case of organic or metallic poisons. (2) The faradic or galvanic currents should be applied to the interior of the larynx. Strychnine may be given by the mouth in considerable doses. When feasible, it should be injected directly into the muscles. (3) Intubation or tracheotomy may be necessary to relieve dyspnœa and threatened asphyxia in cases of bilateral abductor paralysis.

Naked-Eye Diagnosis in Cancer of the Larynx.—J. N. Mackenzie says that it is impossible to exaggerate the importance of naked-eye diagnosis in the detection of laryngeal cancer. Taking it all in all, it is by far more practical than either thyrotomy or the microscope. Unfortunately in most quarters it is relegated to a subsidiary place. Even the best of laryngeal surgeons lose no time in procuring portions of a suspected growth for microscopic examination before they have gone thoroughly into the history of the case and carefully endeavored to make the diagnosis with the naked eye alone.

Archives of Otology, August, 1900.

Diseases of the Organ of Hearing in Pernicious Anæmia.—Schwabach reports seven cases, in five of which subjective noises were present; by three of these patients the noises were heard in both ears and by two in one ear only. The two remaining patients could give no information on this point on account of their condition (delirium, somnolence). Deafness was complained of by three of the five patients by whom subjective noises were heard, but in one of them only one ear was affected, and in another the deafness of one ear was due to an old traumatism, so that this ear must be left out of account. There remain, therefore, four ears in three of which the hearing was markedly impaired (voice close to ear), while the fourth could distinguish whispered words at 2–3 *m*. Accurate tests with tuning-forks could be made in only two of the patients, comprising three affected organs of hearing, and in another air and bone conduction were tested with fork c only. The results of the examination of the first three ears were as follows: Low forks (16, 32, 48 vibr.) were not perceived in any case; c (128 vibr.) and c^{iv} (2048 vibr.) also were not heard by one of the ears, while the period of perception of the two remaining ears was shortened for these forks. In two of the ears perception of c through mastoid was lengthened by 7 and 2 sec. respectively, in the other shortened by 4 sec. Rinné was negative in two ears, and in the third was of no value as a test since c could not be heard at all through air.

Upon the Color of Living Rhachitic Bone as Found during Mastoid Operations in Rhachitic Children.—Muck says that in major operations the aurist has presumably greater opportunity than the general surgeon to see the interior of a rhachitic bone, for he frequently meets with cases of purulent inflammation of the pneumatic cavities of a mastoid process and of purulent disintegration of the surrounding bone in rhachitic patients. The macroscopic condition of a rhachitic mastoid during life differs from that on the post-mortem table, where the bone, by decreased blood supply, and perhaps also by other post-mortem changes, has lost the bright rose color which it has during life. Only its softness, offering no resistance to the knife, is alike both in living and dead bones. The light rose color is not due to the hyperæmia of underlying structure shining through the chalkless bone, for it is the same at the thin squamous portion of the temporal bone as it is at the compact (not yet pneumatized) parts. It is solely brought about by the increase of the vascular and medullary formations. It is remarkable that this hyperæmic bone does not bleed upon chiselling, as we are accustomed to see it in infectious inflammations of the bone. An illustrative case is recorded.

Two Cases of Otitic Lateral-Sinus Disease; Operations, with Ligation of the Jugular.—Concerning the latter operation O. Joachim says that other avenues of infection on one hand, and the presumption of an occluding clot in the jugular on the other, seem to argue against the necessity of always tying the jugular, aside from the statistical position of the question. The preponderance of recoveries being in favor of the cases in which ligation was made, he personally favors it when a high degree of pyæmia is evident, securing the patient against an important avenue of infection. When ligation is performed it appears to him that the vein should be resected at once as high up as possible.

Dublin Journal of Medical Science, October, 1900.

The Prevention and Treatment of Post-Partum Hemorrhage.—J. W. Byers describes the various causes leading to this accident, and says that the two measures which should be adopted in every case to prevent post-partum hemorrhage are: (1) The proper management of the third stage of labor; (2) the important principle, never to deliver in the absence of pains. Treatment consists of the following measures, mentioned according to the author's ideas of their relative importance: External uterine massage and hot water through a double-current tube, hand in the uterus, bimanual compression, gauze plugging of the uterus, drawing the organ downward by means of a vulsellum forceps passed through the lips of the cervix ("kinking" and compressing the uterine arteries), and injection of iron. The latter is a remedy not without danger; it causes a certain amount of superficial injury of the uterine wall, which forms a suitable nidus for the growth of germs, and if it fails, plugging cannot be done, owing to the effect the iron has on the tissues.

The Delusive Stage of Grave Abdominal Lesions.—J. S. M'Ardle calls attention to the subsidence of symptoms in grave abdominal conditions which is often hailed as an evidence that the patient is on the road to recovery, but which is often followed after twenty-four to forty-eight

hours by intermittent attacks of mental aberration, erratic temperature, abdominal distention, delirium, rapid pulse, and death. He details a series of appendectomies, describing his personal method of operating. The paper is a plea for timely operation in the class of cases suggested by the title.

Remarks on Senile Dementia.—C. Norman recites several clinical histories illustrative of the various phases of senile dementia. He finds the condition more common among women of the lower classes who are addicted to alcohol. Special symptoms discussed are restlessness, hypochondriacal delusion—suspicion, amnesia, aphasia and paraphasia, disorientation, and sexual excitement.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PLAGUE, ITS PREVENTION, ETC.—MEDICAL SOCIETIES—THE ROMANCE OF SURGERY—SIR JOHN WILLIAMS ON CLASSICAL EDUCATION—THE PUBLIC HEALTH.

London, October 12, 1900.

No fresh cases of plague have occurred at Glasgow. One man died on the 7th inst. He was admitted on the 20th ult. A fatal case occurred at Cardiff on the 4th. The case in Wales proved to be that of a man from the same ship as that at Cardiff. Another man from that ship was landed at Kings Lynn with typhoid fever. He has been carefully watched and is now convalescent. These events illustrate the need of our local authorities being on the alert, and hitherto they have been so.

The local government board has issued a "plague memorandum." This asserts that the disease "will not readily fasten upon that section of our population which is properly housed, cleanly, and generally in a sanitary sense well to do; that rather it will especially affect, if it obtains foothold in one or another district, insanitary areas such as are peopled by the poorest class, and where overcrowding of persons in houses and dirt and squalor of dwellings and of inhabitants tend to prevail." The memorandum also gives a brief account of the symptoms of plague and points out the importance of recognizing those cases in which buboes are not found. The board has also circulated directions for obtaining and forwarding material from suspected cases for bacteriological examination without cost. Moreover, the board is prepared to supply Haffkine's serum to the medical officer of health of any district that may be invaded.

The London County Council is also prepared to meet an emergency and has informed the government board of the precautions it has taken and the preparations it has made for isolating "contacts" should an invasion occur. Among these measures is the retaining of Mr. James Cantlie to examine and report upon suspected cases and to make post-mortems when necessary. Mr. Cantlie had large experience in one of the plague hospitals at Hong Kong where he resided for many years. An arrangement has also been made with Dr. Klein for bacteriological examinations.

Inquiry has been made in all lodging-houses and shelters in districts likely to be visited, with the encouraging result that not a single case of illness suggestive of the infection has been discovered up to this date.

Professor Zabolotny, of the Russian commission on plague, has visited Glasgow, and as I have not given you any account of the peculiarities of the cases there you may like to have his conclusions. He says (1) the Glasgow epidemic compared with that of India, China, and Africa, as well as recent outbreaks in Europe, is of the mildest description. (2) The extension of the epidemic is slight and the mortality insignificant, which may be attributed to the excellent sanitary and medical arrangements in Glasgow. (3) Bubonic cases are less dangerous from a point of view of epidemiology than the pneumonic forms. The latter are excessively contagious because the sputum teems with the bacilli. (4) Since in the bubonic form it spreads by contact with the skin, isolation and cleansing of linen and clothing play the chief rôle in prevention. (5) For those in contact with the sick the best preventive is injection with serum as practised at Glasgow. (6) So the best treatment is serum by intravenous injections of large doses. (7) The post-mortems of fatal cases at Glasgow have shown the appearances of protracted illness, not those of acute plague lasting two or three days.

The session of the societies has opened. On Monday evening Mr. J. H. Morgan assumed the chair at the one hundred and twenty-eighth session of the Medical Society of London and delivered the inaugural address. He took for his subject the "Romance of Surgery." His discourse may be described as a brief survey of the present condition of surgical art contrasted with that of a quarter of a century ago, and then an endeavor to anticipate its further progress in the more or less near future. Listerism naturally took the first place in his review, for it is not much more than twenty-five years since that had been accepted. Mr. Morgan's first case of treatment by the antiseptic method was in 1873, when he was house surgeon to Mr. Pick. It was a wound by a circular saw which had divided the patella and incised the outer condyle of the femur. Some suppuration occurred and the patient recovered with an ankylosed knee. At the time it was looked upon as a triumph, since such cases were then usually amputated and pyæmia often followed. This case was contrasted with one lately treated by the perfected antiseptic method which is now universally practised. A man had driven a chisel through his knee joint into the condyle and was well in a few weeks with complete and perfect movement of the joint. Abdominal surgery, malignant disease, wounds in war, prostatic disease, and the *x*-rays were among the illustrations given of the "Romance of Surgery." The fancy, too, that once deluded surgeons that in fractures they had reached finality has been dismissed, and it is said that our methods are altogether wrong. Startling as this is, we may pause to ask whether the disturbance of tissues involved in wiring and screwing may not do more harm than the older methods.

In conclusion he hoped the co-operation of physician and surgeon to ease the sufferer may continue to grow stronger, for in their union is strength and to relieve is the end and object of our art.

The introductory addresses still occupy a fair share of our conversation—not so much as to complete lectures as to little points that have dwelt in the memory of hearers and are passed on to others.

Sir John Williams, a good Welshman, went to Wales and discoursed on Greek and Latin at the University College of South Wales. He is evidently at one with the modern outcry against the classics and in favor of the sciences with modern languages as the best outfit for medical study. He remarked that a classical education is pursued mostly, not for the culture it gives, but in order to acquire instruments for special pursuits—such as theology, law, philology, history, teaching, etc. The instruments are necessary to them, but not for the pursuit of science. As to medicine Greek is no longer compulsory, and the knowledge of Latin demanded of the medical student is so small that it does not enable him to read the easiest Latin book except with difficulty and the help of a dictionary. Thus the long time often spent upon it is wasted. In addition to ordinary school subjects Sir John would give a thorough course of the English language and literature. This would give him a vocabulary, a command of language, a taste for good literature, and a larger, better culture than a smattering of Latin too scrappy to be of any real use. He would also have them learn French and German as necessary for leaders of the profession.

Then he diverged to tell his hearers some distinct advantages of a knowledge of the Welsh language and literature which he rejoiced would receive due recognition now that Wales had its university.

The number of cases of typhoid in the hospitals of the asylums board increased last week by forty, and fifteen fatal cases are reported. The deaths from scarlet fever rose from five to fourteen. Over two thousand cases of this disease are reported—an increase of one hundred and thirty. Still the general death rate of the metropolis is lower than it has been for about twelve weeks.

LETTER FROM CONSTANTINOPLE.

(From our Special Correspondent.)

THE PLAGUE—A PROPOSED NATIONAL UNIVERSITY FOR TURKEY—MEDICAL STUDY—THE MEDICAL ASPECTS OF THE SULTAN'S FÊTE—DEATH OF DR. SAVELL—NEW PHYSICIAN TO THE BRITISH EMBASSY—ACCIDENT TO DR. RIEDER.

Constantinople, October 1, 1900.

The presence of plague in the Levant has not excited the degree of anxiety that might have been expected, whether it be that there is more confidence in the sanitary administration, or that—from Constantinople having so often escaped epidemic influences—the population have shown much indifference.

A false alarm of plague in the city caused Bulgaria to impose a quarantine of eleven days, which, however, was removed within forty-eight hours. Since then the "Messagaries Maritimes" S. S. *Niger* arriving from Alexandretta and Beyrout undoubtedly brought plague. In connection with this outbreak of plague there was a "fiasco," as it was mildly put. The passengers were landed and scattered before the existence of the disease was discovered or declared. When it was known, much excitement

and alarm were created in sanitary and unsanitary circles. The passengers were placed under "surveillance." The vessel was quarantined to the station of Clazamine and exposed to the routine of disinfection. Other cases occurred on board, among them the doctor of the ship. Nothing, however, transpired of any case on shore. The mode of communication is not very evident. The *Niger* touched at Alexandretta and Beyrout. At the former place an Armenian boy, said to have escaped from the locality of the alleged massacres, near Sassam, was taken on board as passenger. The boy had travelled on foot through the country lying between Sassam and Alexandretta, a journey of from sixteen to twenty days. There is no evidence of the existence or prevalence of plague in that part of Asia Minor, so it is impossible to trace the source of infection, though it may have been communicated at Beyrout, where there had been reported isolated cases of plague. The Ottoman Sanitary Service is a very "cock-sure" institution, and much sarcasm has been indulged in with reference to the landing and scattering of the passengers of the S.S. *Niger* before the presence of plague was known or declared.

This time there could be no doubt of the city being compromised, and naturally, in accordance with practice, Russia, Greece, and Balkan States imposed quarantine, which is still continued in a modified form. Now, contrary to the practice of former years, there has been no disposition on the part of these countries to stretch to the utmost the limits of the system. The laxity of observation in relation to the cases on board the *Niger* is not easily explicable.

The great event of the year so far is the celebration of the twenty-fifth anniversary of the accession of His Imperial Majesty, Sultan Abd-ul-Hamid, to the throne, and certainly the form of commemoration is worthy of notice in its medical aspects. It has been already noticed that His Majesty has always shown a deep interest in all matters relating to the education of his people, and that during his reign more has been accomplished than by his predecessors. It would appear as if the crowning stone of this educational edifice had been placed by the creation of a university for Turkey. This intention had been declared beforehand, but the official inauguration has taken place, professors have been appointed, and even students nominated.

Medicine is as fully represented in this university scheme as other sciences are, and probably will be more kindly fostered by authority; inasmuch as the Turks—like Easterns of all classes—take kindly to the healing-art. Mystery, formerly so associated with the practice of physic and religion, has not yet lost hold on the Turkish mind.

On the other hand it must be borne in mind that this university cannot be considered a product of the evolution of very advanced education and science. The idea probably originated thus: all countries in Europe possess universities. The time has come for Turkey not to be behind; therefore, "let there be a university in Turkey," and it is so. No idea of evolution. But as there has been real educational progress in Turkey for some years past, and especially medical education, it will be interesting to watch the working of this institution.

The medical world was prominently represented on this occasion by the "Imperial Society of Medicine," the "Society of Pharmacy" and other allied bodies, one and all declaring how much His Imperial Majesty has contributed to the development of medicine, pharmacy, and their allied branches during the twenty-five years of his reign. Honors and decorations have been liberally bestowed, of which the medical profession has had a full share. An address to the throne summarizes thus: "Ameliorations which enable the faculty of medicine to compare favorably with foreign faculties; the native teachers are increased and replace the foreign recruits. The new faculty of medicine and its annexes of hospitals, clinics, laboratories of chemistry and bacteriology, museum of natural history and large botanical gardens, as in former days, all of which will worthily form part of the grand university just ordered to be made. Council of civil medical affairs to judge all medical affairs of the empire; salutary measures for the exercise of medicine and pharmacy; a superior council of hygiene; the sanitary administration of the empire against invasions of epidemic diseases by an international council of health"—which boldly proclaims its functions and claims to have barred the doors of the empire against invasions of epidemics (*vide* S.S. *Niger*). "The creation of numberless hospitals in the provinces; a maternity hospital at Hasskien; an hospital for children (the Hamidiah) at Chichli; an asylum for the poor; hospitals against the propagation of syphilis in the provinces; an antirabic institute; a vaccinal institute; the restoration of the baths at Yalova (of which more anon), and the institution of local dispensaries."

No wonder, then, that with such favorable opportunities of distinction there should be an inundation of doctors of every nationality, and of both sexes, seeking permission to practise; their ages varying from twenty-three to sixty.

Dr. Richard Savell, a surgeon of considerable repute, well known to his colleagues abroad, died suddenly on September 3d. Dr. Savell was the first surgeon in Constantinople to perform ovariotomy on the new basis of antiseptic and aseptic surgery. He was professor of clinical surgery in the medical school and a bold and successful operator.

Dr. Frank Clemow has succeeded the late Dr. Dickson as physician to the British embassy, and delegate to the Ottoman health council.

A sad accident has just occurred (October 4th). Professor Dr. Rieder, inspector of schools of medicine and chief of the hospital at Gulhané, visited, in company of the architect, the new school of medicine at Haidar Pacha, in course of construction. In consequence of a false step he fell a distance of over forty-five feet. His tibia, it is said, is fractured, and he has sustained other grave injuries of the head and spinal column. His condition is stated to be dangerous.

THE NATURE OF HYSTERIA.

To the Editor of the Medical Record.

Sir: I read in the Medical Record of August 25, 1900, a paper by Alfred Gordon, M.D., in which the following passage occurs: "In 1894 Lépine, in 1895 Mathias Duval applied the theory of amœboism to the intellectual phenomena. Dercum in 1896 adopted the same theory and ingeniously explained the phenomena of hysteria."

I take pleasure in sending you a copy of my paper, "Sur un cas d'hystérie à forme particulière" (*Revue de médecine*, July, 1894), from which you will see that it was not Dercum in 1896, but I, in 1894, who first proposed a theory of the phenomena of hysteria which had for its basis the neuron hypothesis. I hope that you will be so kind as to publish the present letter in your valuable journal.

R. Lépine.

30 Place Bellevue, Lyons, France.

STATURE AND INTELLIGENCE.

To the Editor of the Medical Record.

Sir In your editorial of October 13th, commenting upon "Degenerates in the Army," you ask whether it can be claimed that magnificent animal specimens of humanity are also as a rule endowed with a superabundance of brains. This brings up a most interesting yet puzzling anthropological study, full of contradictions.

From investigations among soldiers and from the literature of the subject, there is no doubt in my own mind that if a man's development is so unstable that he has psychical stigmata, he is invariably of bad physical development also and has numerous physical stigmata. As far as I know, there are few if any cases of abnormal minds in average bodies devoid of stigmata. It is a fair inference, then, that if a man's body is nearly an average in all respects, height, weight, proportions, etc., there must also be an average brain and therefore a normal mind—excluding, of course, normal men who have acquired insanity. Beyond this we dare not go, for there is absolutely no relation between intelligence and stature. Men of genius may be big like Bismarck or little like Napoleon or Da Costa, and the same may be said of the feeble-minded as well as of those of average intelligence. George Washington's physical measurements are said to have been identical with those of Jeffries the giant pugilist. Other illustrations might be given indefinitely.

It is true that the human brain weight depends upon the body weight, for many muscles require many brain cells. In like manner, the sparrow needs but a few grains of brain, while the whale and elephant must have more than man. Yet that indescribable and immeasurable variable called intelligence depends upon other things in addition to weight of brain, and the increase of brain weight due to increased stature consists of tissue which may not, and probably does not, have any bearing upon intelligence.

A big physique with immense reserve power and endurance is a decided element in forcing men to the front in the struggles of life. This is in accordance with recent investigations among Chicago school children which are said to show that the best scholars in any class are appreciably bigger than the rest. Hence other things being equal, the big men, having an advantage, should have a larger percentage of their number successful than the little men. Yet statistics show the very opposite, for Lombroso men-

tions ("Man of Genius," page 6) but twenty-six great men of tall stature, while he names fifty-nine who are short, some of them being even dwarfish or less than five feet in height. As the anomalies of height are equally distributed on each side of the mean, there must be some tremendously active cause to make the little men more than twice as brilliant as the big. The two classes, being equally removed from the average, should be equally abnormal mentally.

Among the big physiques of the army I have seen men of great intelligence and immense brain power or capability for work. This is of course the highest type of mind, and is in marked contrast to the sponge-like minds capable of great absorption but too flabby to work and produce. Nevertheless the big men of the army present a larger percentage of cases of arrested mental development, infantilism, feminism, etc., than does any other stature. This is one of the most curious facts in pathological anthropology, if I may so term this new science of the study of abnormal cases due to unstable development—the degenerates.

Men of little physique cannot enlist, so we cannot study them among soldiers, but moderate shortness of stature is no bar to a commission, and such are fairly numerous as officers. Taken all in all, the officers below the average of height are on an intellectual plane decidedly above that of the "magnificent animal specimens." They are both in a small minority, for the work of the army is almost wholly accomplished by men of average physique. As far as I have been able to determine, the decided majority of the great military leaders of history have been of average stature or decidedly less—even diminutive like Napoleon or frail like Wolfe. The gigantic Winfield Scott was an exception, but his tremendous egoism and innumerable blunders almost remove him from the list of great men in spite of his record from 1812 until 1848. So many of the "little fellows" of my acquaintance are excellent officers that I almost look upon diminutive stature as a military advantage for an officer.

Such a discussion need not be complicated by reference to specialized types of brain, capable of doing but one kind of work well and either accompanied by general intelligence or worthless in other directions. Such types are found in every stature and in every kind of physique, but the matter is too extensive to be enlarged upon here.

We cannot pretend to explain the alleged increase of the feeble-minded among the big men, but we can guess that it has some relation to that feeble-mindedness so characteristic of giantism and acromegaly. The pituitary is undoubtedly a growth centre, and is just as apt to be involved in unstable development as any other part of the body. If it is hypertrophied early, giantism results; if later in life, acromegaly, as Woods Hutchinson has shown. Sometimes in the early cases there is muscular increase alone, as in the "strong men," all of whom subsequently become as feeble as the giants and sooner or later show acromegalic signs. All of these big creatures are feeble-minded. The class of "magnificent animal specimens" of humanity may then contain some very able men who become renowned partly through the excess of animal energy, but it also harbors a large number of borderland cases, partially degenerate, overgrown through instability, and with a leaning toward the feeble mindedness of giantism. Can we not imagine that there is an organic basis for these cases in an abnormal pituitary?

Is it not a fact that college athletes noted for strength and size do not furnish as large a percentage of successes in life as the less robust, and simply because more of them are mentally below par? Joseph Chamberlain, in a speech at the opening of a gymnasium, is said to have confessed that he had never taken regular exercise in his life and rather disliked it. Are there not many other great or successful men ready to confess to the same physical laziness, no matter how energetic they may have been mentally? It is quite likely that the kind of intelligence needed for success does not run to athletics, nor is it found so much in the big men as in the little ones or the average sizes. Strong mental power must check bodily growth in some unexplained way through its influence on the pituitary—a theory which is fascinating, no doubt, but which of course cannot be proved.

Charles E. Woodruff,
Captain and Assistant Surgeon, U. S. Army.
Fort Riley, Kansas, October 19, 1900.

Gifts to a Hospital.—Mr. E. P. Wilbur, formerly president of the Lehigh Valley Railroad Company, has donated $10,000 to St. Luke's Hospital at Bethlehem, the income from which is to be used in maintaining the children's ward. Mr. Samuel Thomas, of Catasauqua, will build an operating-ward for the hospital at a cost of $10,000.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-Sixth Annual Meeting, Held at Asheville, North Carolina, October 9, 10, and 11, 1900.

The association met at the Battery Park Hotel, under the presidency of Dr. Harold N. Moyer, of Chicago.

Addresses of welcome, on behalf of the city and State, and of the local profession, were delivered by Hon. Theodore F. Davidson and Dr. John H. Williams.

After the reports of the secretary, treasurer, committee on publication, etc., were read, the First Vice-President, Dr. A. H. Cordier, took the chair, and Dr. Moyer delivered the

Presidential Address.—He referred to matters of general interest to the profession. He dwelt at length upon an address which was delivered before the International Medical Congress by the distinguished American colleague, Jacobi, who saw fit to discuss the old code question. The speaker thought it unfortunate that this subject, long since dead but not buried, should be embalmed in the records of that congress. The medical profession of America did not need any apologist, but it did need, in his opinion, to apologize for the representative appointed to speak for it on that occasion. As to medical societies, there could not be too many of them. In no other country were these societies so numerous as in America. They were usually well attended. In foreign countries these societies were for the few; in this country they were for the many, and it was to their collective voice, speaking in no uncertain tones, that the profession owed the uplift of medical education. The speaker then discussed the relation of the medical profession to the law. The passage of medical acts had been urged by the medical profession, and physicians had been distinctly misunderstood in their attitude toward such legislation. Legislators felt that in some way the medical profession wished to put a fence around the practice of medicine, so that physicians, being on the inside, may fatten upon it. This was not true. Physicians urged the passage of medical-practice acts not for their personal aggrandizement, but simply for the protection of the people, to prevent the illegal practice of medicine by unqualified persons and by quacks.

Specialism.—If anything could be said in criticism of the medical profession in this country, it was the overweening inclination toward specialism. A physician should spend several years in general practice before adopting a specialty. Specialism had done many good things for medicine, but practitioners should see to it that it was not overdone. If a physician wished to acquire a broad general culture, it could come only from general practice. The selection of a specialty should, like matrimony, come naturally and without being forced.

Abdominal versus Vaginal Hysterectomy.—Dr. H. O. Walker, of Detroit, Mich., read a paper with this title. The question of the best approach surgically to the uterus and adnexa, he maintained, had evidently not been settled, judging from the amount of discussion of late upon this important subject. Cancer of the uterus was not an infrequent cause of death in women. The question of recurrence of cancer of the uterus was very important and was immediately connected with the method of its removal. The manner of recurrence of cervical carcinoma was either by extension into the broad ligaments, from the vagina downward and into other contiguous parts, as

the bladder and rectum, and occasionally to the body of the uterus, or by metastases through the lymph channels and by distinct direct implantation. The surgeon should be governed by the method of operation which would offer the best advantages in guarding against recurrence of the disease, and in order to illustrate this the author reported two interesting cases, one of which was a vaginal, the other an abdominal, hysterectomy. The report of one case showed what he could not have done by the vaginal method: the other portrayed what he could have done better, more safely, and more surely by the abdominal method. All things being equal, the abdominal route offered advantages that did not pertain to the vaginal route. First, the surgeon was better able to see what he was doing. Second, he was much better able to control hemorrhage by the abdominal than by the vaginal route when he was working in a dark cavity. There was less liability of slipping of the ligatures, and if they did slip they were got at more easily than by vaginal section. Third, the danger to the ureters was minimized, and if injured, the opportunity for repairing them was better, while if injured by the vaginal route the surgeon would have to do an abdominal section in order to effect their repair. Fourth, the prevention of sepsis was more certain by the abdominal than by the vaginal route, aided in the first instance by the Trendelenburg position, which gave opportunity for full protection of the intestines and peritoneum, while in the latter the opportunity for protection was limited, as it was an utter impossibility to secure perfect asepsis in the vagina when there had been long-standing infectious disease.

Cancer of the Uterus and its Treatment.—This paper was contributed by Dr. R. S. Sutton, of Pittsburg, Pa. Cancer operations, he stated, should be recommended not as curative, but as palliative, and therefore useful. Total vaginal extirpation of the uterus, at or after the time of the climacteric, should find a place as prophylactic treatment against cancerous disease. The paper consisted of a compact review of the anatomy, pathology, and present methods of treatment. The author expressed the opinion that treatment for existing cancer of the uterus had probably reached its complete evolution. In view of the ultimate results of this treatment, which he heartily indorsed, because there was none other known to take its place, he asked the question, *cui bono?* He then discussed the question of prophylaxis, and showed that the average age of the patients he had operated upon was forty-three years and a fraction, and he claimed that if these patients had all been subjected to total vaginal extirpation at the average age of forty years, all of them would have escaped cancer of the uterus. According to his own statistics, but four per cent. of the cases would have been fatal; whereas nearly one hundred per cent. of these patients did die within a period of two or three years after operations for cancer. He urged greater attention to the early repair of lacerations of the cervix, and a more painstaking observation and consideration by physicians at large of that train of symptoms preceding and leading up to the development of uterine cancer. He unequivocally recommended radical surgical treatment in all such cases, and clearly announced that if we were to diminish the number of cases of uterine cancer, and consequent mortality in the future, it must be done in forestalling the disease.

Dr. Edward W. Lee, of St. Louis, Mo., favored the abdominal operation in a large majority of cases. He believed it was easier to perform; the operator could see what he was doing; he had a more perfect control of the tissues, and could do a more thorough operation. The only cases in which he thought the vaginal operation was justifiable were those of small uncomplicated, fibroid tumors of the uterus that could be easily shelled out.

Dr. Chauncey D. Palmer, of Cincinnati, Ohio, said that until the past few years the vaginal method had been preferred to the abdominal. In cases of cancer of the uterus it was important to remove all of the diseased structure, consequently this could be more easily and thoroughly done by the abdominal than by the vaginal route. The causative relation between laceration of the cervix uteri and cancer of the uterus was so clearly defined that its importance ought to be recognized by all physicians.

Dr. J. Wesley Bovée, of Washington, D. C., mentioned three classes of cases in which vaginal hysterectomy for cancer of the uterus, with the removal of such other structures as might be involved, was advisable. In very feeble patients, who were not able to stand a prolonged operation, he favored the combined method advocated by Ries, Clark, Werder, and others. The combined operation had been done by him upon thirteen patients, all of whom were living, with two recurrences.

Dr. A. H. Cordier, of Kansas City, Mo., said that in cases in which there was extensive involvement of the cervix by the cancerous process, implicating the bladder and rectum, his patients had been much benefited by thorough curettage of the cancerous mass, followed by the use of the Paquelin cautery and packing of the parts with carbide of calcium. Along with this treatment he used the old Goodell vaginal injection of permanganate of potassium.

Dr. Hugh A. Cowing, of Muncie, Ind., urged upon the general practitioner the importance of making an early diagnosis of uterine cancer.

Dr. William F. Barclay, of Pittsburg, Pa., said that the general practitioner was to be censured to a certain extent for not referring cases of cancer of the uterus early enough to specialists. For years he had made it a rule, when in doubt as to the diagnosis of disease of the uterus, and when there was complaint on part of the patient, to refer the case to a specialist, and he had been satisfied with the result. The earlier operations were done for this disease the greater the prospect of prolonging life.

Post-Operative Internal Hemorrhage.—A paper on this subject was read by Dr. A. H. Cordier, of Kansas City, in which he drew the following deductions: 1. In diagnosticating post-operative hemorrhage, the history of the patient would aid much. 2. Symptoms of shock and those of hemorrhage were very similar. 3. In suspected cases a single stitch in the incision cut would tell. 4. In cases in which bleeding was anticipated, a tube should be used. 5. The surgery must be quick and decisive in these cases. 6. Large quantities of decinormal saline solution would save many cases. This should be used both per rectum and into the veins. 7. Strychnine, belladonna, etc., would not control bleeding from the uterine or ovarian artery any better than from the radial or temporal. 8. The surgeon should do what his surgical conscience told him was right.

Intermittent Hydrops of the Knee.—Dr. George W. Cale, of Springfield, Mo., reported the case of a woman forty-five years of age. The first appearance of her trouble began five years ago. There was no history of injury. There was a rapid accumulation of fluid in the left knee joint, which was not painful, however. This effusion disappeared in from one to four weeks, with or without treatment. The disease recurred at periods varying from one to six months.

Ventral Hernia Following Laparotomy.—This paper was read by Dr. E. Brindley Eads, of Chicago, Ill. The occurrence of ventral hernia as a sequence of abdominal section, he stated, was so common that it should command thoughtful consideration. The

author urged the adoption of those methods which personal experience had demonstrated to be of the greatest use, both immediate and remote. He quoted Greig Smith as saying that ventral hernia was a mere stretching of scar tissue, but the essayist regarded it as a stretching not only of the scar tissue, but of all of the tissues of the abdominal wall at the site of its occurrence. As intact, innervated muscular fibre was the only safeguard against hernia following laparotomy, the first rule was to make the abdominal incision parallel, or nearly parallel, with the direction of the motor nerves and of the most important muscular fibres supplied by these nerves. In considering the incision the following points must be taken up:

1. The length was largely dependent upon the thickness of the superficial fascia; it must be sufficient to allow free access to the muscles whose functional integrity was essential to success. 2. The length must be relatively greater than when muscular fibres were to be separated instead of divided. 3. It must vary with the pathological condition for which the operation was performed. 4. An opening of sufficient size must be made for thorough exploration and for securing the requisite degree of precision and rapidity in manipulation. 5. A long incision through the skin and superficial fascia did not predispose to hernia. 6. It lessened the mortality by providing ample space for the protection of surrounding viscera. 7. It lessened shock by diminishing the time required for the operation, and also the duration of the anæsthesia.

Several incisions were mentioned by the essayist. The difficulties he had experienced in reaching the appendix through the McBurney incision in acute suppurative cases of appendicitis had caused him to devise another method of approach in a more dependent part. This incision overlay the outer border of the cæcum, and led directly to the appendix. It was slightly curved outward and downward, crossing an imaginary line drawn between the anterior superior iliac spines. The centre of this curve was from an inch to an inch and a half to the inner side of the right superior iliac spine. The skin and superficial fascia were incised for about two inches. This freely exposed the aponeurosis of the external oblique, which was separated by means of the dry dissector, or the handle of a scalpel, in the direction parallel to its fibres, and well retracted. This brought into view the transversely arranged fibres of the internal oblique and transversalis muscles, and the twelfth abdominal, ilio-hypogastric, and possibly the ilio-inguinal nerves, which were in turn retracted in order to reach the transversalis fascia, which, together with the peritoneum, was divided transversely. The advantages gained by this incision were:

1. It provided easy access to the diseased area. 2. It enabled the operator accurately and securely to protect the peritoneal cavity from infection. 3. It lessened the liability to break down the inner limiting wall of adhesions. 4. It afforded a better opportunity to open the abscess cavity from the outer side. 5. It favored drainage. 6. It had not been followed in the author's experience either by appendicular fistula or post-operative hernia.

Gangrene of the Scrotum and Penis.—Dr. E. H. Richardson, of Atlanta, Ga., narrated the history of a case which showed the initial lesion to have been an abrasion of the skin near the os pubis, with, probably, infection by the erysipelatous cocci at this point, and later a mixed infection by the streptococcus of gangrene, terminating in the destruction of the gangrenous portion of the entire integument of the penis and of three-quarters of the scrotum. A plastic operation was made, with the result that the integument of the penis and testes was restored. The patient made a perfect recovery.

Tracheloplasty.—Dr. Henry P. Newman, of Chicago, read a paper on this subject. In order to maintain a condition of normal health in the body, he stated, it was necessary that all of the organs properly performed their functions. He called attention to the great importance of the function of the cervix uteri in relation to disease in women. In former times cervical lesions were recognized as a fruitful source of gynecic evils, and many operations and instruments were devised for their correction. Emmet's trachelorrhaphy, once so popular, had ceased to be adaptable to the needs of to-day in repairing cervices. Dr. Emmet, in conceding this himself and offering amputation as a substitute, stated that the great advance in the obstetrical art and the methods of caring for a lacerated cervix in labor had altered the character of surgical pathology, so that trachelorrhaphy, as formerly practised, was rarely called for. The author found the indications for plastic work upon the cervix still widespread enough to justify the presentation of a new method of operating. This he called tracheloplasty, it being plastic work designed not only to restore normal contour and relation, but to re-establish proper function. The distinctive features of the method were the use of a specially designed knife, the shape of the flaps in the anterior and posterior lips of the cervix, clean, smooth cut surfaces, accurate approximation of flaps, the certainty of restoring the proper lumen of the canal, and the simplicity of the after-treatment. Neither tracheloplasty nor any one operation of the kind should be relied on to correct all the ills which accrued from lacerations in childbed. It was frequently necessary to do such simple work as shortening the round ligaments, or suspensio uteri, when there was a displacement of the uterus; divulsion and curetting when disease had extended to the endometrium above; reparation of the pelvic floor when, through relaxation or trauma, there was a hernial condition of the rectum, bladder, vagina, or superimposed viscera; sometimes even the opening of the abdomen for plastic work, or resection of pathological conditions of the ovaries, tubes, etc. Any one or two of these accessory operations might be necessary to restore the patient, although the disease or deformed cervix might have been the essential, perhaps the sole, etiological factor in the case.

Middle-Ear Disease in its Relation to the Cranial Cavity.—Dr. O. J. Stein, of Chicago, read a paper on this subject, in which he pointed out the necessity of recognizing the importance of possible intracranial complications in every case of middle-ear disease. The various avenues of infection were dwelt upon at length, these being illustrated by beautiful drawings and specimens. The symptomatology of intracranial phlebitis, thrombosis, and abscess was discussed and several instructive cases were reported. In connection with this paper Dr. J. Holinger, of Chicago, gave an interesting stereopticon demonstration.

Nutrition and Stimulation.—This was the subject of the address in medicine delivered by Dr. I. N. Love, of New York City. Continuance of life, he said, beginning with the original protoplasm, the cell, depended upon proper nourishment. The recognition of this fact was essential in all the work of the physician. The proper nutrition of the new being, from the very beginning, prior to birth, should be assiduously looked after by the careful physician. After birth the security of the infant depended upon the due appreciation of its proper feeding. From infancy to maturity this should be the essential thought of the parent and the doctor, who should ever realize his importance as the helper of the parent in the building up of a complete man or woman. The entire scheme of tissue building, of repair, of maintenance of the mechanism of the human body, involved not only nutrition

but perfect elimination, and the two together were expressed in the term metabolism. Interrupted metabolism tended toward organic disease, and finally death. Perfect metabolism meant perfect health. Stimulants were of value if used in the right way and at the right time. In the healthful condition they were not needed; they were essentially a luxury. All luxuries should be used with the greatest care, and only the thoroughly healthy could indulge safely in luxuries. Stimulants were divided into two classes, namely, those that were exclusively remedial, and those that came under the head of luxuries associated with every-day life. Of all the stimulants, alcohol stood first. It was probably the most prompt diffusible stimulant we had. There were arguments for and against the thought that alcohol was a food. Coffee and tea were essentially domestic beverages, and while seemingly harmless they were potent whippers-up of energy and should be used with great care. Tobacco had never been thought of as a food. It was primarily a stimulant, but like all other stimulants it was secondarily a depressant. It was a luxury, pure and simple. Morphine, cocaine, and others of their class were of great value to the profession, but improperly used were more deadly in their effects than the scalpel in the hands of the unskilful.

The Treatment of Perirectal Abscesses.—Dr. John L. Jelks, of Memphis, Tenn., read a paper on this subject. Rectal abscesses, he stated, when properly treated, were not so serious as when it was the practice to use poultices and await pointing. These abscesses need not result in fistulæ, unless they were the result of malignant diseases, such as tuberculosis, cancer, and syphilis. The fault to be found with a simple incision and drainage of these abscesses was that their walls were not gotten rid of, hence this barrier to general infection or infection of other and deeper structures remained to continue an irritation and to cause suppuration. In many cases the abscess wall became calloused, and all efforts to establish granulation were futile. When he was able to elicit fluctuation, he opened freely and hastily irrigated through an irrigating-curette attached to a fountain syringe, until the irrigating-fluid came away free of débris; then with a sharp irrigating-curette he removed all of the abscess wall, thereby converting the cavity into a surgical wound. He used formalin solution in irrigating these cavities and packed them with iodoform gauze. After thus treating these cases he expected no further suppuration. Since using formalin solution in irrigating these cavities he had in the after-treatment of them seldom noticed any suppuration. Superficial abscesses should be dealt with in the same manner; or they may be frozen and excised as the surgeon would a tumor. They were, when otherwise treated, liable to infect deeper structures. Local anæsthesia would suffice, and curettage could be properly practised with it. If the wound was painful, or the formalin solution irritating even when very dilute, some other and milder solution would be indicated. In rectal surgery he had not found the objections to the use of formalin which had been referred to by rhinologists and laryngologists.

Simple Operation for Hemorrhoids: Enucleation.—Dr. J. Rawson Pennington, of Chicago, contributed this paper, which was profusely illustrated. He stated that he gave a cathartic the second night before the operation, a saline the following morning, and a bath and colonic flushing the night before. The next morning he gave an enema of from one-half to one pint of cool water, and operated two hours later. He emphasized the importance of carefully examining the entire rectum. He grasped each anal quadrant at the muco-cutaneous junction with a pair of forceps; the anus was everted, and the internal tumors were exposed. Seizing with the hand the forceps attached to the posterior quadrant, he fully everted it, and with a pair of scissors curved on the flat cut off the redundant membrane only, which was usually about one-third or one-half of the uppermost part of the hemorrhoidal node. This permitted the blood in the tumor to escape. All of the angiomatous tissue was carefully removed, when the remaining wall collapsed. Each quadrant in regular order was treated in a like manner. A stream of hot sterilized water flowed over the field continuously during the operation. Spurting vessels, if any, were caught with forceps and thoroughly twisted. Should this fail to control hemorrhage, he threw a ligature around the vessel and ligated it. The operation having been completed, he introduced a rubber-covered tampon which had been fully described in previous articles by the author. The advantages of this method were: There were no stumps to slough, no nerves were caught and squeezed, which would cause excruciating pain, as when the ligature was used; nor were the nerves and tissues burned to a crisp, as when the clamp and cautery were employed. The formation of a stricture was obviated. The patient was given a cathartic, and the tampon was painlessly removed at the end of forty-eight hours. There was no pain or bleeding with the movement of the bowels. After the bowels had moved, the patient was instructed to keep them soft for two or three weeks by taking compound licorice powder or Apenta water, the latter being very palatable and effective. He had performed this operation in fifty cases, with more satisfactory results than he had obtained by any other method.

Obstipation.—Dr. Sterling B. Taylor, of Columbus, Ohio, read this paper. Obstipation was defined, and a comparison of obstipation, constipation, and costiveness made. The causes of obstipation were dwelt upon and classified. Hypertrophy of the rectal valve was emphasized as the usual cause of obstipation. The essayist defended the views of Martin and his method. The symptomatology of the affection, and the palliative and radical treatment were discussed, the author closing his paper with the citation of several cases.

Tuberculosis of the Spine.—Dr. Alexander C. Wiener, of Chicago, contributed a paper on this subject. He made a plea for early diagnosis before deformity was noticeable. Extension and hygienic treatment were essential in avoiding complications, such as paresis and gravitation abscess. He exhibited a specimen which illustrated the possibilities of forcible correction of the spine. He narrated cases of psoas abscess in which he had effected a cure with injections of concentrated carbolic acid.

Medical and Surgical Treatment of Acute and Chronic Cervical Lymph Nodes.—Dr. Horace H. Grant, of Louisville, read this paper, in which the purpose and function of the lymphatic glands were dwelt upon. The author showed how they might be rendered useless and harmful by disease and disintegration. He pointed out the limitations of medical and expectant treatment, and outlined the indications for the various surgical procedures.

Fulminating Appendicitis.—This was the subject of the address in surgery, delivered by Dr. Charles A. Wheaton, of St. Paul, Minn. He said that every case of appendicitis was and by rights ought to be considered surgical, because the surgeon's training specially qualified him best to interpret the meaning of the symptoms encountered. Every case of so-called fulminating appendicitis should be operated upon as soon as its distinctive characteristics were known. High temperature and accelerated pulse, associated with local pain and rigidity, were strong presumptive evidences of malignancy in the attack, and if associated with vasomotor disturbances were practically proof

positive of perforation. The surgeon who refused the only chance that drainage might give even the most desperate cases was false to himself, and failed materially in discharging his obligations to his patient —obligations which the patient had a right to expect at his hands. A puncture in the median line, in the loins, or in a woman in the posterior cul-de-sac, under local anæsthesia, did not add to the danger of the condition, and it materially aided nature in the awful uphill fight. In short, in every fulminating case, the rule was to operate first, and philosophize afterward.

Subarachnoidean Injections of Cocaine for Operations Below the Diaphragm.—Dr. Carl H. Andersen, of Chicago, spoke on this topic. He referred to the work of Tuffier, Bier, and others in this comparatively new field, saying that sufficient credit had not been given to Leonard Corning as the originator and adviser of this method of anæsthesia. He described its technique, which was substantially that outlined by Tuffier, and reported six cases in which he had resorted to the method.

Case I.—Hydrocele, with vague history. The patient, colored, was twenty-eight years of age, strong and healthy. A subarachnoidean injection of ℥xv. of a two-per-cent. solution of cocaine was given. Anæsthesia was complete. When the scrotum was opened sarcoma of the testicle was found and removed. On the ninth day after the operation the patient died of pulmonary embolism.

Case II.—Varicose veins of the leg. An injection of ℥viii. of a two-per-cent. solution of cocaine was given. The anæsthesia lasted five hours and ten minutes. No pain was felt during the operation. Perfect recovery ensued.

Case III.—Trachelorrhaphy under cocaine anæsthesia. As soon as the operation was finished the patient fainted and remained in that condition for two hours. Under strychnine and salt water per rectum she rallied and recovered.

Case IV.—Amputation of a toe in a man seventy-two years of age. ℥vii. of a two-per-cent. solution of cocaine was injected. Uninterrupted recovery followed.

Case V.—Operation for suppurative appendicitis upon a woman. The operation was performed at 10 A.M.; at 2 P.M. the patient showed symptoms of medullary irritation, pain in the back, and severe headache. It was now several days since the operation was done, and the patient had had a terrific headache ever since.

Case VI.—Version and use of forceps. At the suggestion of Dr. Harold N. Moyer, Dr. Andersen injected ℥xvi. of a four-per-cent. solution of eucaine B in this case, with very satisfactory results. The patient suffered no pain whatever. Eucaine B could be perfectly sterilized by boiling.

Dr. Andersen spoke of the difficulties attending the sterilization of cocaine, and outlined a method by which this could be accomplished. He regarded lumbar puncture as a serious operation, and urged practitioners to be exceedingly cautious in employing it. These cases were reported for the express purpose of warning the profession that the method was far from harmless, and if it was employed indiscriminately it would lead to disastrous consequences.

Dr. Harold N. Moyer, in the discussion, said that if advised as to the use of this method of anæsthesia, he would say, Do not use it. No surgeon should undertake it unless he had a well-equipped laboratory. The method was at best in its experimental stage, and further research and experiments should be carried on in well-equipped clinics until the possible dangers of this method were better and more clearly understood. Among the dangers were the toxic properties of the cocaine. A four-per-cent. solution of eucaine B could be used with absolute safety. It was about one-third as toxic as cocaine, and one-half as anæsthetic as cocaine, but it could be absolutely stezilized. The danger of infection from such injections was considerable, and should not be overlooked. As to the remote dangers from this form of anæsthesia, cases had not been observed sufficiently long to enable surgeons to say whether or not there were such dangers.

Treatment of Tuberculous and Purulent Hip-Joint Disease with Large Speculum Drainage and Pure Carbolic Acid.—Dr. A. M. Phelps, of New York City, read a paper with this title. All abscesses, tuberculous or purulent, he maintained, should be opened for the purpose of exploration as soon as the diagnosis was made; secondarily, for drainage, and for any surgical procedure which might be deemed advisable. Excisions should be performed when the acetabulum was extensively diseased, the diseased tissues removed, and the joint thoroughly washed out with pure carbolic acid, then with pure alcohol, and finally with a two-per-cent. solution of carbolic acid, and as large a drainage tube of glass as the wound would take should be inserted. Through this large drainage tube the packing for drainage purposes could be made. The large glass speculum enabled the operator to watch every pathological change which took place throughout the wound. It kept the soft parts widely separated, and prevented their union until after the bone had granulated up and healed. It enabled the operator to dress his patient without doing violence to the granulating surfaces of the wound and inflicting unnecessary pain. All rubber drainage tubes should be entirely discarded, as they were filthy, collapsible, and a source of infection. The carbolic acid was absolutely neutralized by the action of the alcohol. Local carbolic poisoning, and even when the drug was taken internally, was neutralized by the action of the alcohol. Pure carbolic acid applied locally was a specific for erysipelas, the points of which were brought out in the paper.

Pulmonary Tuberculosis in Infancy and Childhood.—Dr. Frank P. Norbury, of Jacksonville, Ill., read this paper. This disease, he stated, was not a rarity among children, as the utilization of available post-mortem material showed. Heredity was of etiological importance, but it had lost its prestige as compared to its former standing. Modern scientific inquiry has shown that infection was the etiological factor *par excellence*. Direct heredity could account for a limited number of cases. The infection theory was proven by the lateness of the appearance of disease; few cases occurred during the first year of life, and the number steadily increased thereafter. The mode and route of infection were important considerations. Northrup, Carr, and others had shown that tuberculosis started more frequently in the thorax than elsewhere. Pulmonary affections, such as whooping-cough, influenza, etc., created favorable conditions for infection. Enterocolitis and gastro-enteritis created portals for intestinal infection. Milk was a source of infection, and so was tuberculous meat. The diagnosis might be confounded with that of malnutrition. Bovaird stated that two evidences of early invasion were "progressive emaciation, not explained by other disease; continued elevation of temperature similarly conditioned." The differential diagnosis from broncho-pneumonia could be made only by laboratory methods. Acute miliary tuberculosis and broncho-pneumonic tuberculosis were most frequently found in infants and children. The complications were meningitis, empyema, and involvement of bones. The prognosis was grave in almost all cases, but lesions of the lungs might heal under favorable conditions. With reference to treatment, prophylaxis during infancy should include attention from birth if the mother was tuber-

culous; also good hygiene, open-air treatment, and climatic change when possible. The symptomatic care should be the same for children as for adults. Good nutrition should be maintained, and as little medicine given as possible. Creosote was recommended by the author, as were simple tonics.

The Physician as a Sanitarian.—Dr. Hugh A. Cowing, of Muncie, Ind., read a paper on this subject in which he discussed preventive medicine; hygiene of infection; the physician as a factor in the spread of infection; the physician and the health officer; health legislation; and the physician and the public schools.

The Philosophy of the Science and Art of Medicine.—By Dr. William F. Barclay, of Pittsburg, Pa. The author said that thoughtful minds should be engaged in sifting truth from falsehood. True and false philosophy should be appropriately applied to results obtained in rational conclusions. The philosophy of medicine was the comprehension of the truth in the investigation of the science, enabling one to arrive at rational conclusions in the study of physical laws which governed organized matter under normal and pathological condition.

Asthma.—By Dr. B. Alexander Bate, of Louisville, Ky. The author stated that Loomis, Trousseau, Salter, and others had considered asthma a diathetic neurosis. Haig attributed it to the effect of uric acid upon the circulation in the thorax. Modern opinion seemed to regard asthma as a neurosis of the pulmonary plexus due to arthritism. In bronchial asthma uric acid in the blood so altered nutrition as to cause a neurosis of the branches of the pulmonary plexus, thus inducing hyperæsthesia and engorgement of the bronchial mucosa, spasmodic contraction of the muscular fibres, and the various manifestations of metabolism. Asthma frequently alternated with such diseases of the arthritic diathesis as neuralgia, migraine, angina, and gout. Clearing the blood of uric acid had relieved asthma, only to be followed by gout, as the uric acid was precipitated into the tissues. Asthma might be said to belong to the class of uric-acid diseases due to the effect of high arterial tension, in contradistinction to those produced by precipitation of urates into the tissues. The attacks came on most frequently when the blood was loaded with uric acid during the alkaline tides. The causes of asthma were divided into two classes: First, the systemic or essential cause—the arthritic diathesis. Second, the local or exciting cause of the attack. The first of these was perhaps present in every case. Cases were recorded in which mediastinal tumors, pressing upon the pneumogastric nerve continuously, first caused asthmatic paroxysms during the alkaline tide. Pressure explained the neurosis, and the time of the paroxysm manifested the uric-acid factor. The second class of causes could act only when the first desisted. The exciting causes of the disease were mentioned, also the symptoms. Modern treatment had been able to cut short the attacks in most instances, and often to prevent their return. Prophylactic treatment should embrace proper hygiene and diet. Prophylaxis should be begun in the children of lithæmic individuals. The therapeutic measures embraced the care of the attack and treatment during the interval. After the removal of the exciting cause the treatment consisted in the use of such remedies as overcame arterial tension by freeing the blood of uric acid. The treatment of the interval consisted in the use of such drugs as eliminated uric acid from the system, and the adherence to such a diet as permanently kept down arterial tension. Rational treatment, based upon the theory of uric-acidæmia as the chief factor in the production of asthma, had been most satisfactory in the hands of the essayist.

The Curability of Inebriety by Medical Treatment.—Dr. T. D. Crothers, of Hartford, Conn., stated that inebriety was a neurosis, usually self-limited, and very largely curable. The craze for drink was symptomatic. The real causes were central nerve irritation, exhaustion, poisoning, and starvation. The success of the treatment depended upon accurate knowledge of the causes and conditions present in each case, and the accurate application of general means and measures for their removal. Each case required special means and measures particularly adapted to meet the conditions present. The family physician as well as the specialist should treat these cases successfully.

Further Observations on the Clinical Application of the Suprarenal Capsule.—Dr. W. H. Bates, of New York City, read a paper with this title. The author regarded the aqueous extract of the suprarenal capsule as the most powerful astringent, hæmostatic, and heart tonic known to the profession. It lessened congestion of the eye and of other organs. The extract was not irritating or poisonous, and, unlike other powerful drugs, was never in his opinion contraindicated. In short, the profession had no remedy which was so useful in all forms of inflammation.

Clinical Value of Purgative Mineral Waters.—Dr. Edwin Rosenthal, of Philadelphia, discussed this subject. He spoke of natural and artificial mineral waters; simple, thermal, common salt, or muriated waters. He dwelt upon the waters mostly met with in commerce, spoke of their chemistry, names, mode of action, uses, method of selection of a special purgative water, etc.

What the Law Requires of a Surgeon.—Dr. Dudley S. Reynolds, of Louisville, Ky., followed with an interesting paper on this subject. A surgeon, it was stated, must possess a reasonable familiarity with the science of his profession; he must exercise reasonable skill for the locality in which he practises, and must devote due diligence and care in attending to his patient. If the patient declined to submit to that treatment which in the judgment of the surgeon was most appropriate, and he did not abandon the case at once, he assumed liability for the result of failure to do that which in his judgment was best for the relief of the patient.

Differential Leucocytosis.—Dr. L. H. Warner, of Brooklyn, N. Y., read this paper. Experiments in recent times, he held, had given us a better insight into leucocytosis. It had been demonstrated to be due to three causes—digestion, inflammation, and infection. Physiological and biological experiments had proven that by means of medication a true picture of leucocytosis might be produced, but which in reality represented leucocyto-diuresis — a condition very desirable in the treatment of disease and a recognition of which was of the greatest value when hæmatology was called upon to aid in arriving at a correct diagnosis.

The following officers were elected for the ensuing year: *President*, Dr. A. H. Cordier, of Kansas City, Mo.; *First Vice-President*, Dr. Charles F. McGahan, of Aiken, S. C.; *Second Vice-President*, Dr. Charles L. Minor, of Asheville, N. C.; *Secretary*, Dr. Henry E. Tuley, of Louisville, Ky., re-elected; *Treasurer*, Dr. Dudley S. Reynolds, of Louisville, Ky., re-elected.

Put-in-Bay, Ohio, was selected as the next place for holding the meeting; time, September 10, 11, and 12, 1901.

Dr. J. C. Culbertson, of Cincinnati, Ohio, was selected as the chairman of the committee of arrangements.

The meeting ended with a banquet at the Battery Park Hotel, given by the Buncombe County Medical Society.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, October 8, 1900.

CHARLES N. DOWD, M.D., CHAIRMAN.

Recovery from Strangulation of Intestine Due to Meckel's Diverticulum.—DR. JOHN F. ERDMANN presented a man, thirty-four years of age, first seen by him in consultation on May 1st. On April 29th he had been seized with severe abdominal pain, which had become localized in the region of the appendix on the following day, and had been associated with the presence of a tumor. On incision, a large Meckel's diverticulum had been found adherent to the appendix and strangulating the bowel. The appendix was removed, and inverted before suture. With the exception of a stitch abscess recovery had been uneventful.

Some Cases of Acute Appendicitis.—DR. ALEXANDER B. JOHNSON read a paper with this title (see page 688).

Glass Drainage Tube Broken off in the Pelvis.—DR. HOWARD COLLINS spoke of the usefulness of a sponge-holder and gauze in cleansing out the pelvis. When the opening is deep, the cotton should be placed in the holder flat, and then on moving the holder up and down the suction would tend to open up small abscess cavities in the neighborhood. Reference was made to a case in which a long glass drainage tube had been inserted into the pelvis and had been broken off by the patient while delirious. A sharp fragment of the glass had pierced a large blood-vessel, giving rise to all the symptoms of shock from loss of blood. The patient was transfused, and then the tube was removed after considerable difficulty.

DR. JOHN A. WYETH heartily concurred in the statement made in the paper regarding the harmfulness of evisceration or undue handling of the bowel. In cases of purulent peritonitis associated with foul pus, irrigation with hot salt solution offered the best, if not the only, hope of recovery. It was quite important in such cases to use the irrigating-fluid under considerable pressure, and to do this he placed the irrigator at a considerable height. He also laid great stress upon the wiping-out process, because he believed it to be very detrimental to leave moisture behind. He was particularly careful to clean out the space behind the ascending colon. He had always feared to make use of the glass drainage tube in the pelvis, although he had not before learned of any such accident as that mentioned by the last speaker. When drainage was employed he made use of the wick drain.

DR. W. K. OTIS said that he had witnessed a number of the operations described in the paper, and could testify to the fact that at least the larger cavity of the peritoneum was involved in the cases described as examples of general purulent peritonitis.

DR. A. ERNEST GALLANT asked if in the cases of abscesses in the pelvis mentioned in the paper there had been free pus or accumulations behind the peritoneum. He had himself seen these cases of retroperitoneal accumulations end in recovery, though slowly. A few days ago he had operated upon a case in which the appendix was up against the abdominal wall. During the manipulations incident to removal, he had broken through the cæcum into one of these retroperitoneal abscesses. He had been surprised in this instance that the pus was not of the stinking kind usually found in pelvic abscesses. He had had this man under observation for about four years because of syphilis, and this had suggested to him the possibility that this abscess had resulted from the breaking down of a gumma. In two cases he had secured good drainage by an incision through the vagina.

DR. JOSEPH WIENER, JR., remarked that at the very last meeting of this section, a few months ago, the general trend of discussion had been against the use of saline irrigation, and yet we had just heard of excellent results from such irrigation. It was certainly very important to dry out the peritoneal cavity before the wound was closed, but whether it was better to be content with simply drying it out or to use first saline irrigation, he was as yet undecided. In the cases in which colon bacilli predominated the prognosis was best; the next best were those in which staphylococci were found, whereas the worst prognosis was in those of streptococcus infection. Subphrenic abscesses developed almost invariably in cases of peritonitis, and were probably the result of lymphatic infection.

DR. WYETH asked if there was any difference in the odor of the pus in the different varieties of infection.

DR. WIENER replied that in the cases characterized by the foulest pus the colon bacilli predominated.

DR. ROBERT T. MORRIS was of the opinion that the intravenous infusion of large quantities of physiological salt solution constituted an effective method of eliminating toxins and combating sepsis. According to his experience the foulest-smelling cases were not the gravest ones, but they were associated with the colon bacilli. Concerning drainage he would say that Clark's classical article of three years ago on the subject of drainage by way of the peritoneum should be carefully read by all surgeons. He was very glad that at the present day there was a greater tendency toward using smaller incisions and depending more upon the well-known capacity of the peritoneum to dispose of fluids. In some cases of several days' standing and having symptoms of sepsis, he had been surprised to find the pus sterile; hence the operator must be cautious about distinguishing between cases which must be drained, and those which could be safely closed without drainage. He predicted that surgeons would be surprised in the future to find what could be accomplished without drainage.

DR. JOHNSON, in closing, said that in his cases of abscesses in the pelvis the pus lay among the viscera in and not behind the peritoneum. He was convinced that the less mechanical violence was done to the peritoneum, and particularly to the intestine, the better for the patient. It had been shown that the reaction to mechanical irritation was greater in proportion to the degree and extent of inflammation present. For this reason he preferred the method of placing gauze in the cavity to the plan of wiping it out with gauze. He had laid great stress upon the harmfulness of evisceration because in conversation with an eminent surgeon in this city the latter had told him that he practised that method, and did so because he thought this shortening of the operation was in itself a life-saving measure. The prognosis did not by any means depend solely upon the kind of bacteria present; many other factors must be taken into consideration.

Some Considerations on Abdominal Section.—DR. HOWARD COLLINS read this paper. He said that when a choice of incision was practicable, the one selected should be that which least interfered with the supporting function of the abdominal wall. Loss of continuity of the normal structures and the paralysis of the muscles from division of their nerve supply were important contributing causes in the production of hernia after operation. The most important nerves were the lower dorsal. They emerged from under cover of the ribs and passed obliquely downward, forward, and inward until they reached the outer margin of the rectus. They then divided into two branches, one passing inward and slightly upward, and the other inward and slightly downward. From a point half an inch below the tip of the last rib a line should be drawn to the spine of the pubis of the opposite side. This line

from the point of origin to the outer margin of the rectus muscle overlay the twelfth dorsal nerve. A similar line drawn from a point half an inch above the tip of the twelfth rib to the middle of Poupart's ligament on the opposite side marked the eleventh nerve. A line starting half an inch in front of and above the tip of the eleventh rib, and extending to the anterior superior spine of the ilium on the opposite side, traced the course of the tenth nerve. The ninth nerve lay between the ninth and tenth ribs. It split into two branches at the edge of the rectus, midway between the entrance of the eighth and tenth nerves. The speaker said that for this method of mapping out these nerves he was indebted to Dr. Brewer. The nerves supplying the recti muscles lay at a right angle to their fibres, and hence mere splitting of the recti did not do away with the chance of dividing these nerves, but only a few small fibres were likely to be cut. Instead of cutting through the fibres of the semilunaris he suggested making the incision just external to this point, as this went through tissues having sufficient thickness to enable one to secure better union. In the operation for extirpation of the kidney, a good incision was one starting one inch below the last rib and extending from the quadratus lumborum to the rectus muscle. This traversed no important nerves. A vertical incision through the substance of the right rectus muscle, about one inch from its outer border, gave a most favorable entrance in gall-bladder cases. McBurney's intermuscular incision was commended highly except for cases requiring drainage. Here it was not desirable because of the tendency of such an incision to close. He had heard of a case in which the intermuscular incision had been used in making an artificial anus. In that case it was reported that the muscular opening fulfilled very well the function of a sphincter.

Dr. Moschcowitz said that with the so-called Kammerer incision the nerves usually passed across the incision. When first using this incision he had divided one or more of these nerves, but subsequently he had read an article in which the statement had been made that the nerves could be divided and sutured again very satisfactorily, even though the suturing were done very rudely. Further experience had taught him that it was ordinarily possible simply to dislocate the nerve, and that when this precaution was taken hernia rarely followed the operation.

New Clavicular Crutch.—Dr. Carter S. Cole presented this splint, which was founded on one used by the late Dr. C. Fayette Taylor in connection with his spinal brace. It consisted of a connecting steel bar, adjustable as to its length, and having at either end a hard-rubber pad of such shape as to take the place of the clavicle. Round leather pads, kept apart by a band of steel, were adjusted over each shoulder blade, and the two parts of the apparatus were held together by webbing straps. The original Taylor instrument was not intended for the treatment of fractured clavicle, but was a mere adjunct of the spinal brace. In the instrument presented, adequate provision was made for the accurate adjustment of the anterior pads or "false clavicles." Dr. Cole said that he had made use of many other varieties of splints and dressings for fracture of the clavicle, and they had all proved quite unsatisfactory until he had devised this one.

Intestinal Anastomosis—Connell Suture.—Dr. Thomas H. Manley reported a case of strangulated hernia first seen by him at the Harlem Hospital on August 20th. At that time there had been no signs or symptoms to indicate that the hernia was a complicated one. Operation had been done immediately, and the sac found filled with foul-smelling fluid, and the gut gangrenous. The affected portion of intestine extended up to the cæcum. About 40 cm. of intestine were resected, and on division of the bowel the latter was found to be filled with blood. Deep interrupted Lembert sutures were used. The ileum was implanted on the anterior wall of the cæcum. The operation for radical cure of hernia was also done, but the wound was left open. On the sixth day the discharge from the wound had a fæcal odor, but after the second week this ceased. At present the patient was in excellent condition, having completely recovered. The section of the bowel was made with a long slope, with the object of maintaining the circulation up to the tip. The Connell suture was employed—a continuous suture passing through all the layers. It was the most rapid method of its kind that he had ever tried. Emphasis was laid upon the technique used in making the lateral anastomosis.

Choledochotomy.—Dr. J. A. Blake reported a case of choledochotomy and presented the specimen. According to the history, the first attack of colic had been only four months previously, and had resulted in collapse and loss of consciousness. The patient had several attacks associated with jaundice while in the hospital. For the last two months before operation there had been chills and fever. At the operation the gall bladder was found very much contracted, but it contained no stone. Palpation of the common duct revealed the presence of a stone. It was used as a splint for the insertion of the sutures and preventing the escape of bile. Eight fine silk sutures were used, and by this plan were quickly inserted. The incision was made through the rectus muscle. The drainage tube had been removed on the fifth day. At no time was any bile-stained fluid discharged, and the healing-process proceeded most satisfactorily.

Therapeutic Hints.

Tonsillitis.—At the onset of acute catarrhal tonsillitis give a saline purgative, and spray or brush the tonsils every hour with—

℞ Formalin ..... ♏ xv.-xx.
Potass. chlor ..... ʒ i.
Liq. ferri. chlor ..... ʒ i.
Aquæ menthæ pip ..... q.s. ad ʒ iv.

And give—

℞ Quininæ hydrobromat ..... gr. i.
Sodii benzoatis ..... gr. ij.
Salol ..... gr. v.
M. et ft. cap. No. i. S. One every three hours.

—J. A. Abraham.

Tapeworm.—

℞ Pomegranate bark of root ..... ʒ iv.
Pumpkin seed ..... ʒ i.
Ext. male fern ..... ʒ i.
Pulv. ergot ..... ʒ ss.
Croton oil ..... ♏ ij.
Gum arabic ..... ʒ ij.
Water ..... ad ʒ viij.
M. S. At one dose.

A light supper, a full dose of Rochelle salts.

In Bacteruria.—Lavage and instillations of nitrate of silver, sublimate, or protargol, combined with the internal administration of salol in increasing doses up to ʒ iiss. per diem. Large quantities of water. —Jeanbrau.

When streptococci predominate, antistreptococcic serum—Dewy.

Urotropin in Typhoid Fever.—During the first two weeks of typhoid fever bacilli can be obtained from the fæces, but they gradually disappear during the third

and fourth weeks. On the other hand, the urine is free from bacilli in the early stage of typhoid, and they appear during the third or fourth week or during convalescence. Both excreta are a source of reinfection. Dr. P. Horton Smith recommends urotropin in doses of 2 gm. daily, and claims that under its use the bacilli disappear.—*British Medical Journal.*

Cholera Morbus.—Very hot turpentine stupes, consisting of one tablespoonful of turpentine to the quart of water, and internally—

℞ Spir. æther. comp.,
Spir. lavandulæ comp.,
Tinct. opii camph ..... āā ʒ ij.
Tinct. capsici ..... ♏ xv.
Tinct. zingiberis ..... ʒ ij.
M. S. One-half to one teaspoonful every two hours.

—S. A. Buchanan.

For Earache.—

℞ Carbolic acid ..... gr. vij.
Fld. extract of opium ..... ♏ vi.
Hydrochlorate of cocaine ..... gr. iij.
Atropine sulphate ..... gr. iij.
Water ..... ʒ i.
Gelatin ..... gr. xviij.
Glycerin ..... ʒ iiss.
M. et ft. bougies No. xlii. S. Insert in ear.

N.B. Keep in glass bottle and dust with lycopodium.
—G. L. Richards.

Barber's Itch.—

℞ Ichthyol ..... gr. xx.
Sulphur precipitat ..... ʒ i.
Bismuth formic iodide ..... ʒ ss.
Vaseline (benzoinated) ..... ℥ i.
M.

—Buchanan.

Scarlatinal Angina.—

℞ Sozoiodol-sodium,
Sulphuris precip ..... āā 15
M. S. Insufflate with powder blower several times daily.

When insufflation causes nausea the sozoiodol-sodium may be given internally in solution in half-teaspoonful doses three times a day.—A. Baginsky.

In Chronic Prostatic Hypertrophy, suprarenal extract in five to ten grain doses three times a day after meals is recommended.

In Eclampsia, if the spasms are apparently under control and yet the pupil is contracted, anticipate a return of the spasm.—*Medical Summary.*

Ptyalism.—

℞ Sodii boratis ..... ʒ ij.
Pulv. myrrhæ ..... ʒ i.
Aquæ ..... ℥ vi.
M. S. Mouth wash.

—Potter.

In Acute Bronchitis.—

℞ Ammon. muriat ..... ʒ i.
Liq. ammon. anisatis ..... ʒ iiss.
Tr. opii camph.,
Tr. hyoscyami ..... āā ʒ iij.
Syr. pruni virgin ..... q.s. ad ℥ ij.
M. S. ʒ i. every three hours.

Purpura.—

℞ Sodii sulphatis ..... ʒ ij.
Ferri sulphatis ..... gr. iij.
Ac. sulphurici dil ..... ♏ xv.
Tr. hyoscyami ..... ♏ xl.
Infus. calumbæ ..... ℥ ij.
M. S. To be taken every morning.

—Tanner.

Schoull's Treatment for Pulmonary Tuberculosis.—For ten successive days, mornings (sometimes evenings also) Schoull gives subcutaneous injections of 0.05 gm. of sodium cacodylate; then intervenes a pause of ten days; meanwhile and for fifteen successive days he gives internally, after meals, 0.5 to 1.0 gm. of thiocol in powder form. This is followed by a five days' pause, and the cycle is then repeated.—*Journal des Praticiens*, August 18, 1900.

In Syphilitic Lobar Pneumonia.—

℞ Ammon. iodidi ..... gr. xl.
Spir. ammon. aromat ..... ʒ ij.
Elixir aromat ..... ʒ i.
Aquæ ..... q s. ad ℥ viij.
M. S. ʒ i. t.i.d.

In Pelvic Inflammation.—Liquor hydrargyri perchloridi in half-drachm doses three times a day, combined with infusion of calumba, often exerts a marked influence in the absorption of inflammatory products, and is, in my experience, the simplest and most successful drug in cases of prolapse of the ovary, with adhesions.—Bedford Fenwick.

In Pulmonary Tuberculosis.—

℞ Calcii phosphatis,
Menthol ..... āā gr. iv.
Sodii bicarb ..... gr. iij.
Pulv. nucis vomicæ,
Ferri lactatis ..... āā gr. ¾
M. S. One such dose to be taken four times daily.

In Acute Rhinitis.—

℞ Ichthyoli 0.05
Ætheris 50
Alcohol 50
M. S. Use as a spray.

In Acne due to Digestive Derangement.—Internally:

℞ Creosoti ..... ♏ ss.
Cerii oxalatis ..... gr. ij.
Pepsini pur ..... gr. i.
Strychninæ sulphatis ..... gr. 1/60
Tinct. belladonnæ ..... ♏ ij.
Podophyllotoxini ..... gr 1/10
M. et ft. cap. No. i. S. One such to be taken after each meal and at bedtime if necessary.

Locally:

℞ Acidi salicylici ..... gr. xx.
Olei eucalypti ..... ♏ x.
Acidi borici ..... ʒ ss.
Ungt. zinci oxidi,
Ungt. aq. rosæ ..... āā ʒ ss.
M. et ft. ungt.

—Shoemaker.

Furunculosis of the Ear.—

℞ Zinci oxidi ..... ʒ i.
Acidi carbolici ..... gr. x.
Vaselini albi ..... ʒ i.
M.

A cylindrical tampon of cotton-wool is smeared with a layer of this ointment, and inserted into the canal. It should be large enough to produce considerable pressure. The greater the swelling the greater should be the pressure exerted by the tampon. The pain is at first severe but disappears after a few moments, if not insert smaller tampon. Before tamponing douche canal with lysol solution. Repeat tampon and douche daily.—Lamel, Oxel and Muller.

Flatulence and Colic in Infants.—

℞ Magnesii carb ..... gr. iiss.
Rhei pulv ..... gr. ¼
Syr. zingiberis ..... ♏ v.
Ung. menth. pip ..... q.s. ad ʒ i.
M. S. Given every two to four hours to an infant three or four months old.

—Ashley and Wright.

Cathartic Lemonade.—

℞ Sodii phosphatis ..... ʒ viss.
Spir. limonis ..... ♏ xx.
Syr. simplicis ..... ʒ ij.
Aq destill ..... q.s. ad ℥ x.
M. S. Take at a dose.

A Study of the Physiological Action of Phenacetin.—1. Moderate doses of phenacetin are without any distinct action on any vital organ. 2. Large doses

lessen reflexes by a direct action on the spinal cord. 3. Doses of 0.5 gm. per kilo. of body weight (a little less than one ounce for a one-hundred-and-fifty-pound man) kill by arrest of respiration. 4. Doses even up to 0.5 gm. per kilo. have no distinct effect on the circulation.—H. C. AND H. B. WOOD.

Hyperidrosis Pedis.—

℞ Balsam of Peru	1
Formic acid	5
Chloral hydrate	5
Alcohol, absolute	89

S. Apply by means of a pad of wool.

℞ Alumnol	4
Aristol	4
Starch	15

℞ Boric acid	2
Borax	75
Salicylic acid	75
Glycerin	100
Alcohol	100

M. ft. lotio.

—*Pharm. Post.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 27, 1900:

	Cases.	Deaths.
Tuberculosis	237	160
Typhoid fever	140	32
Scarlet fever	91	5
Measles	46	4
Diphtheria	226	37
Laryngeal diphtheria (croup)	9	4
Cerebro-spinal meningitis	0	6
Varicella	2	0

Quinine in Malaria.—Dr. Manson in the discussion held on the use of quinine in malaria at the recent meeting of the British Medical Association, spoke as follows: "The reputed prophylactic action of quinine is but a phase of its therapeutic action, it is the application of the drug to the parasite, and not an immunizing of the body against the entrance of the parasite we have to deal with, therefore we may confidently expect that if it will cure a malarial affection it will prevent the development—the development though not the introduction of the germ. Further, that as some types of the parasite are highly amenable to the drug given therapeutically, similarly its prophylactic power will be greater against such, thus we may confidently expect it to be a timely prophylactic as against the benign tertian, but less active against the malignant tertian. The value of the drug is apt to be underrated in consequence of its being given in too routine a fashion, and often under conditions in which it cannot be absorbed as in states of severe gastro-intestinal catarrh. Such failures should be eliminated in assessing its prophylactic value. I should recommend that, in future, experiments in prophylaxis be made with the aid of the microscope, and in reference to the particular type of malarial parasite it is used against, and also that the gastro-intestinal condition of the individual experimented on be investigated and recorded."

Origin of Syphilis.—It has always been a moot question to know whether syphilis was of American or of European origin. Dr. Zambaco Pacha, who has become quite an authority on such subjects as leprosy, Morvan's disease, and kindred affections, has presented some photographs of bones that had been found in Upper Egypt, and dating from eighty centuries back. These bones showed indications of suppurative osteitis, enlargement of the femurs, tibias, and fibulæ. The disposition of the lesions is such that Professor Lannelongue admitted that they seemed to be of syphilitic origin. This would prove that syphilis has existed in Europe from the first ages. Dr. Fournier examined the photographs and declared that there was no sure sign that the lesions were of syphilitic origin. The simple examination of a bone is not sufficient to demonstrate the existence of syphilis. The common varicose ulcer sometimes causes hyperosteosed tibias, which are similar to those caused by syphilis; the same can be said of typhoid fever. Dr. Zambaco insisted on the large number of lesions seen, but Dr. Fournier said that tuberculosis sometimes produced similar results.—Paris correspondent *Therapeutic Gazette*.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended October 27, 1900:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
Colorado, Arapahoe Co	September 17th to October 10th	9	
Rio Grande Co	September 25th to October 5th	4	
Custer Co	October 5th	1	
Kansas, Cherokee Co	September 1st to 30th	3	
Crawford	September 1st to 30th	4	
Douglas Co	September 1st to 30th	1	
Rawlins Co	September 1st to 30th	4	
Shawnee Co	September 1st to 30th	2	
Louisiana, New Orleans	October 13th to 20th	1	
Minnesota, Minneapolis	October 13th to 20th	1	
N. Hampshire, Manchester	October 13th to 20th	1	
Ohio, Cleveland	October 13th to 20th	7	
Pennsylvania, Philadelphia	October 13th to 20th	3	
Utah, Salt Lake City	October 13th to 20th	6	
SMALLPOX—FOREIGN.			
Argentina, Buenos Ayres	August 1st to 31st	10	4
Austria, Prague	September 22d to 29th	1	
Belgium, Antwerp	September 22d to 29th	1	
Canada, Yukon Territory, Dawson	September 24th	4	
Egypt, Cairo	September 23d to 30th	..	1
England, Liverpool	September 30th to October 6th	4	
London	September 22d to October 6th	3	
Southampton	September 30th to October 6th	4	
West Hartlepool	September 30th to October 6th	3	
France, Paris	September 23d to 30th	..	7
Gibraltar	October 1st to 7th	1	
Greece, Athens	September 30th to October 6th	2	
India, Bombay	September 18th to 25th	..	1
Calcutta	September 15th to 22d	..	6
Madras	September 15th to 21st	..	2
Italy, Sorrento	October 10th	*	
Japan, Formosa	August 1st to 31st	1	
Mexico, Vera Cruz	October 6th to 20th	..	2
Russia, Moscow	September 22d to 29th	2	1
Odessa	September 30th to October 6th	10	1
St. Petersburg	September 22d to 29th	7	
Warsaw	September 15th to 29th	..	22
Scotland, Glasgow	October 5th to 12th	25	1

* Generally prevalent.

YELLOW FEVER.			
Colombia, Bocas del Toro	October 22d	1	
Cuba, Havana	October 6th to 13th	..	18
Mexico, Tampico	October 7th to 14th	3	1
Vera Cruz	October 6th to 20th	..	13
CHOLERA.			
India, Bombay	September 18th to 25th	..	64
Calcutta	September 15th to 22d	..	7
Madras	September 15th to 22d	..	51
Japan, Nagasaki	September 11th to 20th	1	
PLAGUE—UNITED STATES.			
California, San Francisco	October 5th to 10th	2*	

* Bacteriologically confirmed.

PLAGUE—FOREIGN AND INSULAR.			
China, Hong Kong	August 18th to September 1st	13	13
Egypt, Alexandria	September 17th to 24th	2	1
India, Bombay	September 18th to 25th	..	89
Calcutta	September 15th to 22d	..	24
Japan, Formosa	August 1st to 31st	4	3
Kobe	October 23d	Present.	
Scotland, Glasgow	September 30th to October 6th	..	1
Wales, Llandoff	October 11th	1*	

* From steamer *Southgarth* from River Platte.

Water Supply in Military Camps.—Major James, R.A.M.C., read a paper before the British Medical Association at their recent meeting in Ipswich on sanitation in military camps; part of the address was as follows: "The water supply is one of the most important things to supervise, and most of the commonest camp pests in the shape of enteric fever, dysentery perhaps, and cholera, are water borne. Water which

may be good at its source may so easily become poisonous between that and the consumer's stomach, that the distribution must be as closely watched as the origin, and this in camp is a great difficulty. When men are thirsty they will drink anything and anywhere; I believe something could be done by education to restrain a man at ordinary times, but when the weather is hot and water scarce, reason has to give way to impulse. If, however, water is plentiful and good, and obtained from a stream, a spot above the camp should be marked for drinking; lower down for horses, and lower for washing and washing clothes. The point of obtaining the drinking-water should be policed, and the stream above put out of bounds, and the area draining into it also. The water should be delivered from a spout or pump, and no dipping of vessels into it allowed. It may be dammed up so as to accumulate and allow sediment to fall, and if the camp be standing there sheltered or roofed over. In the case of water being obtained from a large river it should be rough filtered, or a Norton's tube pump sunk in the shore to stop out the grosser impurities, then boiled or filtered or both. The use of alum to throw down suspended matter is universal among Chinese on the Peiho and might take the place of rough filtering as a prelude to boiling, etc. For use in the men's water bottles, tea should be made on a large scale where water is not above suspicion. A sterilizer with a coiled tube heated at one point was, I believe, tried but is not yet very portable. The use of aërated water or the water obtained at the authorized source may be encouraged. Where the camp is a standing one it may be possible to dig wells. This should be done if water is near the surface and the alternative source is a stream liable to pollution."

The Smoke Nuisance.—At the International Congress of Hygiene and Demography recently held in Paris, Mr. Adolphe Smith, in the discussion which followed a consideration of the smoke question in towns, had this to say: "He protested against the suggestion sometimes lightly made that smoke was not injurious. Parisians especially would have to be careful now that wood was so dear, and the consumption of coal in private houses was increasing rapidly. There was much more smoke in Paris, and even if this smoke was not particularly injurious in itself, it became very mischievous when mixing with a white mist it produced a black fog, and the fogs in Paris were getting more and more like those in London. Whatever chemists might say about smoke, it was a fact that in London thick 'pea soup' fogs sent up the death rate by leaps and bounds. As for the suggestion made that the law should insist on perfect combustion—what was perfect combustion? Theoretically, if perfectly consumed, a kilogram of carbon should yield 8,080 calorics of heat and produce no smoke whatever and no carbon monoxide. Practically a kilogram of carbon yielded little more than 2,470 calorics of heat, produced a quantity of black smoke, and some carbon monoxide. Could any one say where and how perfect combustion was produced for industrial or commercial purposes? The speaker had been privileged in making experiments with a stove that did realize the ideal of no smoke, no carbon monoxide of perfect combustion, indeed the combustion was so perfect that it not only melted platinum but consumed the stove as well. Thus, a laboratory success proved a commercial failure, for no one would buy a stove which burnt itself up in a few weeks. The fact was that the problem still awaited a practical solution. They might reduce the volume of smoke, but they did not know how to abolish it altogether. But the advantages of perfect combustion were so enormous from the sanitary, economical, and æsthetic points of view, that every effort should be made to encourage research and inventions in this direction. The state and the municipalities should give some impulse and facilities to such endeavors."—*Lancet.*

The Rise of Surgery in Germany.—In Germany, even so recently as one hundred years ago, surgery was at a low ebb. George Fischer tells us that quacks of all kinds, "cutters" for stone and hernia, cataract operators, and bone setters flourished in the land. The public executioner, whose business it was to fracture bones and dislocate joints on the rack, was supposed thereby to have acquired a knowledge of disorders of these parts, and was consulted freely about them, so much so that Frederick the Great in 1744 published a decree limiting the power of these men, and while permitting them to treat fractures, wounds and ulcers, forbade them to practise medicine.

New Cure for Astigmatism.—An English popular weekly is responsible for the following gem: "In the public schools of some cities measures are taken, by presumably competent officials, to test the children's eyesight upon the assumption—often too well founded—that the parents are not sufficiently watchful in that important particular. A little boy came home one day, soon after the term had commenced, with the following note signed by the principal: 'Mr. Green: Dear Sir, It becomes my duty to inform you that your son shows decided indications of astigmatism, and his case is one that should be attended to without delay.' The father sent this answer the next day: 'Mr. Kershaw: Dear Sir, Whip it out of him. Yours truly, John Green.'"

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

MODERN SURGERY. By John Chalmers DaCosta, M.D. 8vo, 1117 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

TEXT-BOOK OF PHYSIOLOGY. By E. A. Schafer. 8vo, 1365 pages. Illustrated. Young J. Pentland, London. The Macmillan Co., New York.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D. 8vo, 1292 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M.D. 8vo, 873 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

MODERN MEDICINE. By Julius L. Salinger, M.D. 8vo, 801 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, M.D. 8vo, 770 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

EYE, EAR, NOSE, AND THROAT. By William Lincoln Ballenger, M.D. 8vo, 511 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

THE AUSTRALIAN MEDICAL DIRECTORY AND HANDBOOK. By Ludwig Bruck. 8vo, 224 pages. Illustrated. L. Bruck, Sydney.

ESSENTIALS OF HISTOLOGY. By Louis Leroy, M.D. 12mo, 231 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa.

THE CARE OF THE CONSUMPTIVE. 12mo, 182 pages. G. P. Putnam & Sons, New York and London.

LES MALADIES QU'ON SOIGNE À BERCK. By F. Calot. 12mo, 443 pages. Illustrated. G. Masson, Paris.

SAUNDERS' POCKET MEDICAL FORMULARY. By William M. Powell. 16mo, 298 pages. W. B. Saunders, Philadelphia, Pa.

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Original Articles.

SOME CLINICAL ASPECTS OF GOUT.[1]

BY BEVERLEY ROBINSON, M.D.,

NEW YORK.

To the practitioner of general medicine to-day, the most evident tendency is unquestionably the all-pervading disposition to localize human ills and to assign, if possible, a change of tissue to explain symptoms.

From the laboratory point of view and according to those who limit their researches in this direction, micro-organisms are brought to the front almost invariably, and serve to explain whatever morbid sequences may arise. When neither anatomical changes can be detected, nor microbes apparently causative are discovered, chemical research is appealed to, and thus theories, usually varied, are assigned to explain facts which are obscure.

The general pathology of former days saw undoubted facts also in atmospheric changes, constitutional peculiarities, habits of mind or body, which, because obscure and undetermined ultimately, are now relegated frequently to the past, and when appealed to merely seem for many to cloak ignorance or incompetency. And yet, how true it is for the man of large observation and philosophic mind to trace many of our ills to purely functional disturbances that probably shall never be clearly revealed, unless we should assume that the microscope, the chemical balance, and all other instruments of accurate research are given to solve the final changes of man's organism.

Such thoughts as these are forced upon one who sees, or believes he sees, many of the protean or obscure forms of gout, in apparently their mere functional expressions. In some of these cases there is history of a previous, well-marked gouty attack, typical perhaps in its localization and symptoms. After such an access more or less tissue changes remain; in rare instances, however, while the graphic history of an attack of gout is given by the patient, locally nothing perceptible remains to show where it had been present. Many examples there are, also, when we have practically very little to guide us accurately except our general medical acumen, or indeed the touchstone of treatment. Sometimes, of course, we feel we have a right to be suspicious of a certain pain or ache, because the previous history of ailments among ancestors, or with the father or mother of our patients, lends probability to our diagnosis. Particularly is this true whenever we are unable to find after careful inquiry any other sufficient causation in the case under investigation. We must, however, be willing to admit that until one or more anti-gout remedies have been freely and judiciously tried, certain cases appear absolutely obscure; and even with the use of lithia, the salicylates, and above all of colchicum, no satisfactory results may be obtained unless we meet squarely certain indications which are almost individual in their rarity or specificity. Thus it is, for example, that a single article of diet, or a particular drink, which one person may indulge in with relative or almost absolute impunity, to another seems to be the veriest poison and to bring out the gouty dycrasia in the most striking manner.

I confess to have a somewhat sceptical mind, the longer I practise medicine and the wider my observation has become, with respect of any absolute theory to govern dietary rules. It is true that with some patients a liberal meat diet will accentuate gouty tendencies, and to such a one vegetables and starchy foods appear singularly acceptable. If, perchance, one has just treated a patient of this sort, he is apt to be considerably influenced by the ideas of Haig, and to believe one very clear way of diminishing uric acid and its injurious effects is to limit the quantity of nitrogenized food to a very small measure. On the other hand, if we have just had the fortune to care for one to whom the starches and vegetarian diet are inimical and bring out morbid manifestations, we can then appreciate somewhat how a diet largely of meat, with a considerable limitation of starches and sugars, is above all essential. Again it seems evident, in certain cases, that it is mainly a question of what one man's stomach or liver is able to accomplish, and what another's can effect, and yet the explanation of this fact does not reside at present in any analysis we can possibly make of either urine or stomachal contents.

There is something over and beyond the mere chemical output, so to speak. To prove this, I would direct attention to what I have observed, and it is how the power of digestion for the same food will vary considerably under apparently similar conditions; how it will also change from time to time, without any adequate or sufficient cause, so far as we can judge. Again, we know, and I have seen it many times, that the very article of diet which theoretically would seem to be almost the worst possible for the patient is the very one that is easily assimilated and affords most satisfaction to the palate. Often, when a patient has expressed a longing for some particular food or drink, while at first I have had misgivings as to the wisdom of gratifying the intense desire, I have found by so doing that the patient has been much improved by my concession, and both enjoyed and digested the doubtful food thoroughly well. I do not wish to be understood as saying that this would be the invariable result, because I know the contrary to be true, and also I know there is always an element of risk in listening to and according to patients' vagaries or fancies.

There is a line to be drawn, a limit to be made, by the discretion and judgment of the wise physician, and it is to him that I have been and am now addressing my remarks. We are apt to forget, I believe, that in order to make food digestible we must render it palatable. We know very well that this rule holds good with a well person; assuredly it is even truer and more important about an ill person. Let the food or drink become distasteful in any degree, and I am quite sure, in many instances, it becomes equally difficult to assimilate it.

To what extent the central nervous system has power to produce this effect, I am not prepared to affirm,

[1] Read before the Practitioners' Society, October 12, 1900.

although I am convinced it is an important influence and has a decided action. I am also sure that, from a physiological standpoint, sapid substances, food served in an attractive form, tend to promote the secretion of the digestive fluids in larger amount. This is true invariably when there are mastication and deglutition. It is also true possibly when food is simply carried to the stomach by means of the stomach tube. It seems to me, therefore, that Ewald's test meal, consisting of a baker's roll and six to twelve ounces of weak tea without milk or sugar, is not a fair judgment of an already weakened stomach to bring out its real power, or to gauge the amount of free or combined acids, if we consider that most of us, even when perfectly well, would revolt not a little at such a repast being offered, except as a rigid and necessary experiment.

To what degree, we may ask, is suitable and well-considered preparation of food essential to proper combustion and reduction of its constituents to forms from a chemical point of view essential to our well-being, whether sick or well? The addition of a substance, such as sugar, in moderate amount, to many beverages and to some foods will not only render them more acceptable to taste, but will likewise help digestion, and in both these ways enable the digestive organs to transform them so as to be in no way injurious. It is here often merely a question of quantity. If the limit ordered by a certain personal equation be passed, sooner or later there proceeds either distinct palatal or stomachal revolt; and if these symptoms be not attended to, or over-indulgence be practised, and the individual be advanced in life, or has pronounced constitutional tendencies, inherited or acquired, we shall not infrequently be called to consider and treat manifestations which we must call gouty, for lack of some better or more satisfactory term. It is true, also, that we must be careful not to eliminate certain foods from our dietary regimen of people thus disposed, merely because generically they are in the same category as others.

There are assimilable starches easy of digestion to stomachs which rebel at others, and yet chemistry or even the microscope does not always tell us why. I have known many instances in which rice cooked in various forms was perfectly acceptable, when symptoms of dyspepsia would follow after a small portion of potato taken in any form. I have also known patients who could not digest at all a roasted or boiled potato, but could readily digest a potato that had been stewed or properly fried in thin sections. Of course, some changes may take place in the starchy granules by the mode of cooking, or through the ingredients combined with the potato, which render it perfectly suitable food even for an invalid stomach. We know this is true of bread: when fresh or not thoroughly cooked to extreme dryness, or cooked more than once, until we have either toast of the English or zwieback of the Germans, it occasionally retains the starch granules almost intact, or a large portion of the bread is not brought to that intermediate state of dextrin which allows the saliva to take hold of it and change it so as to become a most readily assimilable food.

In the matter of wine, malt liquors, and spirituous liquors, such as brandy or whiskey, habits in different countries certainly tend to put the mind of the judicious, careful practitioner in a very doubtful state. An Englishman, followed closely by the American of to-day, permits a small amount of good Scotch whiskey to many of his gouty patients, as being the least injurious form of alcoholic stimulant. The German considers that the light beer of Munich or Vienna will do no harm in moderate quantity, and yet he might place his veto absolutely on the stronger alcoholic stimulant, although ever so much diluted. The Frenchman will permit a small quantity of Bordeaux at dinner, while looking askance at brandy, whiskey, or beer.

Habits and climatic conditions no doubt are very important in determining the injurious or innocuous effects of all of these even in moderate quantity. I have the conviction also that racial peculiarity is no small factor in determining the bad or good effects of them.

I have known a German, night after night, and for many long years, drink one or several mugs of beer or ale, and be none the worse for it in any perceptible way. To the average American, such a habit would not be long in bringing about absolute functional disorder of stomach and liver, and finally be expressed in painful joints or neuralgic pains of no uncertain significance.

The moral of much that precedes is to show, as I believe it should, that no absolute theory of gouty troubles based on mere diet will answer many requirements of the clinician, and again that functional disturbances in various forms may arise when seemingly there is nothing to occasion them.

Many gouty expressions are simply made clear to us by one symptom, and that is pain. The pain may be localized and more or less continuous. It may be present only when pressure or movement is brought to bear upon the affected spot. I have noticed this particularly in two forms of gout, in which the pain was in the region of the sole of the foot or behind the heel. It has seemed to me that, in these and other instances, gout was separated from rheumatism by the fact that the heat of bed at night, or the fixed, more or less constrained position during sleep, aggravated rheumatic pains, while gouty pains were relieved or did not appear at such time in so marked a degree. This statement is not true of certain neuralgic pains, which are spasmodic in nature, come and disappear rapidly, and are simple twinges or severe shocks which make the most courageous cry out with agony. There are exceptions also to be found in those severe cramps of the muscles of the lower limbs which only a strong effort, or pressure, or bandaging of the affected member is sufficient to arrest.

In gouty troubles of the throat, and more especially of the larynx, all astringent or powerful applications are out of place. They almost invariably aggravate the local determination, and add to the patient's distress in a very evident manner. What is needed here must be soothing and anodyne. Why this is, is not usually appreciable by the senses. There may not be the slightest evidence of local inflammation, and yet the pain is acute and sometimes almost unbearable. In these cases I have known a spasm of the glottis of an alarming character to be brought on suddenly by the intemperate use of medicinal agents which ordinarily would cause little or no distress.

In some persons the gouty disturbance is apparently ushered in with functional upset of the liver. Under these circumstances, I have known the urinary excretion to present nothing abnormal, or, at all events, not enough so to be in any way characteristic of an impending gouty seizure.

Rapid dyspnœa has occasionally followed, of a distressing type, which nothing organic would explain, and relief was obtained only when colchicin was duly administered. I have little doubt, it is true, that many gouty manifestations which appear to be functional, or which still remain somewhat obscure, are of the nature of congestive or inflammatory disorders. I have seen this notably in the prostate, the uterus, and ovary, and rarely the intestine. My views in regard to the probable rheumatic or gouty origin of not a few cases of appendicitis are already known to many. In these instances, although it may be that a prior distinctive attack of acute, normal gout can be instanced, it is

not invariably true. Mainly for this reason doubtless, a few physicians and more surgeons are sceptical as to the existence of a gouty dyscrasia as efficiently causative of the affections to which I have referred.

We all know that the old-time physician believed in a peritonitis independent of our now over-worked appendicitis. These cases in my belief existed; they still exist. They do not require operation, and when operated on they show no lesion of the appendix and certainly none which justifies an abdominal section, or which would not end in thorough recovery with time and well-managed medical treatment. Of course, I do not wish to state that these cases are not very difficult to diagnose satisfactorily and in an accurate manner. Some of them give grave anxieties for a time, in adults and children, and both physician and surgeon watch for hours, or even days, thinking at any moment an abdominal section may be clearly indicated by reason of symptoms pointing unerringly to appendical inflammation, abscess, or perforation, which should admit of no further delay. Others there are which leave us in reasonable and just doubt, perhaps, for a while, and yet presently the pendulum swings toward operation because local pain, temperature, pulse, general condition, local resistance, all point to its need. When the abdomen is opened and the appendix explored, a slight or marked redness may be evident; there may be also some localized peritonitis, or the intestine itself in a limited area may be inflamed and shagreened on its outer surface. Some say remove the appendix, and proceed to do it, because they believe this organ is the *fons et origo* of the trouble; others are sceptical, and, after searching vainly in the abdomen for the evident cause of the trouble, sew up the abdominal walls and remain in doubt as to what the matter is.

To my mind the surgeon under like circumstances who abstains from doing more than this acts as wisely as may be. Nevertheless, the exploratory incision followed by searching for the obvious cause of the symptoms is a danger to the patient, although a less one than further operative interference, especially when what to do is not clearly indicated. It seems to me just as evident that the localized peritonitis was primary and causative, as it is to admit that the appendix began the sequence of morbid events.

The important question is, how an apparently unnecessary operation could be avoided, and this question is one which has now agitated the medical and surgical mind for many years. I wish fervently I could present it in an absolutely irrefutable manner. This I cannot do any more than I can point out invariably when gout or rheumatism has attacked another organ, as the tonsil, the ovary, or the uterus. What I can say still in all doubtful cases is: institute besides other rational treatment, local and general, a judicious anti-gout or anti-rheumatic guidance or treatment before operatory procedure is undertaken. I admit frankly that in some, not to say many, acute cases this appears almost impossible, or at all events it is obviously too hazardous. When an abscess has formed, when a sudden, fulminating case of appendicitis occurs accompanied with perforation, and if delay is permitted followed by grave peritonitis, more or less general, not to operate, and operate almost immediately, or indeed very soon, means death most probably, according to our present knowledge.

The other cases are the knotty or difficult ones, and here, as in many other instances of medical differential diagnosis, we are forced to make one by way of exclusion, and this oftentimes is as sure as the one made on a combination of signs and symptoms which may seem at first thought to be far more accurate.

As to cases of recurring appendicitis, especially in adults, those very numerous and increasing ones which are now operated upon in the interval, these I firmly believe, and I am more thoroughly convinced than ever of the wisdom of my position, should never be operated upon until a proper and preliminary anti-gout or anti-rheumatic treatment has been followed up, and for a sufficient length of time thoroughly to justify the operatory intervention if subsequently it must be resorted to.[1] Analogy with and experience about other organs convince me additionally of the proper conservatism of such a position. For example: I do not believe because a tonsil occasionally becomes inflamed and enlarged under rheumatic or gouty influences, it should therefore be removed, and I hold this belief for several reasons: first, there is a slight risk in the removal of a tonsil, particularly the adult one, on account of hemorrhage; second, even though removed, the inflammatory condition may and does recur at times in the stump; third, until the tonsil is practically proven to be an injurious or unnecessary organ as to its presence or physiological function, it should remain where it is; fourth, frequently it is but an index in its inflamed and enlarged state of the general condition of the organism; and if we are wise advisers we shall first endeavor rationally to change the condition of fluids and solids in the economy which occasions the local disease, rather than simply to remove the latter, and thereby conclude we have been of real service to the patient. What is true of the tonsil is true of the ovary, with added force in the latter case, because here the operatory procedure is more dangerous, and besides we are of the opinion that if one or both of these organs be removed, we have interfered with or annulled the power of child-bearing, and likewise effected future changes of qualities and disposition of the woman which occasion irremediable sorrow to the patient, and to one or more of those she loves best.

It is quite unworthy, in my judgment, in an argument of this kind for the surgeon to quote the relative innocuousness of an operation done to-day, according to the best technique, as justifying his action, no matter how little danger there is to the patient, unless it be proven that it is essential for the patient's best good.

We are apt, I believe, also to regard an operation too much from the point of view of mere danger and not enough from the standpoint of what shall be the ultimate result. How many times have I seen patients operated on, even by surgeons of widest experience and most careful, conscientious judgment, who have few or no thoughts subsequently except to wish that they had never had recourse to the knife. Sometimes the patients' bodily disability or suffering has been greater than if they had really borne the trouble they already had and had become accustomed to. Again, what is occasionally clearly defined is that, the local trouble being but the evidence of a general state, we cannot be sure, if we operate on one important organ or system, we shall not ere long have similar cogent reasons to operate on another.

A former patient of mine suffered torture for many years owing to trigeminal neuralgia, for which she submitted to much operative interference at the hands of dentist and general surgeon; subsequently, and although her neuralgic pains were by no means cured, she was forced to have a cholecystotomy performed to be rid of painful and threatening gall stones. Behind and beyond all this was unquestionably the obstinate old gouty condition that nothing, even the most rational medical, dietetic and climatic treatment, could neutralize.

This is admittedly an extreme and disheartening

[1] In children I would not insist upon an anti-gout treatment, other than proper diet and healthful surroundings, except in cases in which heredity was pronounced.

case. There are others and many of them, if not wholly similar, at least very analogous. For the sake of truth we must get beyond the individual case or the affected organ. We must recognize general laws that govern, and, for conscience as well as for the true advancement of our science and art, we should not throw aside or ignore the knowledge which has required centuries on the part of observant, accurate, skilful, laborious men to bring to light. Merely because our methods of research are fuller and more satisfactory to-day in many directions than ever before, is no reason why other and equally valuable knowledge, which is obtained by other means and from other sources, should not be duly estimated.

I have in mind, as I write, a patient who has been under my care for many years; she has had many functional disturbances; she has also suffered from many local determinations of constitutional gouty condition. A long while ago she suffered very much with an affection of the ears which the aurists claim to be a dry, proliferative catarrh often leading to chronic deafness, tinnitus, and other symptoms, and due mainly to impairment of movement of the ossicles and sinking in and thickening of the membrane. Local treatment by sprays, douches, pigments, politzerizing, introduction of Eustachian catheter, was continuously tried, but never resulted in more than temporary good; finally, the outlook appeared to be very considerable or absolute deafness, unless an operation might prove remediable. Knowing how unsatisfactory such operations are apt to be, I demurred. In the belief that anti-gout or anti-rheumatic treatment was indicated from the point of view of her general manifestations, it was adopted and persisted in, and finally after the lapse of several years her hearing is now about as good as ever, although the patient is no longer young, and all local treatment of the ear has been abandoned.

The cases of psoriasis, not to speak of other forms of cutaneous disorders, which occasionally fall into the hands of the general practitioner can be satisfactorily treated in many instances only when the underlying gouty or rheumatic dyscrasia is attended to. Sometimes this constitutional condition may affect particularly the intestinal tract, and then in addition to suitable dietary certain medicines must also be given to neutralize fermentative changes and to restore normal intestinal functions. Sometimes the constitutional tendency is toward the nervous system. This is below par, in an easily excited state. Hereditary influence is clearly present, and bad habits, such as a life in a poorly governed city often produces, tend to make it still worse in a rapid manner.

I know of several methods to correct this, but the surest and quickest is to get pure country air, if possible, live out of doors, go to bed early, have plenty of rest, and only diversions which prey least on the emotions. Without attention to these major indications, it seems relatively useless to pay regular visits to the dermatologist and cover one's self in part with lotions or salves. The so-called gouty dyscrasia is prone to affect the circulation, as is familiarly recognized.

How often do we see cardiac or vascular changes clearly of this provenience! In their minor forms, and particularly when the organic changes are only beginning, they are frequently difficult to recognize in a positive manner.

It is true that a slightly increased tension of the radial arteries, which is more or less continuous and accompanied with perhaps perceptible thickening of the vessels themselves, is indicative of blood changes already present. It is also true that an unusual quantity of light-colored urine of low specific gravity, with an occasional trace of albumin and a few granular casts will accentuate premonitions and confirm diagnosis. Still more certain are we when cardiac enlargement with slight hypertrophy is present and can be accurately made out by careful physical methods of research; but in those instances in which none of these is obvious, what shall we say many times? The heart action is often irregular, without apparently adequate cause; its beats may be feeble or too forcible, tumultuous; they may vary from time to time, rapidly or suddenly, and with these functional phenomena most unpleasant feelings may be present. Sometimes these annoying sensations are in the cardiac region and direct our attention there almost immediately. Again, the disturbance or pain may be far removed, and dizziness or persistent or recurring headache may be the sole warning note which may act as our guide and teacher. In these latter cases it is the physician who discovers the cardiac disturbance occasionally, and without the patient so much as directing his attention to it. Even then, if the pulse be interrogated, it will not invariably respond to our research by revealing to us any additional facts of value. It seems to be of good volume, force, and properly depressible. There are also patients who suffer cardiac distress, and who speak of localized pain, fluttering, gone sensations, intermission of heart beats, and when we put the ear to the chest we fail to recognize any symptoms of an abnormal character; in other words, the distress is purely subjective.

Every practitioner of even limited experience has seen at least some examples of the foregoing types. He may or may not attribute them to the true cause; he may regard the symptoms as purely fanciful or gross exaggerations, simply the outcome of a fatigued brain or hysterical disturbance; he may think that too much work, mental or bodily, malnutrition, or an excess of food, lies at the source of it all, and try by neutralizing errors or mistakes thus to effect curative results. Be that as it may, and while recognizing many instances in which success will reward effort in one direction or another, there are still some cases which remain very obscure, and in which failure to accomplish much that is real and beneficial is a sad commentary on the medicine of our day and generation.

Mere science in its narrow acceptation will not always accomplish it. We may weigh, and analyze, and delve with every scientific instrument and method at our command and in our service, and still we are forced back to the old-time method of theorizing and explaining as best we can.

It is the senior practitioner, the hospital clinician, the man whose opportunity extends also outside hospital wards, and who, wherever and whenever his methods are used to the utmost, also utilizes the very best men and talent that modern advances and enthusiastic, well-drilled younger spirits afford, who reaches nearest the truth.

In this thought there is much of consolation for the man who has grown somewhat old and tired in harness. He is no longer forced to submit and believe that every new aspirant for fame and honors has eliminated his worthy labors and efforts of a lifetime. His work and his doing are still good and will bear justly all comparisons with newer and other methods, more advanced at one point or another, but always to be subjected to, and under the control and supervision of, the more experienced, older, wiser head.

In Hip-Joint Disease the pain first complained of may be on the inner side of the thigh, or above the patella, or in the popliteal space, or about the knee, wherever the terminal branches of the obturator nerve are distributed.—*International Journal of Surgery.*

THE RELIEF OF PROSTATIC ENLARGEMENT.[1]

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In the past few years so much improvement has been made in our treatment of prostatic enlargement and its results, that it seemed to me a short résumé of the subject, from a surgical standpoint, might be of interest to the members of the Practitioners' Club. A more intimate knowledge of the anatomy, physiology, and pathology of the prostate gland, and the changes following its enlargement, the wider use of the local anæsthetics, and the application of the cystoscope for diagnostic purposes, have, among other causes, helped us to a more exact appreciation of the value of the various curative procedures for the relief of this condition. No surgeon at the present time would open the bladder without first attempting to confirm his diagnosis by the use of the cystoscope.

To the minds of most of us, the middle lobe is the offender in about all of the cases of retention and cystitis following hypertrophied prostate. As a matter of fact, it has been shown that in the majority of cases it is not the middle lobe, or not the middle lobe alone, which causes this obstruction and its sequelæ. Of these causes of obstruction and changes in the tissue of the prostate, bladder, etc., I will speak later.

The interference with the function of the bladder by this obstruction produces cystitis, trabecular and sacculated walls—possibly calculi, renal disease, dilated ureters, infection of the whole urinary tract, and thus general sepsis. This may not occur in every case. The bladder muscle may be able to overcome the obstacle and empty the bladder completely or nearly so. For a time this compensation will continue, and in mild cases it may keep on to the end of life. If, however, the obstruction is too great, or the bladder muscle too weak to allow of emptying the bladder, a cystitis, with all its concomitants and results, soon follows and compels the patient to seek relief. For this purpose there are, in general, two ways for our consideration: Removal of the residual urine in an artificial manner, or removal of the obstruction, so that the bladder may again be able to expel its contents.

At the outset it is well to have it understood, by the patient as well as by the physician, that certain changes have taken place, secondary to the hypertrophied prostate, to such an extent in the walls of the bladder and urethra that it may be impossible to restore these to their normal function, even after the complete removal of the exciting cause.

For instance, a sacculated bladder, with its walls full of trabeculæ, such as I show you here, you would hardly expect to resume its duties, no matter how thoroughly the prostate had been removed.

First, as to the different ways for the artificial removal of urine: Systematic catheterization, or "catheter life," is the introduction of a catheter, withdrawal of urine, and the irrigation of the bladder by a proper solution for antiseptic and cleansing purposes, at regular intervals during each twenty-four hours.

Aspiration with a trocar and cannula above the pubes is a temporary means of relieving a distended bladder. This cannot be kept up long, although in one case, in which it was impossible to introduce a catheter, I aspirated three times daily, for over three weeks, without infection and with little pain or difficulty, and with the ultimate recovery of the patient.

When for some reason an operation on the prostate is contraindicated or catheterization is impossible, permanent drainage of urine through a fistula can be made.

Catheterization, if available, is always our choice for treatment of enlarged prostate and retention. It is practicable if, in a fairly normal bladder with a moderate amount of residual urine, it is possible to pass a catheter of fair calibre, at regular intervals, in a careful manner, with perfect asepsis, without pain or hemorrhage or infective reaction. Catheterization may answer well for years, the residual urine diminishing—or, at least, not increasing—until slowly or suddenly the symptoms become unbearably worse, or infection, as shown by a suppurative orchitis or cystitis, takes place; then some other means of relief must be found.

Vesical drainage for cystitis and enlarged prostate is a course we may have to resort to when there is inability to use the catheter, and when the local or general condition does not warrant a prolonged operation like a prostatectomy, or when the patient does not wish to assume the risk. This drainage can be made, by means of local anæsthesia, through the perineal route, or suprapubically, quickly and painlessly. By the use of a silver, rubber, glass, or other non-absorbable tube, a permanent artificial channel, leading to the bladder, may be kept open. Witzel makes a permanent fistula above the pubes by stitching the bladder wall over a tube for three-quarters of an inch and entering the viscus obliquely, like the operation for a gastric fistula. This, he claims, will not leak at any time and will be permanent. Through the perineal urethra a prostatomy may be made and a permanent fistula instituted by means of a catheter or glass tube sewed in or otherwise retained.

None of these methods are suitable for all cases. Catheterization may fail because of repeated attacks of infection. The patient may not have intelligence enough to use a catheter properly. He may not be able to afford the necessary accessories, or he may be too careless or indifferent. Certain patients, using every precaution that can be taught them, are constantly infecting themselves; just as others seem to have an almost immune genito-urinary tract and, in spite of want of cleanliness, never meet with an accident in the way of infection.

Sudden and complete retention of urine following enlarged prostate may call for immediate operative drainage, which may or may not have to be made permanent. Continuous drainage by means of a fistula is at best unsatisfactory and distressing. It is almost impossible to prevent leakage, in spite of the many devices that have been tried and are in use at present. The wearing of a rubber urinal is troublesome, humiliating, and depressing; and the constant and ready communication with air renders infection continually liable.

Various radical operations have been proposed and carried out. The oldest and most common is perineal prostatomy, which does considerable good temporarily, probably because of the drainage; but within a few months after the opening is closed and drainage, therefore, ceases, the symptoms frequently return. The other operations can be divided into two classes:

I. Those which aim to remove the obstruction by cutting off the blood and nerve supply, and thus produce atrophy of the gland.

II. Those which affect directly the obstruction itself.

First. The direct cutting off of the blood supply may be done by ligating the vessels supplying the gland.

The prostate is supplied by branches of the internal pudic, the median hemorrhoidal, and the inferior vesical. Anomalies are frequent, and the anastomosis is very free, so that, practically, as the vessels are numerous and deep-seated, it is best to tie off the main

[1] Read before the Practitioners' Club of Newark, N. J., October 1, 1900.

trunk. All these vessels arise from the internal iliac. This has been done by a Dr. Bier, of Kiel, who tied both internal iliacs. Dr. Willy Meyer, of New York, has also tied these arteries, with a result which he calls "encouraging in the extreme." The operation is not done often, in this country at least, and the difficulties and dangers surrounding it are too grave and the result obtained is too uncertain for us to advise the risk.

The blood supply to the prostate may be reduced indirectly by a double castration, theoretically.

The explanation is, "that we permanently remove the frequent intermittent active hyperæmia of the genital system, which is produced by the presence and secretion of the testicles by nervous reflex." I quote from Dr. J. William White. Owing to his enthusiastic advocacy, the operation was being performed quite frequently a few years ago. An analysis of the cases reported shows that in nearly every instance after a time all the symptoms returned. The mortality is much higher than one would expect to find it. It has been given as from seven per cent. to thirty per cent. by various reporters. The higher percentage must be due not to the operation, but to some fault in the surgical technique. Melancholia and mania are reported as not infrequent sequelæ of single and double orchidectomy. It seems to me that the theory on which the operation is based is as fallacious as the evidences of cure are incorrect.

Angioneurectomy of the cord, like so many other surgical procedures for this trouble, produces just as much atrophy of the prostate as rest in bed, irrigation, and other local treatment would produce, and no more. That these methods do bring about a distinct reduction in the congestion and œdema in and around the tissues of the prostate, there is no doubt; but that this is a functional and temporary relief for the most part, there is also no doubt. The observer who is looking for it will find a quite diminished tumor in this region, easily to be denominated atrophy, if he wishes to call it so, but probably due to the reduction of the engorged vesicular tissues.

Ligation, division, subcutaneous incision and evulsion of one or both vasa deferentia have all been proposed and tried by various operators, with practically the same results as above mentioned, as to the cure of the prostatic enlargement. The mortality in these operations on the vas is low, but the functional effect on the glandular enlargement is not of sufficient value to justify the risk of these operations. Mikulicz reported a number of cases of evulsion of the vas, in every one of which, at the end of a year, on the average, it was found that the old trouble had returned.

Second. The procedures which attack the gland directly. Injections of various irritating substances into the parenchyma have been tried without success and may indeed be dangerous. Electrolysis has been proposed, but never successfully tried.

Destruction or removal of the obstacle at the internal orifice, by means of an instrument carried into the bladder through the natural channel, the urethra, seems at first thought to be an ideal way. The instrument of Bottini fulfils the indications above mentioned. The operation is in effect a multiple galvano-caustic division of the middle lobe of the prostate. The instrument has been modified in several details since the Italian surgeon first presented it in October, 1875. As then made, it looked not unlike a medium-sized rubber catheter with a short beak. On this a porcelain disc carried a platinum plate, which was heated by an electric current. By means of this an eschar was made on the prostatic projection in the bladder at varying points. These eschars came away, leaving a cicatrix, which, contracting, produced an atrophy of this part of the prostate.

Bottini reported five successful cases in two years with this instrument. Later he modified it, so that at present it resembles a lithotrite, in having a male and female blade. In the former is a platinum knife, which leaves and returns to the groove of the female blade by the turning of a screw, and is connected to an electric current. A scale at the outer extremity shows the depth of groove cut. A cooling apparatus surrounds the instrument, so that it is kept free from heat while the knife is raised to a white heat. Freudenberg modified the instrument by making the blade of iridium alloy, rendering it firmer and less difficult to heat, and also in various other ways changed it greatly to its advantage.

Dr. Willy Meyer, to whose writings on this procedure I am indebted, has carried out almost to perfection the methods and manner of using this instrument. He prefers the street current with a rheostat, but a fifty-ampere storage battery can be taken to the patient's house, if necessary. Dr. Meyer's personal cases, twenty-four in number, show eight per cent. mortality directly due to the operation, and eight per cent. mortality indirectly due to the operation, with thirty-eight per cent. of cures.

The Bottini operation is not so simple or so easy as at first sight one would expect. It is an operation of detail, and one which requires care and skill and an intimate and clear knowledge of the exact condition of affairs in the bladder neck. It is an operation by no means devoid of danger. Death, following suppression of urine immediately succeeding this procedure, has occurred several times, to my personal knowledge. Freudenberg reports a case in which he cut through a fold at the base of the bladder; sepsis and death resulted. Perforation of the urethra and sepsis are reported. Pulmonary emboli have been found at autopsy. Hemorrhage is a constant danger, and the greater in that it comes on at the time the sloughs are thrown off—about ten days after the incision. It may take place earlier. Cystotomy and tamponing have been necessary in a number of cases, in order to save the patient's life. Absolute retention is not an infrequent immediate result of the operation. In one of Meyer's cases he was obliged for this cause to tap the bladder over the pubes for three days. Pain and severe tenesmus, almost unbearable, are not infrequent complications. Dribbling is an occasional sequel which may be permanent. But the most serious of all the objections to Bottini's method is the risk of sepsis. In every case of enlarged prostate which comes to us for treatment there is already a cystitis, or all the elements preparatory to its development. There are present a number of pathological changes in the mucous and other coats of the bladder, as well as the tissues of the prostate gland and its adnexa. A trauma, such as is done by the Bottini instrument, is all that is needed to light up an inflammation in these tissues. The destruction of a considerable amount of tissue in a closed sac, and the leaving it there without drainage, seems to me to be a surgical negligence without any excuse. To say that it is done with every antiseptic precaution is saying what is impossible. The cicatrization produced by a Bottini is said to prevent or complicate seriously any further radical operation upon the gland. Moreover, this procedure does not take into account the real causes of the obstruction and its sequences, or at least affects only a small proportion of them. If the retention, cystitis, and their results were caused by a bar or a collar or other obstruction at the lower portion of the vesical opening only, the Bottini would, apparently, be the indicated operation, always provided free drainage afterward could be instituted to prevent septic infection. A catheter tied into the urethra, to my mind, is a brutal and painful relic of the dark ages of genito-urinary surgery.

Bottini's operation does not adequately appreciate the causes of the obstruction. It does not treat the condition complicating the hypertrophy. It does not allow for drainage of a dirty wound. In a word it is unscientific and unsurgical.

Prostatectomy is the removal of all or most of the prostate gland. In order to consider its merits properly, it is necessary to understand clearly the pathological anatomy and physiology of the condition we have to deal with. Obstruction to the complete emptying of the bladder and the results of this obstruction —cystitis, repeated attacks of retention, trabeculæ, and sacculated bladder, calculi, inflammation of the ureters, pyelonephritis, and sequelæ—are due, as a rule, to more than one factor. Our knowledge of the anatomy and relations of the pathological prostate has been greatly advanced by the recent investigations of the subject by Dr. Samuel Alexander, of New York. The careful and elaborate researches and dissections made by him at different stages of the condition known as hypertrophy of the prostate, show a considerably more complicated cause of these results than the one usually given of enlargement of the middle lobe.

The prostate gland consists of two lateral lobes joined by a middle isthmus. Backward and upward from this projects the middle lobe into the floor of the bladder when enlarged, the apex being at the opposite end toward the membranous urethra. Dissections of a number of pathological prostates show three general varieties of enlarged prostate and resultant obstruction.

First. Enlargement of the middle isthmus, forming a bar at the internal meatus, with enlargement of the middle lobes.

The second form consists of a growth of the middle isthmus, with enlargement of the glands which lie beneath the mucous membrane at the vesical orifice.

A third form is made up of the growth and development of the prostatic glands above the verumontanum and an intra-urethral growth. Of course, the variations from these types are great and frequent. The middle-lobe variety may at times be pedunculated, it may be crescentic in form, or nipple-formed in shape and size both, or in shape of a collar surrounding the vesical orifice. The distortion of the prostate also brings about a want of proper relation in the insertion of the vesical and urethral muscles arising in that neighborhood. As a result, the vesical outlet closes irregularly and before the bladder is emptied.

Another cause of retention is venous stasis, the resulting œdema therefrom further increasing the obstruction. The constant straining of the muscular walls of the bladder to overcome its disability produces finally overstretching of the vesical muscles, changes in the walls from prolonged inflammation, and connective-tissue atrophy, from which the resulting trabeculæ and sacculæ increase the difficulty of a cure.

The hypertrophy may consist, structurally, of glandular tissue mostly, or with the fibrous tissue most prominent, this being usually simply a later stage in the enlargement. Often an acute congestion of the gland and its surrounding structures may account for complete obstruction and retention.

In considering the best radical treatment, all these conditions and distortions of the gland, of the muscles, of the bladder, of the deep urethra, and the mucous membrane, together with the causes and the anatomical relations of the pathological state called hypertrophied prostate, as well as the patient's constitutional condition, have to be taken into account. Not at all a simple problem, and, in a certain number of cases, if complete cure is expected, a distinctly unsolvable one.

No operation or ameliorating procedure will do more than give a certain amount of relief to a patient with an old pus bag of a bladder, with complete atony of the muscular coat, and with deep sacculations in which decomposing urine and phosphatic deposits are continually occurring. Furthermore, the danger to life in some of these old men from even a simple emptying and washing out of such a bladder is known to us all, by that most convincing of teachers—experience.

Theoretically, the indications for treatment are two: removal of the cause, and removal of the results. Destruction or removal of the offending obstruction does not remove the diseased bladder or restore the dislocated muscular insertions, or renew the disorganized and degenerated bladder wall; but complete removal of the obstruction if possible, and then drainage and constant irrigation of the bladder and the pockets and sinuses connected with it, will help a great deal toward bettering the conditions which it has taken years to produce. Prostatectomy and drainage with frequent irrigation is the nearest approach to a fulfilment of these indications. Drainage alone can be accomplished by means of a prostatotomy, but this does not remove or make any attempt to remove the cause of the trouble.

There are three ways by which prostatectomy may be performed: by the suprapubic route, by operation below the pubes, and by a combination of both these methods. The suprapubic route is open to serious objections. First, and of perhaps most importance, drainage is up hill and against the force of gravity. Shock is much greater than in the perineal operation. The floor of the bladder is extensively lacerated. The prevesical areolar tissue is easily infected, and sepsis is not an infrequent result of opening a purulent bladder above the pubes.

There is no advantage in the combined operation that is not present in the infrapubic one, while the time of operation in the former is nearly doubled. Shock is consequently much more severe and hemorrhage is more likely, with the chances of infection increased by the added manipulation required by a double operation.

Posterior prostatectomy, by a sacral route, is a long and tedious operation, with no special advantage.

Perineal prostatectomy has many attractions. By it the prostate is easily reached. Hemorrhage is light or is easily controlled. Drainage is in the shortest and most direct route by force of gravity. The opening into the bladder is at its most dependent portion, and the best possible irrigation is obtained for both bladder and urethra. Sepsis following this formidable operation is, therefore, less apt to occur. The urethra need not be injured nor the floor of the bladder, except at the point where drainage is to be made. With the perineal prostatectomy and drainage, restoration of function, with minimum danger to life, can be expected in suitable cases and when the operation is done by experienced surgical hands with exact knowledge of the anatomy of the region and the structures involved.

The perineal operation is quite simple. The patient has been prepared by several days or more of rest in bed, irrigations of the bladder, and gr. viiss. of urotropin night and morning. Cystoscopy is used at least once, to give the operator a good idea of the inner surface of the bladder and the amount and shape of the hypertrophy of the middle lobe. The patient is given calomel the night before, with a saline purge in the morning preceding the operation, and the rectum cleared out with thorough irrigation. The bladder is also irrigated with Thiersch's solution just previous to beginning, and four to six ounces of this solution left in. A full-sized sound is passed to the bladder and held in by an assistant.

I prefer the lateral to the median incision, as it gives more room. It is made slightly crescentic with the convexity upward, its centre being a little less than half-way from the anus to the perineo-scrotal junction. The patient is in the lithotomy position. The incision is two and one-half to three inches or more in length. The left forefinger in the rectum locates the prostate and also warns the operator when he is approaching too closely to the rectum. The incision is carried by careful dissection down through the tissues to the membranous urethra, where the sound locates that canal and the apex of the prostate. Stripping the tissues from the apex backward can be very easily and rapidly done, either by means of a blunt dissector or with the right forefinger nail. The left forefinger in the rectum assists in forcing down the prostate and acts as a guide. Without care considerable laceration of the rectum can very easily happen.

At this stage of the operation a volsellum hooked into the apex draws the prostate very satisfactorily into sight. The capsule, stripped pretty clean inferiorly and anteriorly, can then be incised on either side of the urethra and each lateral lobe pulled out as a whole, bringing the middle lobe with them. If the enlargement is a fibrous one, this is surprisingly easy after one has done it a few times; if, however, the hypertrophy is mixed or the glandular element predominates, the enucleation is much more difficult. The mucous membrane of the urethra and bladder is quite likely to be lacerated, unless extreme care is taken.

In some cases these manipulations can be greatly aided by incising the urethra in the posterior membranous portion, withdrawing the sound, carrying the right forefinger through this opening into the bladder, and pressing downward the middle lobe, thus assisting its enucleation. An Edebohls speculum in the wound allows of better access to the inferior and posterior surface of the capsule. Great care is needed to separate the prostate from the floor of the bladder without injuring the latter. The secret of success is to keep within the capsule. It is better to leave behind small portions of the prostate tissue than to risk lacerating the bladder wall by a too close dissection. If the middle lobe is a pedunculated or teat-like process this accident is almost impossible to avoid. Even if it occurs it is not necessarily dangerous. It is better to connect this opening, if made, with the urethral wound.

Hemorrhage usually ceases when the prostate is removed; if not, hot irrigation and a few moments' pressure with hot gauze or sponges will control it. A large, firm drainage tube is fastened in the wound, so that it opens just within the bladder, and the lower end of it attached to a continuous drainage apparatus. A strip of acetanilid gauze is placed loosely in the wound to drain the cut surfaces.

At the end of the third or fourth day, and every fourth day thereafter, a full-sized sound is passed down the urethra to the tube, and after its removal to the bladder. This tube is used for irrigations twice daily. As the irrigation of the bladder is a most important detail if we wish to cure the chronic cystitis, the tube is left longer than would be necessary for simple removal of the prostate gland, the time varying according to the condition of the bladder wall. After it is taken away the viscus is washed out by a catheter passed through the wound.

The average time before the wound is closed is six to ten weeks, but long before that the patients are able voluntarily to expel their urine, the bladder retaining it in the interval without loss. In two cases in which I operated, in April last, in the above-described manner, both were up and out of doors, with the wound closed, one in June, the other early in July. One of these patients was fifty-nine, the other sixty-four years of age. Both had atony of the bladder, both had several ounces of residual urine. The amount in one case was fifteen ounces. In neither case is there at present any residual urine. The urethra is one-half to one inch shorter in each case. There is no dribbling. The intervals are six hours at night and four to five hours during the daytime.

The results of a perineal prostatectomy become more favorable as improvements take place in the surgical technique, in the methods, and in the time employed in the operation. Statistics prove little, nothing, or everything, as a rule, to suit the theory of the writer of any special subject. Some time ago Dr. Watson, of Boston, reported a series of nine cases with no fatal result. Then his next patient died, giving a mortality of ten per cent. At a certain hospital in New York I found a mortality of sixty-six and two-thirds per cent., but a close examination of the hospital records showed that three patients had been operated on, of which two died. Of two books published about the same date, one gives a percentage of mortality of twenty-five to twenty-eight per cent., the other of twelve to fifteen per cent.; so much for the fallacy of statistics.

Of the dangers of the operation, hemorrhage is one of the least and can be almost always avoided by reducing, as completely as possible, the congestion and œdema before operating. Injury to or rupture in the rectum is likely to occur only if the operation is done too hurriedly, or if there be adhesions present, or in very large prostates. The rent should be at once repaired from the perineal side, the sutures being kept from appearing in the rectum.

Sepsis is, of course, an always present danger, but never more so than in any other operation under similar conditions. When free drainage can be obtained, this can be minimized by attention to surgical technique and to the preliminary preparations. The danger of the anæsthetic is ever present. The safest is nitrous oxide gas and ether. Hypostatic pneumonia is a source of danger. Uræmia has been responsible for the greatest number of deaths following the operation, but it is not peculiar to this special procedure.

Dribbling and incontinence, due to rupture and laceration of the sphincter vesicæ at the time of operation, may occur; but, with care in the digital dissection, it may be prevented.

Shock depends upon the loss of blood and the length of time of the operation, and it is to be treated by avoidance of these two causes as much as possible, and by intravenous saline injections toward the end of the operation and after it, or earlier if necessary.

To recapitulate, dissections of the pathological prostate show that hypertrophy is almost never confined to the middle lobe alone, but that the whole of the prostate is involved. This involvement is glandular and fibroid in character. The older the case, the greater the predominance of the fibroid element. At times there is a venous congestion and a stasis also of the capillaries, which adds a vascular element to the size of the prostate and its adjacent tissues. Any operation which does not attack the hypertrophy of the lateral lobes is not radical and cannot effect a permanent cure. The removal or destruction of the middle lobe, in the great majority of cases, only partially if at all removes the cause of the obstruction, although the multiple cauterizations may so relieve the capillary stasis and œdema of this portion as to give a very decided temporary relief; and if most of the obstruction in any special case is due to this condition the relief may be marked and last for quite some time, provided the bladder and kidneys have little or no secondary disease, and provided sepsis does not follow.

From the above we may assume that perineal pros-

tatectomy with drainage is an operation—in competent hands—which is no more dangerous to life than an interval operation for appendicitis, provided the cases are properly selected ones, in which degeneration of the general and special tissues of the body has not gone on to a hopeless extent, in which the bladder and kidneys are not too seriously damaged, and in which septic infection, if present, is not too profound. But, even under part or all of these adverse conditions, complete removal of the prostate with free drainage is the rational and scientific method of radical treatment, and offers the best hope of relief, and the most favorable chance for a permanent cure, with the least danger to life.

15 West Fifty-eighth Street.

THE CONSTANT QUANTITY IN THE VARIOUS CLIMATIC TREATMENTS OF TUBERCULOSIS.

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It should not be necessary to defend the climatic treatment of tuberculosis. Unfortunately from high quarters in Germany the declaration has of late gone forth that climatic treatment is of no value, and with some of us anything emanating from Germany is considered *ex cathedra*. Let it be remembered that a few years ago practically the only sufferers from phthisis that received any benefit were those who resorted to a suitable climate. Many of these entirely regained their health. If better methods of treatment have improved our results under ordinary conditions, it is only rational to hold that these better methods will be still more efficacious in a climate which is highly beneficial of itself. This is a most important question. If climate is of benefit the physician is making a serious error in not giving his patient the advantage of it.

The writer is of the opinion that the principal point possessed in common by climatic conditions beneficial to phthisis is the discouragement of germ-life and thereby the prevention of reinfection. The following conditions found in various climates may be enumerated as discouraging to germ-life:

(*a*) High percentage and volume of sunlight.

(*b*) Temperature of sun sufficiently high to promote sterilization.

(*c*) Dryness of atmosphere.

(*d*) Porousness of soil.

(*e*) Constant freezing temperature.

(*f*) Infrequency of habitation.

(*g*) Unfavorable conditions for the formation of dust.

The first three conditions are actually germicidal and positive in their action. The last four simply offer a poor soil for germ-life and therefore are not so valuable. Taking the discouragement of germ-life as our thesis, we will find that climates possessing apparently opposing qualities have this common point though produced by different conditions. For example, the high altitudes of Colorado with a rarefied dry amosphere, small rainfall, and high percentage of sunlight present exactly opposite conditions to those obtained on the open sea. And yet a long sea voyage is as beneficial to many cases of tuberculosis as is a high altitude. The explanation is easily found in that the volume of sunlight and dryness of atmosphere in the high altitude discourage germ-life, whereas the entire absence of dust to carry germs and the absence of population to produce them free the patient from the danger of outside infection on the open sea. Without a detailed analysis it will be found that every climate beneficial to tuberculosis discourages germ-life through some of its qualities. The high percentage and volume of sunlight and the dryness of the atmosphere are undoubtedly the qualities of greatest importance. The greater extent to which these are possessed by a climate the greater is its curative value. Ozone was formerly dwelt upon as the element which gave climate its value. There is no question that ozone is germicidal, but there is no accurate method of measuring the percentage of ozone in the atmosphere and therefore the benefit that a greater or less percentage produces. Whatever its exact value its action is common with that of the before-mentioned conditions, namely, the discouragement of germ-life.

A high altitude has been held to be of benefit. There is a question if this belief is not founded on a false theory, and it is possible that patients improve in a high altitude because of the sunlight and dry atmosphere and in spite of the altitude rather than because of it. In many patients the heart action is greatly overtaxed by a high altitude. It certainly increases the tendency to hemorrhage, and a patient who recovers in a high altitude usually finds it necessary to remain there the rest of his life. However, whether a high altitude possesses positively detrimental qualities or whether the criticisms of it are merely academic, there is no doubt that innumerable cases have been greatly benefited under the conditions there prevailing.

The writer having had considerable experience in the treatment of tuberculosis in the climate of the low altitudes of Arizona, feels warranted in stating his observations of its value more to uphold climatic treatment in general than to advocate this climate in particular. In configuration Arizona slopes from an altitude of seven thousand feet in the northeast to practically sea level in the southwest. The territory is protected on all sides by mountain ranges ten thousand feet high, and is not subject to the continental waves of temperature change. The low altitudes are exemplified in the extensive valleys of the Gila and Salt rivers. This combination of low altitude and excessive aridity is not found elsewhere on this continent. Here the altitude is under fifteen hundred feet. The low altitude not only serves to make the temperature mild, but the configuration of the country and the peculiar influence of the Gulf of California make it one of the mildest climates in winter, as well as one of the hottest in summer. In the months of June, July August, and September the heat is intense, though comparatively easy to bear on account of the very low humidity. Many sufferers from phthisis make great improvement in these months; there are others who do not stand it well, and these can best spend the summer months farther north or in higher altitudes where it is cooler. From October 1st to June 1st no more favorable conditions for phthisical patients can be found. In December and January the nights are a little cool, but in the daytime the temperature in the shade at midday is seldom under 60°, and in the sun it is 40° to 60° higher. There is practically not a day in the winter that a patient cannot sit in the open air for six hours or more with perfect comfort and pleasure. Patients who have gained during the winter months make especially rapid improvement during the spring months. The percentage of sunshine is not only very high, but, what is especially beneficial, its volume is very great. This is not only evident to the eye, but is well shown in photographic work, where the length of exposure to light required is less than half of that under ordinary conditions. The sun furthermore throughout the greater part of the year exerts a sterilizing effect by its heat. In the winter months the heat of the sun is over 120° almost daily, and in the summer a thermometer placed in dust in the sunlight will register from 170° to 200°.

There is less wind than in any other part of the United States. This is a most desirable condition to a patient who has very little subcutanous fat.

The most distinctive feature of this country, and the one in which it exceeds all others, is its aridity. It is a desert not because the soil is unfertile, but because very little rain falls, and that which does is almost immediately evaporated by the strong sunlight. There is so little moisture in the air that dew is unknown. The annual mean relative humidity of Phœnix is 36 per cent., the lowest recorded in the United States. That of New York is 75 per cent. Relative humidity as low as 3 per cent. has been observed, and an afternoon record of 5 or 6 per cent. is common. The lowest relative humidity recorded in New York in 1899 was 40 per cent. It will thus be seen that the dryest single observation in New York is not so dry as the annual average in Arizona. It is proper to note just here that where there is great dryness of the atmosphere the change of temperature between day and night is very rapid. This is necessarily so because there is very little moisture in the air to retain the heat of the sun. This is of no consequence to the patient in the morning when the atmosphere is getting warmer, but in the winter months when, in the afternoon, as the sun's rays become less vertical, the atmosphere gets rapidly cooler, it is very easy to catch a cold. This is due not only to the quickly falling temperature but to the rapid evaporation from the skin occasioned by the dryness of the atmosphere. Patients are especially vulnerable just after taking exercise. This mishap can be easily guarded against if patients are properly advised and follow instructions.

It is an important question which patients to send to this climate, and which not to send. Of the ordinary cases of subacute or fibro-caseous phthisis, practically all improve who have not reached the cavernous stage. In patients with small cavities the disease is often arrested, but their complete recovery takes a very much longer time. When there are large cavities, and especially when there is bronchiectasis, the patients do not seem to do as well as in a mild maritime climate. In fact the very dry air and the diurnal temperature range seem to aggravate unduly the sensitive bronchial mucous membrane of these patients. Cases of acute or galloping phthisis as manifested by a high remittent temperature do not do well anywhere unless they become transformed into the subacute variety. It is reasonable to believe that a favorable climate will increase the possibility of this transformation in such cases. The physician is warranted in advising them to seek climatic benefit, provided they or their friends clearly understand the exact situation. Climate seems to be altogether hopeless for cases of acute general tuberculosis. The wise physician, in sending a patient to a beneficial climate, will not give him definite assurances as to when he can leave it with safety. To tell a patient that he will be well after six months there, however slight and incipient his disease, is a very indiscreet procedure. While patients often look and apparently feel well after six months in a favorable climate, the chest seldom shows complete arrest of the process, and relapses on returning to their former homes are only too common. A prudent rule for a patient to follow is to live in a favorable climate until a year after his cough and expectoration have entirely ceased. In sending a patient away it is best to advise him that he will probably have to devote several years to the sole object of regaining his health, and that he will have to sacrifice every other consideration.

It is well, before sending a patient away, to make an attempt to improve his general nutrition to an extent that he may be strong enough to stand the journey. It is highly desirable that he should have a companion competent to save him from all care and extra exertion while on his journey, as well as to assist him to get settled when he reaches his destination. In many cases favorable under ordinary circumstances the patients suffer a drain on their strength too great to enable them to react, owing to their having to provide for their own necessities during a long journey.

The management and treatment of a case of tuberculosis are just the same in a beneficial climate as in one that is not so beneficial. The natural conditions being more favorable, a larger percentage improve, and the improvement is much more rapid. Speaking generally, the two main objects to be kept in view in the treatment of tuberculosis are the prevention of reinfection and the increase of resistance. The prevention of reinfection, while generally recognized, is not given the supreme position of importance which it should hold in order to secure the best results in the treatment of tuberculosis. There is no doubt of the fact that even when the patient's sputum is carefully sterilized there is often reinfection from dust particles in the atmosphere, which in a populous community is always more or less infected. It is in this respect that the favorable climate gives the patient an advantage and the physician an adjunct in treatment that cannot possibly be gained in any other way. This tendency to the prevention of reinfection is the constant quantity possessed by all favorable climates to a greater or less degree, and until it is possible to exterminate the tubercle bacillus in the air or in the human organism, climate will always favorably influence treatment and afford the patient a better opportunity for recovery.

While emphasizing the importance of the prevention of reinfection gained by climate, the increase of resistance by the now generally accepted measures of open-air living and superfeeding is regarded by the writer as of equal importance, and these measures should be practised as faithfully and in as great detail in a favorable climate as in one not specially favorable. It is not within the scope of this article to go into the details of these methods, but their efficiency is very great if practised thoroughly and for a long period. Otherwise the results are apt to be disappointing. Furthermore it must take a long period of time and the combined judgment of many observers to establish the exact value and limitations of these methods. It is usually the case that more is expected of new remedies than their completed test realizes. It seems highly probable to the writer that it will be found, in addition, that these methods must be practised for a much longer period after the disease has become arrested than is now deemed necessary. Six months of mercury was originally regarded as sufficient permanently to arrest syphilis, but three or four years is now regarded as a conservative period. While the analogy is not a close one, it is sufficient to illustrate the point. Sir James Paget said that no disease ever gets entirely well. This is in a sense true, but many diseases get well enough for all practical purposes. In phthisis which has been arrested there is a permanent impairment of the respiratory function and an established susceptibility to the tubercle bacillus. A case which has been arrested or which has been pronounced cured should therefore always be regarded much in the same light as a case of renal disease which is quiescent or one of valvular disease in which compensation is maintained. It is much better for the patient's welfare for him to regard his disease as arrested rather than cured. In a case the course of which is favorable there are, clinically speaking, three stages in the progress: the first, in which there are active signs of disease and the nutrition has not reached par; the second, in which nutrition is good and weight approximately normal, but in which there are still cough and expectoration and signs in the chest that cicatrization is not complete; the

third, in which nutrition is good, cough and expectoration have disappeared, and in which there remains only a little dulness and harsh respiration in the chest. The patient is usually amenable to discipline in the first stage. The second is the most dangerous stage, for, exultant in his improved condition and renewed hope, he is only too apt to abuse himself. He cannot be made to realize that each successive recrudescence of the disease is the more and more difficult to react from, and so he progressively detracts from his chances of permanent arrest. Even in the third stage he should be more or less under the surveillance of the physician, and should promptly consult him upon the slightest deviation from complete health. Strict obedience should be the motto of the patient, and infinite care that of the physician. Therefore while it seems certain that a favorable climate gives an advantage not otherwise obtainable, in order to afford the patient his best chance he should have not only such a climate, but in addition the most careful medical supervision. Some patients will get well by modern methods of treatment without climate, others by climate without treatment, but modern methods of treatment and climate together will save many patients who would otherwise succumb.

CHRONIC COPPER POISONING AMONG ARTISANS.

By HENRY A. KURTH, A.M., M.D.,

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Introduction.—If an artisan at his regular occupation takes into his system some of the material in which or with which he works, and this acts injuriously to him, we have a case of so-called occupation poisoning. The varieties of occupation poisonings are numerous, but most, because of their rarity, receive little attention. Chief of these poisonings to-day is lead poisoning. This from its frequency is nearly always recognized and rationally treated. Copper poisoning, on the other hand, is at present only too rarely diagnosed, and its treatment is anything but rational. Until within the last twenty or thirty years copper poisoning was not at all common. But with the enormous growth of manufactures in the United States these cases have become so numerous that any physician in a manufacturing city is likely to meet them. The object of this paper is, therefore, to impress on the city practitioner the growing importance of this subject. Cases of this kind are abundant here at the Edison General Electric Works, and it is from among these that the material for this article has been largely drawn.

Etiology.—Among what kind of workmen, then, are we to look for copper poisoning? In a general way, any man working in copper, or more commonly its alloy brass, is sure to get some of it into his system. In fact, some persons need only work in the same room where the metal is used to get enough of the poison to cause symptoms. This may seem exaggerated, but I have repeatedly found it true, and the reason for this will be seen later. It was among brass founders that the disease first received attention. To-day brass founders form but a small percentage of brass workers. Fully as numerous are the solderers. These men are very quickly affected. Other brass workers, such as filers, turners, stampers, grinders, and platers, are all more or less slowly affected. The most dangerous employment, however, is that of the finishers or polishers. Many of these use the buffing wheel, which fills the air with fine particles of copper dust, directed toward the workman. The copper enters the system by both the alimentary and respiratory tracts. A small quantity is taken in daily with the food and occasionally with water that has been exposed to the dust of the room. Most of the copper that enters the system first passes through the nose. From the nose it takes two courses. Some of it passes straight through the nose and throat into the lungs, whence by means of the lymphatics it is carried into the general circulation. The larger portion, however, is caught up by the mucus of the nose and throat and then swallowed. In the blood and the tissues the copper is probably stored up in the form of an albuminate. The length of time it remains in the system is still a matter of speculation. I believe it to be a question of months, with elimination constantly going on. Copper is eliminated from the system by the liver, the kidneys, salivary and intestinal glands, and to a slight extent by the skin.

Pathology.—In order to understand the pathology and the symptoms it is necessary to recall the physiological action of copper. Locally copper is both an astringent and an irritant. Constitutionally it is an agent promoting waste. Its astringent and irritant actions come into play at its entrance into as well as at its expulsion from the body. Its action promoting waste comes into play during its passage through the tissues of the body.

In the respiratory tract the irritant action seems to predominate. The nose, pharynx, larynx, trachea, and bronchi are intensely congested. The parenchyma of the lungs is probably at first also congested. Sooner or later, however, there is destruction of the epithelium of the bronchioles and air vesicles with the formation of new connective tissue. The lungs being thus far crippled offer an excellent field for pathogenic germs, notably streptococci and tubercle bacilli. Consequently most of these cases end in purulent bronchitis, or phthisis, or both. The part of the lungs not consolidated then takes on compensatory emphysema. The stomach being the chief port of entry of the copper suffers proportionately. At first there is a simple chronic gastritis. Sooner or later this invariably ends in chronic atrophy of the mucous membrane. Cases of such complete loss of digestive power as one finds among old copper workers one rarely meets elsewhere. In the intestines we find no constant lesion. This seems to be due to the fact that the activity of the copper is largely used up in the stomach. The liver is the principal storage-place for the copper. Its normal functions are generally somewhat interfered with. Gross lesions (cirrhosis) are rare. The spleen is enlarged in most cases, but is in no way characteristic of the disease. The blood, important as it is, has not been studied sufficiently to warrant any statement, except that the copper combines with the hæmoglobin of the red blood corpuscles and so diminishes their usefulness. The arthritic diathesis one frequently finds among lead workers is not found among copper workers. For this reason any attempt to explain copper poisoning as analogous to lead poisoning will fail. It will be remembered that a large portion of the copper is eliminated by the kidneys. We would naturally expect these organs sooner or later to become the seat of a chronic inflammation, especially interstitial nephritis. This, however, is not common, and the kidneys give but little trouble. This is another instance in which lead and copper do not act alike. On the nerves copper acts as an irritant, and this action is responsible for a great many symptoms. Some authors claim that copper causes various forms of neuritis, paraplegia, paralysis agitans, and even locomotor ataxia, but they have failed to exclude alcoholism and irregular living as causative factors.

Symptoms.—The skin is sometimes the seat of eczema. This is found on the face, back, or wherever there is persistent local perspiration, and is marked by the obstinacy with which it resists treatment while

the patient remains at his work, but heals readily with change of occupation. The hair is often colored green conspicuously among men whose hair has already turned white from age or debility. The linen is regularly colored green. This staining is due to particles of copper dust coming in contact with the perspiration, and is in no sense a green perspiration. Sweating is sometimes profuse, due probably to debility, the same as the night sweats of phthisis. The eyes occasionally show hyperæmia of the conjunctiva with considerable irritability and photophobia, but only when they are subject to the direct action of the fumes or dust. In the nose, pharynx, and larynx we find the action of the copper pronounced. Examination shows intense hyperæmia, mostly dry, with only here and there a streak of mucus. The best way of describing it is to say that the entire surface looks extremely angry. The ordinary hypertrophic rhinitis appears pale in comparison and has more mucus on its surface. The patients complain of a dry, hacking cough or a feeling of constriction of the throat, that nothing relieves. The voice is often husky. The nasal irritation may cause fits of sneezing which are accompanied by profuse watery discharge, but this is exceptional. From the lungs proper we also get a dry irritating cough. Sometimes we meet a patient who says that his cough is accompanied by expectoration. This means that either he has bronchitis due to the inhalation of large quantities of dust other than copper, or that he has phthisis. I believe that in uncomplicated cases of copper irritation we have little or no expectoration. Hæmoptysis used to be mentioned as frequent, but in these days of exact physical examination this is no longer claimed to belong to copper poisoning purely. Copper certainly predisposes to phthisis; so any one with an inherited tendency to phthisis should avoid copper. On the other hand, many cases look and act phthisical that are not so. It is always necessary to have the positive physical signs, and above all elevated temperature, to call a case phthisis. I have seen patients apparently in the last stage of phthisis, and who had been told by their family physician that they had phthisis, fail to show the least trace, and have had this verified by subsequent observation. In referring to the mouth all writers dwell on the green line on the teeth. This is merely a staining green of the tartar and other impurities on the teeth, and is not to be found in persons who use the brush freely. The saliva is regularly diminished. A metallic taste is frequently complained of. The tongue may be tremulous. The stomach, being the chief port of entry of the copper, is very early affected. Loss of appetite is the first and universal symptom. Later comes more or less gastric pain. Vomiting is not common in the early stages, but in advanced cases may be so severe that the stomach retains hardly any food. The gastric secretion being below normal, the food is imperfectly digested and when passed on into the intestines causes colic. Fermentation in the intestines is common, due partly to the undigested state of the food that reaches them and partly to the insufficiency of the bile. The action of the bowels is not uniform. Constipation, diarrhœa, and normal stools may all be found. Jaundice is mentioned, but seems no more frequent than in other workmen. The kidneys again give no characteristic symptoms. Green urine is mentioned by one author, but must be rare. The circulation is regularly affected in copper workers. The common symptom is over-action of the heart with more or less palpitation. The pulse is full yet easily compressed. Much of the dyspnœa these patients complain of is accounted for by this disturbed heart action. Arteriosclerosis I have found only in those who used alcohol freely. Such symptoms as vertigo, sinking-spells, hot and cold flashes are all purely vasomotor disturbances.

We now come to certain general symptoms which are so common as to be characteristic. The face, in advanced cases, has a drawn, anxious expression as in marked phthisis. Anæmia is found in all cases. The effect of this upon the complexion is different from that of other anæmias. To me it appears several shades darker. The term sallow comes close to describing it. I know of no class of men who can be so intensely nervous as copper workers. Their restlessness is without limit. In their homes they are irritable and excitable. Sleeplessness is of course common. Itching and neuralgic pains in different parts of the body are here and there complained of. Emaciation is typical of the disease. One author calls them a "spare, unhealthy set of men." The emaciation is not confined to the subcutaneous fat but extends even to the muscular tissue. Loss of strength naturally follows such emaciation.

Diagnosis.—The symptoms that are of the greatest value in the recognition of cases of copper poisoning are: (1) dyspepsia, which is the earliest of all symptoms; (2) anæmia, which also is early and comes before emaciation, loss of strength, or painful facial expression; (3) nervousness and irritability. Add to these the fact that the patient works in copper or brass, and you cannot be mistaken.

Prognosis.—This is uniformly good when organic changes have not taken place and when a change of occupation can be effected. If the patient remains at the same work the case will go on slowly from bad to worse. It must be admitted, however, that some acquire a toleration for copper and live to be quite old. A few seem to start in perfectly immune, but these cases are so rare as to be noted exceptions. I have noticed that if copper workers acquire phthisis it is not so rapidly fatal as one would expect, and patients who receive early treatment probably show a larger percentage of cures than in other departments. Another fact to be borne in mind is that local applications to or operations upon the nose and throat for the relief of distressing symptoms are unsatisfactory so long as the patient remains exposed to the source of irritation.

Treatment.—This is first of all prophylactic. Some factories recognize the danger from copper dust and attempt to protect the men by systems of ventilating fans. Here and there a workman will protect himself by wearing a wet sponge or cloth over the nose and mouth. Both of these methods are valuable and should be encouraged. But even men who clearly see the need of taking precaution will after a time tire of it. In extreme cases of poisoning it is necessary to advise giving up the occupation altogether. Yet it must be remembered that workmen subject to chronic copper poisoning are generally skilled mechanics receiving high wages, who will not readily give up their work. Next to this I have found a vacation of from two to four weeks of the greatest benefit.

When the set of symptoms before enumerated was first discovered to be due to the presence of copper in the system, physicians instinctively turned to iodide of potassium. They reasoned that iodide of potassium is good for lead-poisoning, and therefore from analogy it must be good for copper poisoning. Any physician trying this remedy will soon come to the conclusion that it is useless. I have tried it faithfully, and know others who have tried it and given it up. The fact is, there is to-day no specific for copper poisoning. Strychnine in large doses is of value against several symptoms. It is the best stomachic and nerve tonic known, and is certainly indicated. Phosphoric acid is strongly advocated by some writers who claim excellent results. In conclusion we see that to-day our chief reliance must be prophylaxis and change of occupation. In some of the manufacturing districts of

Germany a law is in force that a man cannot work longer than three months at a time at glazing (lead poisoning). In practice this works admirably, because the men are taught to alternate with each other at their work. It would be well if this law received a wider application.

The Physiology of the Labyrinth; a New Theory of Hearing.—J. W. Barrett gives an abstract of this new theory as originally propounded by J. Rich Ewald. He calls it the "Sound-Picture" theory and gives the following as its ground principle: membranes can vibrate in very different manners. They can form a vibration type of their own when they give out their own special tone. They vibrate then in a manner similar to plates which show Chladni's figures. In the telephone and the phonograph, membranes vibrate as a whole when influenced by sound waves—that is without nodal lines. They follow the sound waves, and for this purpose must not be too thin or too flexible, and especially if they are very extensible, not too weakly stretched. Finally, they can be stretched on a frame, and if impulses act on them, they can create moving waves. If these are reflected from the frame, so that the impulse is given out from opposite ends at the same time, then the stationary waves are created which produce a characteristic picture for the given impulse. In this case, the membrane must be as thin as possible, as flexible as possible, and at least in one direction as little stretched as possible. In the ear, the impulses falling on the ground membrane create a sound-picture whose special form enables the ground membrane to create a link in the chain of the transmission apparatus, which intervenes between sound and sound sensations. This is the ground principle of the sound-picture theory, no more and no less.—*Intercolonial Medical Journal of Australasia*, August 20, 1900.

Heart Lesions following the Acute Specific Fevers.—W. A. Dickey says that success in the treatment depends more on recognizing the condition of the cardiac fibre; the size of the cavities, whether they are increased or not: if so, to what degree, the state of the vascular system, the cause or causes that may have led to the changes in the valves, if any there be, and the general health of the patient, rather than to the exact diagnosis of whether this or that valve is involved. The former are absolutely essential to correct therapeutic application, while the latter, however much desirable from a diagnostic point of view, is not vitally necessary—so long as we have compensation—which, however, may be very soon and easily lost—an effort should be made to keep the cardiac fibre in a good state of preservation by improving the patient's nutrition and regulating his habits of life.—*Chicago Medical Compend*, October, 1900.

A Method of Hand Disinfection.—J. Hahn has used the following method with success and believes it possesses advantages over those in general use. The hands and forearms are scrubbed with common yellow soap and water at a temperature of about 104 F. with a boiled brush, the water being changed four times, and sufficient soap used to make a lather. After the second scrubbing the nails are cleaned and trimmed. The washing is then continued for four minutes with an alcoholic one-per-cent. bichloride solution which is rinsed off in a one to two per cent. aqueous solution of the same agent (for one to two minutes) and they are finally again immersed in the alcoholic solution after the operating-gown has been put on.—*Centralblatt für Chirurgie*, October 6, 1900.

Purulent Frontal Sinusitis in Ozæna.—G. Ricard reports the case of a woman aged fifty-two years, on whom the Ogston-Luc operation was performed with relief of the sinus trouble while the ozæna remained stationary. The case brings out the following facts: Transillumination may give no shadow in the region of the frontal sinus even when it is full of pus, for clearness depends not on the possible contents of the sinus but on the thickness of its lining walls. The destruction of the orbital wall by suppuration does not prevent immediate union of the wound and drainage by the nasal passages. Finally, cure of the sinus disease does not necessarily imply that of an accompanying ozæna.—*Revue Hebdomadaire de Laryngologie*, September 22, 1900.

Nasal Polypus.—L. Rehti reports a case of nasal polyp remarkable in that its size caused considerable increase of the width of the nose from intra-nasal pressure. This latter feature, while common enough in various intra-nasal tumors, is yet rare in ordinary polyps. The polyp in this case measured four inches in length, was pear-shaped, and had a circumference of somewhat over four inches at its greatest diameter. In general appearance it suggested a fibroma presenting various furrows on its surface, with ulcerated areas and some hemorrhagic spots. Microscopical examination showed it to consist of areolar connective tissue in an œdematous matrix, with here and there some few fibres of harder tissue.—*La Parole*, July, 1900.

The Surgical Treatment of Anasarca.—After medical measures have failed, Menok advises surgical intervention for the relief of the œdema of the extremities accompanying cardiac or renal diseases. In spite of the apparent simplicity of the manœuvre the risk of maceration of the skin and subsequent infection have always been considered so great that it has never found favor as a routine treatment, but with care and the adoption of aseptic precautions the danger from these causes may be reduced to a minimum. Of the various procedures that have been suggested the two most useful are incision and drainage. The former of these is to be used only in restless or delirious patients, or in those whose dyspnœa prevents the recumbent posture, for it favors infection to a much greater degree than the less radical operation. The difficulty lies in keeping the incisions closed and so preventing the continual oozing of fluid, which not only renders the patient uncomfortable through the saturation of his bedding but prevents the healing of the wounds, and by the tendency of the fluid to undergo ammoniacal fermentation irritates and macerates the skin, making it a suitable culture ground for bacteria. The method of drainage is not open to these objections, and has the further advantage that the flow may be easily checked at any time that weakness or collapse on the part of the patient makes it desirable. The author employs a slightly modified Curschmann's cannula, which after careful sterilization of the skin is plunged into the subcutaneous tissue and may then be connected to a rubber tube which conveys the fluid to a vessel at the bedside. Anæsthesia may be dispensed with, for the tension renders the skin insensitive, and the only inconvenience attending the operation is the necessity it enforces upon the patient of remaining quiet in bed for from eight to ten hours, longer than which time it is not advisable to leave the instrument in place. If further drainage is required, a fresh puncture should be made to diminish the damage to the tissues and their consequent vulnerability to germs. To seal the puncture a strip of iodoform gauze kept in place by a special spring compress is the most suitable dressing, and may be removed at the end of three days, at the expiration of which time closure is usually perfect.—*Wiener klinische Rundschau*, October 7, 1900.

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PUBLIC SPEAKING IN THE MEDICAL PROFESSION.

PUBLIC speaking is of various kinds. A wide gulf divides the high flights of oratory of a Bright or a Webster, which can excite the passions or sway the emotions and control the moods of a vast audience, and the scintillations of wit which flash from a Mark Twain or a Depew, and which are so admirably calculated to promote digestion and to induce that comfortable feeling of well-being ever the desired sequence of a satisfactory repast. There is much difference between the lecture on some abstruse scientific subject, delivered by a learned professor, and the plaintive appeal of a philanthropist on behalf of charity. But it matters not what the manner or matter of the speech may be, the object to be attained in every description of public speaking should be to express the thoughts in words as clear and comprehensible as possible. Orators are few and far between, and many think that to possess a fervid, burning eloquence, which by its mere exercise will render its possessor a power in the land, is to have a touch of the divine spark, and that such a man is, like a poet, "born and not made." Although great orators at the present time can be counted upon the fingers of one hand, happily very excellent public speakers abound. And the fact must also be taken into account, that the conception of a great orator now prevailing would not be altogether in accord with the views taken on the same subject years ago. It is more than likely that were Demosthenes or Cicero to revisit this earth, the charm of their eloquence would fail to conquer as of yore, and that even Gladstone would not be appreciated as he was thirty years ago. So far as physicians are concerned, it goes without saying that for them to shine conspicuously as speakers they must be endowed with similar gifts and perfected by the same amount of practice as are men in other lines of life. It is asserted, and it would appear with a substantial basis of truth, that physicians taken as a class do not compare favorably in the art of public speaking with those who follow some other vocations. This may be put down to a lack of training and of practice.

Dr. William Whitford, official stenographer of the American Medical Association, published in the *Journal* of that association for September 22d an article treating of the physician as a speaker. The article in question deals with the subject from all standpoints, but especially from that of the reporter. It is shown that the pitch, intensity, and amplitude of a speaker's voice have much to do with the work of the reporter, in that they will greatly expediate his work or render it extremely difficult. It is an irksome task for any reporter, no matter how acute his hearing may be, to follow a physician who has a low-pitched, thick voice, coupled with a mumbling mode of utterance. On the other hand, remarks Dr. Whitford, the physician who takes cognizance of acoustics and pitches his voice in a much higher key, if he articulates well, can be heard in the remotest nook or corner of a large convention hall without apparently unusual effort. A low-pitched voice, combined with rapidity and indistinctness of utterance, will worry most reporters. A physician with a tolerably high-pitched voice may be clear and distinct in utterance yet excessively rapid in delivery. His clear-cut sentences may flow uninterruptedly at the rate of between one hundred and sixty and one hundred and ninety words per minute. Such a man can be reported with comparative ease by an efficient hand. Many suggestions and hints are advanced to would-be-speakers, which, of course, are as applicable to men of any other calling as to physicians, but as it may be assumed that the writer has gained most of his experience in reporting the speeches of members of the medical profession, his advice may be taken to themselves.

Perhaps the most personally interesting portion of Dr. Whitford's article is that in which physicians and lawyers are compared as speakers. After pointing out that the art of speaking well is not confined to statesmen, jurists, and clergymen, and that the medical profession, like the ministerial and legal professions, has orators within its ranks, he goes on to say: "I have had the pleasure of reporting the utterances of several eminent lawyers from time to time, and to speak candidly, I must confess that they were not the superiors in any sense of many of the physicians whose impromptu speeches I have reported." As striking examples of the extemporaneous type of speakers in the medical profession the following three are cited. Dr. Nicholas Senn is referred to as a fluent, forcible, and impressive speaker with an excellent command of language, who possesses a richness in his diction, a copiousness, ease, and variety in his expression, which are rarely surpassed by the best extemporaneous speakers. In debates he shows to best advantage when under heavy fire, and is a master of repartee. Dr. Charles A. Reed, of Cincinnati, is presented as a splendid specimen of the scholarly, well-read speaker, who is chiefly distinguished for his elegant diction and the ornateness of his phraseology, and Dr. Joseph M. Matthews, of Louisville, Ky., is given as a shining example of the easy, graceful, polished speaker, whose forte is simplicity of language.

No one can deny these conclusions or refuse the due meed of praise to the above-named speakers, but it must also be borne in mind that while the West has every reason to be proud of her elegant medical sons, yet the East has at least no cause to be ashamed of

the physicians within her borders who are gifted with considerable rhetorical powers.

In the first place, however, it must be said that the character of the speech-making of doctors in the East and West differs in most instances in many important particulars. The speakers of the West, including the medical speakers, would appear to be greatly influenced by the size, the width, and breadth of their country; the air of the illimitable prairies would seem to have permeated their systems and to have perhaps unconsciously imparted to their speech some of its breezy vastiness. On the other hand, the manner of public speaking in the East is founded more upon the British style, less copious and diffuse, more reserved than the oratory of the West, but quite as much to the point. Dr. T. Gaillard Thomas, Dr. D. B. St. John Roosa, Dr. William H. Draper, of New York, Dr. Osler, of Baltimore, Dr. Weir Mitchell and Dr. Keen, of Philadelphia, are physicians who may be relied upon to uphold the honor of the United States as speakers in any company. Some may think that to say that public speaking in the East is founded upon the British style is not to pay public speaking in the East a distinguished compliment.

We certainly do not intend to convey the impression that we think public speaking anywhere in the United States is slavishly modelled on British lines, for the American style of oratory is peculiarly its own and in many respects quite superior to that of any other country. There is generally in the speeches of a typical American speaker, be he doctor or otherwise, a fund of dry, caustic, but withal good-natured humor which is unattainable by the orator of Europe. However, the fact must be confessed with some degree of shame, that neither in this country nor in Europe are doctors in the front rank of public speakers. Some of the more prominent here have been mentioned. In Great Britain, perhaps, at the present time, Sir William McCormac is the best medical public speaker, in Germany Virchow and von Bergmann stand at the head, in France Lannelongue leads, and in Italy Durante. The United States can lay claim to a medical man who, as an after-dinner speaker, was probably never surpassed, the inimitable Oliver Wendell Holmes, and Great Britain possessed in the late Sir James Paget an orator who could vie with the greatest that country ever produced.

Before leaving the subject it may not be presumptuous to suggest to the young physician that, in public speaking, he should always be terse and to the point; needless redundancy of language should be avoided as the plague. The speaker who is "inebriated with the exuberance of his own verbosity" will surely lose himself and his audience in a hopeless maze of words. Physicians should cultivate the art of public speaking. If they do so they need fear no comparison with either statesmen, or lawyers, or ministers.

Displaced Tendons.—The tendons most liable to displacement from violence are the peroneus longus at the outer ankle and the long head of the biceps, which may slip out of the bicipital groove.

THE DIFFERENTIATION FROM RUBELLA AND SCARLET FEVER OF A DISEASE RESEMBLING BOTH.

The disorder variously known as rubella, Rötheln, German measles, French measles, roseola, epidemic rose-rash, has ever been a source of confusion in diagnosis with reference to both scarlet fever and measles, with each of which it possesses certain features in common; but the prevailing opinion is that it represents a distinct entity and not a mixture of these two other diseases. The decisive fact in this connection is the failure of any one of the diseases to confer immunity to any of the others. The difficulties of the situation will, however, not be lessened by the announcement recently made by Dukes (*Lancet*, 1900, No. 4.011, p. 89) that what has hitherto been looked upon as rubella consists probably of two distinct diseases—a fact that suggested itself several years ago, but conclusive evidence in favor of which has been obtained only recently. For the new disorder the designation of fourth disease has, by reason of its resemblance to rubella, scarlet fever, and measles been tentatively proposed, and this may be wisest until its position has been established beyond peradventure. The differentiation between rubella and the fourth disease would, however, appear by no means easy, as both present similar symptoms; both frequently occur in the same locality at the same time, and the period of incubation is much alike in both.

The fourth disease, it has been found, is in many cases unattended with premonitory symptoms, although there may be pronounced malaise for some hours, with headache, anorexia, drowsiness, chilliness, and even backache. Like rubella, it occurs especially in the spring and summer. The period of incubation is estimated at from nine to twenty-one days. A diffuse rash appears upon the surface of the entire body within a few hours after the inception of the disease. The exanthem is bright rosy-red in hue, and somewhat raised above the contiguous surface. The sensation of heat conveyed by the skin to the finger is, however, less than in scarlet fever. The fauces are usually swollen and reddish, assuming a velvety appearance. The conjunctivæ are pink and suffused. The lymphatic glands universally are enlarged, hard, and tender, feeling like peas, though less manifest than in rubella; those mainly affected are the post-cervical, the axillary, and the inguinal. Desquamation may be slight or marked, but it bears no constant relation to the intensity of the rash. The kidneys are rarely involved. There is, as a rule, no marked sense of illness. The tongue is clean or slightly furred. The pulse may be normal, but it is proportionate to the temperature. It varies between 98.4° and 103° or 104° F., and it bears no relation to the extent of the rash. The symptoms, even if severe, subside in the course of a few days, leaving comparatively little feeling of illness. The fourth disease has been found to be not profoundly infective in its earliest stage. At a later one, even while desquamation is taking place, it is not infective beyond two or three weeks after thorough disinfection. There are practically no

sequelæ, although the submaxillary glands may remain enlarged. The disease usually terminates in complete recovery within three weeks.

It will be seen that the symptoms described do not afford a ready means of diagnosis from rubella. The rash of the latter, however, is at first punctate, subsequently becoming coalescent and forming bats' wings, in contradistinction from the diffuse exanthem of the fourth disease. Further, rubella is said to be by far the more infective disease. On the other hand, apart from the significant fact that one attack of either disorder does not confer protection from attack by the other, the points of differentiation are not so clear as to justify final acceptance of the individuality of the disease without further confirmation. As compared with scarlet fever the period of incubation of the fourth disease is longer; premonitory symptoms are wanting; the pharyngeal manifestations are slight; the pulse is not greatly accelerated; the tongue does not peel; the period of infectivity is shorter; the kidneys are not involved, and one attack does not confer immunity from scarlet fever. The importance of accuracy in diagnosis must be obvious, as failure to recognize scarlet fever may be attended with disastrous results, and the mistaking of the fourth disease for scarlet fever would cause the patient to be subjected to unnecessarily prolonged isolation.

A MEDICAL DEFENCE ASSOCIATION FOR MINNESOTA.

In an editorial published in the Medical Record September 15th, the efforts being made by Dr. Donald B. Pritchard and others to establish a medical defence association were favorably commented upon. It was further suggested that such a plan intelligently carried out might be followed with advantage in all parts of this country. We now learn that Minnesota has incorporated a medical defence union. Its membership is confined to residents of Minnesota who are members of the State Medical Society or societies auxiliary to it. The annual dues are fixed at $5, and each one pledges himself to pay $10 if called upon to do so by the directors. The association binds itself to defend and pay all the costs of defence in the event of any of its members being sued for malpractice, when, after proper investigation, the directors are satisfied that the case is a good one. It does not purpose to aid those guilty of malpractice, but simply to defend against blackmail.

Dr. Wiggins contributed a letter to the Medical Record of September 29th, in which he advocated that the State societies should make the defence of suits brought against their members for malpractice a part of their work. Where workable this would seem to be the most rational and easiest manner of settling the question, but it is argued that the State societies do not care to take up the matter, and that defence associations working in close touch with their respective State societies can accomplish a great deal. In those cases in which State societies are disinclined to act of their own initiative, the example set by Minnesota might be profitably imitated; that is, by making membership in these societies a prerequisite of membership in the defence associations. At any rate the scheme of a medical defence association established on the lines of that of London is worthy of trial, and Dr. Donald Pritchard and his coadjutors in Minnesota are deserving of praise for setting "the ball rolling" in this direction.

News of the Week.

Disease in the Yukon. — A despatch from Seattle says that the Rev. Father John B. Rene, in charge of the Roman Catholic missions on the Yukon, has arrived at Dawson with a terrible story of the sufferings of the natives in that valley from an epidemic of a mysterious disease resembling a combination of pneumonia, measles, and typhoid fever. At Holy Cross mission sixty out of one hundred and fifty Indians died in less than two months. Famine now threatens, as the natives have not been able to lay up supplies of fish and game for the winter. The epidemic, whether it is of plague or some other disease, has been general all along the river and along the coast of Bering Sea, and thousands of natives have died, and it is feared that many more will die from the disease itself or the starvation following in its train.

Philadelphia Neurological Society.—At a stated meeting held October 22d, Dr. David Riesman exhibited a case of probable cerebellar tumor, in a man presenting staggering gait, increased knee jerks, lateral nystagmus, pallor of the optic discs, and vertigo in the erect posture. Dr. William G. Spiller exhibited a case of progressive ascending unilateral paralysis, in a man presenting symptoms of unilateral spastic paraplegia, without history of an apoplectic seizure or of any loss of consciousness. Dr. Spiller exhibited also a case of multiple neuritis of the upper limbs, probably the result of hydrofluoric-acid poisoning, in a man who had been engaged in one of the processes of etching on glass, and had developed swelling of the hands and arms, followed by wrist-drop and paresis in both upper extremities. It was thought that neuritis might have developed from absorption of some poison, such as hydrofluoric acid, through the skin, although the possibility of absorption through the respiratory tract was suggested. Dr. James Hendrie Lloyd exhibited a case of Bell's palsy associated with complete anæsthesia in the territory of the fifth nerve. The patient was a young woman, and the lesion of the seventh nerve was attributed to exposure to cold, while the disturbance in the distribution of the fifth nerve was thought to be hysterical. Dr. Charles S. Potts exhibited a case of left hemiplegia with right facial palsy. The patient was a young man presenting central paralysis of the left side of the face and peripheral paralysis of the right side. In emotional movement the action of the left side of the face preponderated, while in active movement the action of the right side was the more

pronounced. Dr. F. Savary Pearce exhibited a case of unusual trauma with secondary Bell's palsy. The patient was a young woman who had been struck upon the head or face, with the result that the tip of a pipe-stem became embedded beneath the skin on the right side of the neck behind the ascending ramus of the lower jaw, probably injuring the seventh nerve by contiguity. Dr. Clarence Van Epps read an admirable paper on "The Babinski Reflex."

A Prison Hospital at Dannemora.—A new hospital for insane convicts has been erected for Clinton Prison, most of the work on it having been done by the convicts. The building is three hundred feet long by forty wide, and will be ready for occupancy in November. It will relieve the overcrowding at Matteawan Hospital.

Payment for Illegal Practice Refused.—A physician practising in the Province of Quebec made a contract some time ago to render professional services in one of the United States whose laws debarred him from engaging in the practice of medicine there. The contract was broken by the other party to it, and the doctor brought a suit against him, in the Canadian courts, to recover the value of the work which he had done under the agreement. The defendant interposed a defence setting up the illegality of the contract, as being an undertaking on the part of the plaintiff to practise medicine and surgery in a foreign State where it was unlawful for him to practise. This defence has finally proved successful, the court holding that no compensation is recoverable upon a contract of this character, which is pronounced illegal.

Preliminary Announcement.—The ninety-fifth annual session of the Medical Society of the State of New York will be held in Albany, January 29, 30, 31, 1900. The meetings of the society have always been replete in scientific work as becomes the representative society of the medical profession of the Empire State, and it is confidently expected that this meeting will equal those which have preceded it. This circular letter is sent to every member of the society with the request that those who desire to read papers will communicate at once with the chairman of the business committee, Dr. Frank Van Fleet, 63 East Seventy-ninth Street, New York City, or with the president, Dr. A. M. Phelps, 62 East Thirty-fourth Street, giving the title of the paper and such other information as the author desires. As there will be a great many papers offered, and the time necessarily limited, it is suggested that papers be condensed as much as possible in reading, as they can be published more fully in the Transactions. Arrangements for reduced fares can be made when purchasing railroad tickets. A. M. Phelps, M.D., president.

The Craig Colony for Epileptics.—The board of managers of the Craig Colony at Sonyea, Livingston Co., N. Y., held their seventh annual meeting at the Colony on October 9th. Dr. Frederick Peterson, of New York, was re-elected president, and Mr. H. E. Brown, of Mt. Morris, secretary. The report of the medical superintendent, Dr. William P. Spratling, showed that there were six hundred and twelve patients in the Colony on October 1st last. The total capacity of the Colony, including the new buildings nearly ready for occupancy, is eight hundred and forty, and it is expected that the Colony will have that number by July 1, 1901. Ultimately the Colony will be inhabited by eighteen hundred or more. The managers decided to ask the coming legislature for $169,000 for new buildings and other improvements, and for $125,000 for maintenance. Of the money asked for special purposes, $98,000 will be used for dormitories for patients. The superintendent called attention to the fact that thirty-six out of six hundred and twelve patients at the Colony are suffering from tuberculosis in some stage, and he recommended that suitable wooden barracks be constructed as soon as possible, in order that these patients might be isolated. It is possible to do this on account of the vast size of the Colony estate. The superintendent called attention to the great necessity for providing better means of transportation on the Colony, and advocated the construction of a trolley system, the power for which already exists at the Colony. A resident pathologist, at a salary of $2,500 a year, with maintenance, will soon be appointed.

The End of the Glasgow Plague.—The last of the plague patients was discharged from hospital in Glasgow on November 3d.

Suit against Insane-Asylum Officials.—A Chicago man, recently released by order of the court from an insane asylum, has brought suit for $250,000 damages against the superintendent and other officers of the asylum. He alleges that he was illegally detained.

Dr. Senn's Gift to a Medical College.—Rush Medical College in Chicago is to have a new $80,000 building, for which Dr. Nicholas Senn has just given $50,000. The new building will be principally used for clerical purposes, and will be named Senn Hall.

A City Plague Laboratory.—The New York City board of health, at a recent meeting, awarded a contract for the building of the laboratory for the study of the bubonic plague on the Willard Parker Hospital grounds at the foot of East Sixteenth Street. The cost of the building will be $19,893. The laboratory is to be built in three months.

The September Mortality in this State.—The New York State board of health bulletin, issued November 2d, shows a total of 10,251 deaths during September in the State, representing an annual death rate per thousand of population of 16.5. Of this number 245 deaths were caused by typhoid fever and 930 by consumption.

The Medical Inspection of Prostitutes.—It is stated in the *Cleveland Journal of Medicine* that the health board of Columbus, Ohio, has ordered the weekly inspection of prostitutes by the district physicians. This, of course, is being done in the hope of controlling the spread of venereal disease. A very curious difficulty has arisen in consequence of this order. It

seems that certain physicians have been conducting such examinations under contract with the proprietors of the houses of prostitution. They, therefore, object to the curtailing of their practice by the city putting the matter into the hands of the district physicians.

A City's Right to Establish Pest Houses.—A suit was recently brought against the city of Chicago by the owners of land near the smallpox hospital, opened by the municipal authorities on Lawndale Avenue in 1896, to recover damages alleged to have been sustained by their property in consequence of the proximity of this institution. The plaintiffs have been finally defeated in the supreme court of Illinois. It was not asserted that the city had been negligent in the care and conduct of the hospital, or that it was any more of a nuisance than such an institution must be of necessity. The supreme court held that there is no difference in principle between the right of a municipality to establish a pest house and its right to build a jail or fire-engine house.

The Fight over the Tuberculosis Hospital Site.—The efforts by the residents of Clinton County to induce the State authorities to erect the proposed hospital for the treatment of incipient tuberculosis at Dannemora, and their opposition to the selection of a site at Lake Clear, have aroused the residents of the Saranac Lake region to vigorous protest. At a recent meeting resolutions were adopted and ordered to be forwarded to the State board of health and the forest preserve board, by whom the site is to be selected. These resolutions indorse the selection of the Lake Clear site and condemn that of Dannemora. They object to the latter on the ground that "the surroundings in a penal colony are incompatible with cheerfulness" and "have a tendency to produce melancholia, a condition most to be avoided in tuberculous patients." They also object to the employment of convict labor, which would be used in the construction of the buildings if the latter were erected at Dannemora.

A New Medical Association.—A committee of the El Paso County (Texas) Medical Society has issued invitations to the members of the regular medical profession of Texas, New Mexico, Arizona, and Mexico to meet in El Paso on the occasion of the El Paso midwinter carnival on the 17th day of January, 1901, for the purpose of organizing a tri-State or territorial medical association. Volunteer papers are requested from all who are willing to contribute, and such are especially requested to send in their names and the titles of their papers at the earliest possible date, that the programme may be completed and sent out in due time. The members of the committee are Drs. S. T. Turner, W. N. Vilas, and F. W. Galagher.

Local Health Boards in Louisiana.—We learn from the *New Orleans Medical and Surgical Journal* that twenty-five new health boards have recently been established in Louisiana. The bill which was passed at the last session of the legislature, providing for the establishment of parish boards of health throughout the State, makes it obligatory on the police of every parish to organize a parish board of health. Formerly the law required the physicians to live in a parish five years before they could become members of the board, but now residence of one year as a registered voter in a parish is sufficient for membership on such board of health.

A Plague Suspect in Bremen.—A despatch from Bremen states that a sailor who arrived there October 27th on board a German steamship from South America was taken ill with suspicious symptoms, and the authorities have notified the bacteriological experts to determine whether it is a case of the plague.

A Famine Threatening in Russia.—A correspondent of the London *Daily Mail*, writing from St. Petersburg, says that, in spite of official denials, there is no doubt that the inadequate harvest will produce a famine in the governments of Kherson and Bessarabia.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 27, 1900. October 19th.—Passed Assistant Surgeon D. H. Morgan commissioned passed assistant surgeon from November 27, 1899. October 22d.—Assistant Surgeon R. E. Ledbetter appointed assistant surgeon from October 19, 1900.

The "Decinormal" Salt Solution.—We receive from time to time letters inquiring why the saline solution used for intravenous injection is called "decinormal." The reason is, as was explained by Dr. J. B. Nicholas, of Washington, in the MEDICAL RECORD of August 14, 1897, that a normal solution in volumetric chemistry is a solution containing in 1,000 c.c. an amount of the active constituent just sufficient to combine with or replace 1 gm. of hydrogen. In the case of sodium chloride this amount is 58.37 gm., hence a normal saline solution is one containing 58.37 gm. to the litre of water. A solution one-tenth of this strength (a "decinormal" solution) contains 5.837 gm. to the litre, which is just about the strength of the saline solution used for venous infusion.

The Late Dr. S. S. Purple.—The president and fellows of the New York Academy of Medicine hereby express their high estimate of the character of the late Dr. Purple, as a citizen and a physician; their earnest appreciation of his valuable services as a fellow and an officer of the Academy, and their grateful acknowledgment for rare books and pamphlets presented by him in large numbers to the library of which he was the founder. They earnestly desire to extend to the members of his bereaved family their profoundest sympathy in this, the hour of their sad affliction. WILLIAM H. THOMSON, M.D., president; LOUIS F. BISHOP, M.D., secretary.

A committee consisting of Drs. Jacobi, Stephen Smith, Elsworth Eliot, and J. D. Bryant, appointed by the Academy to consider a suitable recognition of the services of Dr. Purple, duly reported as follows:

That on account of his beneficent act in founding the library, and because of other significant aid to the Academy, it is recommended that a tablet suitably inscribed be erected in the Academy, and that a fellow

be appointed by the president to deliver a eulogy on the late Dr. Purple at the time of its unveiling.

Obituary Notes.—Dr. Matthew J. Grier died at his home in Philadelphia on October 27th at the age of sixty-seven years. He was graduated from the Medical Department of the University of Pennsylvania in 1863, and at once entered the medical service of the Union army and served until the close of the war.

Dr. Michael Kelliher, of Pawtucket, R. I., died on October 31st. He was a graduate of the New York University Medical School in the class of 1866.

Dr. Louis W. Read died at his home in Norristown, Pa., on November 1st, at the age of seventy-two years. He was born in Montgomery County, Pa., in 1828 and graduated from the medical department of the University of Pennsylvania in 1849. When the Crimean War began he offered his services to the Russian government, was accepted, and served throughout the war, effecting important improvements in the treatment of gunshot wounds, which were afterward adopted in the United States and Europe. In 1861 he was appointed surgeon on the First Pennsylvania Reserves and later was made surgeon of the United States Volunteers. In 1864 he took charge of the McKean Hospital in Baltimore, where he served two years.

Progress of Medical Science.

Boston Medical and Surgical Journal, Nov. 1, 1900.

Gunshot Injuries by the Rifles of Reduced Calibre.—Louis A. La Garde discusses the effects of the seven-millimetre Mauser rifle as observed by him among fourteen hundred wounded in the Spanish-American war. The wounds of entrance and exit and the narrow track of the missile favored rapid healing, and infection was seldom noticed. Of the fourteen hundred wounded none died of external hemorrhage, nor was it necessary to ligate a vessel for alarming hemorrhage on the field. The gunshot injuries of the diaphyses were as a rule attended with but little comminution. In wounds of the principal joints, including epiphyses, clean-cut perforations without fracture were the rule. Of thirty-one cases of gunshot injury of the head, 58.1 per cent. ended fatally. Fifty-three penetrating wounds of the thorax were observed, with a mortality of 24.5 per cent. Penetrating gunshot wounds of the abdomen were very fatal. Of forty-one recorded cases twenty-nine ended fatally. The value of skiagraphy and the use of the fluoroscope were exhibited in locating missiles, in determining the extent of bone lesion, in detecting supposed cases of guttering or perforation of the long bones without fracture, and in probable lesion to nerves and tendons by loose spicula of bone.

Phthisis. Some Causes of Failure in its Climatic Treatment.—Will Howard Swan urges three points to be remembered by physicians if they would have their consumptive patients benefited by the climate of Colorado: (1) Do not send patients with far-advanced phthisis unless they are able to make the change without serious fatigue, and unless they can live there in the manner they should and for a prolonged period. (2) Do not send early cases unless there are assured means for proper hygienic living for a period sufficiently long to get the patient well enough to earn, in part at least, his living, and to find employment. How long this will be will depend upon the individual case and his progress, but, roughly speaking, three or four months at least. There are many openings for employment, but more people looking for the desirable ones. (3) Most important of all, instruct the invalid to rest and to keep quiet after his arrival until some one competent to advise him considers it safe to begin to exercise; and then have his manner of life and hygiene directed from time to time, according to his progress and condition.

Eye Strain as a Cause of Gastro-Intestinal Neuroses.—M. P. Smithwick calls attention to eye strain as one factor to be considered in searching for the cause of a gastric or intestinal neurosis, and reports a number of cases in which indigestion, nausea, vomiting, headache, etc., were relieved by the wearing of appropriate glasses. Of 20 cases representing various types of digestive neuroses, eye symptoms other than headache were present in 7; headache was a symptom in 20 cases, all having eye defects. Eye defects were found in 18 out of the 20 cases and glasses given. Fifteen patients had astigmatism, 13 hyperopia, and 2 compound. Of these 15 cases 5 patients had also hypermetropia, 3 muscular trouble, 1 axis "against the rule," 1 opacity of a lens, 2 diminished vision. Two cases only had hypermetropia and 1 myopia.

Purpura Hemorrhagica, or Morbus Maculosus of Werlhof.—By Stephen Smith Burt.

A Note on Rectal Feeding in Peptic Ulcer.—By George G. Sears.

Achlorhydria; its Effects and their Treatment.—By H. F. Hewes.

Journal of the American Medical Ass'n, Nov. 3, 1900.

Connell's Operation of End-to-End Anastomosis of Small Intestine for Repair of Enterotomy Performed to Relieve Acute Obstruction; First Case Reported on Human Subject.—Franklin H. Martin reports this case. After describing the preliminary steps of the operation, the writer states that two or three inches of the small intestine were excised on each side of the opening which formed the artificial anus, so that about five inches of the gut were removed. The intervening mesentery was tied in three sections. The end of the gut representing the part above the artificial anus was larger than the coil below that point. The smaller end was incised obliquely in order to increase the diameter of the free end, which was accomplished at the expense of its convex border. The end-to-end anastomosis after the method described by Dr. F. G. Connell was then performed. The method, although easy to execute, is not easy to describe, and the writer points to his illustrations in order to assist the reader. "This method consists of a modification of Maunsell's procedure, the original feature of importance being the ingenious method of tying the last suture in a way which effectually places all knots on the mucous surface of the bowel without the necessity of making the ordinary extra incision employed in Maunsell's operation." The intestine after the operation looks much like the end-to-end anastomosis with the Murphy button. There are no sutures visible between the approximated serous surfaces, although all coats of the bowels are included. The writer believes this operation to have all the advantages of the Murphy button with none of its serious faults. The time consumed in the anastomosis was between fifteen and twenty minutes. Convalescence was uninterrupted.

Hypertrophy of the Pharyngeal Tonsil; its Anatomy and Physiology.—After speaking of the anatomy and physiology of the pharyngeal tonsil, Norval H. Pierce states that adenoids are hyperplasia of this normal tissue. They vary in size, consistency, and color. The infectious diseases, especially measles, scarlet fever, etc., play an important rôle in the causation of this condition. Acute inflammations of the gland frequently cause acute hyperplasia. The question of the dependence on tuberculosis is not yet definitely settled. The writer does not believe that Dansac's varieties, the scrofulous, tuberculous, and syphilitic, comprise all the varieties of adenoids. Many scrofulous children have adenoids, and many who show no evidence of scrofulosis or chlorosis have these bodies in their postnasal spaces. Abscesses may develop in this tissue which may cause septic meningitis. Cysts, and all of the tumors, especially sarcoma, develop from the membrana prevertebralis.

Receptive Quiescence of the Stomach during Mastication; Gastronomic Phenomenon Not Previously Described.—Evan O'Neil Kane describes this case on which he had operated, performing a gastrostomy. The patient was gradually starving from stricture of the œsophagus due to cancer at the cardiac orifice of the stomach. Great difficulty was experienced in applying the retaining pad before peristalsis caused the rejection of the fluid food which was introduced into the stomach. It was observed that when the patient was chewing anything while he was fed, his stomach would remain quiet, so that the pad could be placed before muscular activity recommenced. Chewing-gum was used, and no more difficulty was experienced.

Disease of the Fallopian Tubes, with Special Reference to Specific Infection.—By J. R. Guthrie.

Clinical Observation in Malaria as Seen in the Mississippi Delta.—By Frank A. Jones.

Portable Compressed-Air Atomizer.—By George F. Cott.

Æstivo-Autumnal Malarial Fever.—By Charles F. Craig.

Acute Senile Endometritis.—By L. H. Dunning.

Tuberculous Peritonitis.—By A. H. Cordier.

New York Medical Journal, November 3, 1900.

A Case of Sudden Death, Probably due to Pulmonary Embolism.—The patient of J. S. Horsley was a farmer aged thirty-two years, who suffered from stone in the bladder. A suprapubic cystotomy was done, and the patient did well for three days, when symptoms of suppression occurred. Under the administration of large quantities of distilled water and milk, with some digitalis, these symptoms entirely disappeared, and the patient advanced in convalescence uninterruptedly until the day he was allowed to sit up. He felt perfectly well, and the wound was in excellent condition. The nurse carefully lifted him to a sitting posture in bed, when he suddenly gasped, turned purple in the face, and complained of pain in the region of the heart. The doctor was summoned by telephone, and reached the patient in five minutes. The heart was faintly fluttering and his face still bluish. His heart stopped entirely within seven minutes from the time of the attempt to sit up. Unfortunately, it was impossible to obtain a necropsy.

Modern Cæsarean Section; an Ideal Method of Treatment for Placenta Prævia.—A. P. Dudley believes that this plan of caring for placenta prævia is one which is fully justifiable and which offers greater safeguards than those hitherto followed, when all the factors in the case are taken into account. He describes his method of operating in detail, one important feature being the constant irrigation of the field with a warm saline solution. He does not believe that the patient is subjected to any greater danger of infection than those which follow in the wake of forcible introduction of the whole hand into the vagina, rapid manual dilatation of the uterus, turning and forcible extraction of the child, living or dead, and the consequent lacerations that must certainly attend such a procedure. He refers to the experience of others with placenta prævia in general.

A Case of Paralysis of the Recurrent Laryngeal Nerve; Recovery.—J. F. Culp's patient was a man aged thirty-six years, in whom a sudden loss of voice came on while smoking and talking. When seen some three weeks later acute laryngitis was found with the left cord in the cadaveric position. A diagnosis of probable neuritis of the recurrent nerve was made. Abstinence from tobacco and rest of the larynx were ordered, with sprays of menthol and benzoinol. Later the constant current was applied to the neck. Nux vomica was given as a tonic and checked a diarrhœa from which the patient had suffered for some years. At the end of six months his voice was normal and examination showed a perfect larynx.

A Southern Health Resort: Climatic Advantages of Asheville, N. C., as a Temporary Residence for Tuberculous Patients.—By B. T. Whitmore.

An Operation for Laceration of the Perineum; Failure of Medullary Narcosis.—By H. J. Boldt.

Supposed Glioma of the Retina; Enucleation; No Return in Twelve Years.—By D. Webster.

Fulminating Appendicitis.—By C. A. Wheaton.

Medical News, November 3, 1900.

Obervations upon the Quartan Malarial Parasite and upon the Staining Reactions of the Tertian, Quartan, and Æstivo-Autumnal Parasites.—According to the statement of Charles F. Craig, of nearly two thousand cases of malaria, the records of which have been preserved, and in which the malarial parasites were present in the blood, only twelve quartan infections were noted. This parasite is as distinctive in its morphology as is the tertian or æstivo-autumnal variety. In twenty-four hours the distinguishing features are fully developed. The organism is sharply cut and looks often as if it were stamped into the blood corpuscle; it is refractive, and its protoplasm often presents a peculiar, finely granular appearance; the pigment is dark brown, in the form of rather coarse granules, and is generally collected around the edge of the organism; the pigment is motionless. The shape of the organism at this stage is usually triangular, ovoid, or round, and it is not amœboid. The invaded corpuscle is smaller than the healthy ones and is of a darker green color. The writer then describes Romanowsky's, Chenzinsky's, and Futcher's methods of staining.

Treatment of Puerperal Eclampsia.—J. B. Killebrew gives the following order of procedure in the treatment of puerperal eclampsia: (1) Control convulsions with chloroform; (2) bleed the patient and give intravenous injection of decinormal salt solution; (3) empty the uterus. If the number of competent persons present is sufficient, the last two methods can be practised with benefit at the same time. After these measures the colon should be thoroughly irrigated. Many physicians have had good results with veratrum viride. Pilocarpine is dangerous. Morphine should not be used on account of its effects on the various secretions. Since the mortality so far in this affection has been about twenty-five per cent., there is yet room for improvement in the methods of treating it.

Is Living Animal Tissue Capable of Neutralizing the Effects of Strychnine and Venom? An Experimental Study.—S. J. Meltzer and G. Langmann summarize their results as follows: Constriction of an extremity of an animal, even after removal of the constriction, markedly retards the fatal outcome of snake poisoning and transforms an effective minimum dose of strychnine into an ineffective subminimum dose. This effect is apparently due to some impairment of the power of absorption within the constricted leg. It seems quite certain that no part of either poison becomes fixed or neutralized by the tissues of the animal experimented upon. The claim of v. Czyhlarz and Donath to that effect could not be sustained.

Present Status of Interstate Reciprocity Concerning Licenses to Practise Medicine.—By Emil Amberg.

Eye-Work in General Practice.—By S. W. S. Toms.

Philadelphia Medical Journal, November 3, 1900.

Subarachnoid Injections of Cocaine as a Substitute for General Anæsthesia.—In concluding his paper on this subject, A. M. Phelps declares that these experiments should be done by men of mature judgment, of long experience, of clear heads. He thinks, as long as ether and nitrous-oxide gas have so low a mortality, the profession should be loath to substitute another method which must necessarily have a great mortality. Two deaths occurred in Paris this summer from this method of administration of cocaine. On this side the water there are occasional reports of a death or of alarming symptoms following this method.

A Note on the Use of Nitrous Oxide and Ether as an Anæsthetic.—Thomas R. Brown and Howard A. Kelly have for the past eight months been using the combined nitrous oxide and ether method in practically all the cases operated on at Dr. Kelly's private hospital. The cases number between two hundred and three hundred. The method possesses so many advantages to the patient, operator, and anæsthetist, and so few disadvantages, that it has become an indispensable part of the operative technique of the writers.

Large Scrotal Hernia; Operation for Radical Cure Under Spinal Anæsthesia with Eucaine; Aluminum Bronze Wire Used for Buried Sutures; Operative Recovery; Death from Exhaustion and Urinary Sepsis.—By W. W. Keen.

Local and Regional Anæsthesia with Cocaine and Other Analgesic Drugs, Including the Subarachnoid Method, as Applied in General Surgical Practice.—By Rudolph Matas. (Illustrated.)

Anæsthesia in Children with Adenoids, and in the Adenoid Operation, with Special Reference to the Dangers of Chloroform in Children of the Sympathetic Diathesis.—By T. H. Halsted.

Cocaine Analgesia from Subarachnoid Spinal Injection, with Report of Forty-four Cases, Together with a Report of a Case in which Antipyrin was Used.—By George Ryerson Fowler.

Subarachnoidean Injections of Cocaine as a Substitute for General Anæsthesia in Operations Below the Diaphragm, with Report of Seven Cases.—By Edward Wallace Lee.

Intraspinal Cocainization for Surgical Anæsthesia.—By S. Ormond Goldan. (Illustrated.)

Analgesia in Obstetrics Produced by Medullary Injections of Cocaine.—By S. Marx.

Anæsthesia by Cocainization of the Spinal Cord.—By George G. Hopkins.

Ethyl Bromide in Obstetrics and Gynæcology.—By Wilmer Krusen.

Cocaine Anæsthesia of the Spinal Cord.—By Ernest Laplace.

Two Cases of Medullary Narcosis.—By W. L. Rodman.

The Lancet, October 27, 1900.

A Case of Separation of the Epiphyseal Head of the Femur.—By J. J. Clarke. The patient, a girl aged fifteen years, had fallen and was unable to stand. On entrance to hospital no fracture or injury other than contusion was made out, and she was ordered rest and liniment. Five months later she was seen by the writer, who found her very lame. Stepping on the right foot was painful, and the right limb was markedly averted. The right great trochanter was displaced upward and approximated to the anterior superior spine. The limb was an inch shorter than its fellow, and the gluteal fold on the affected side was shortened and curved up at its outer end. On the front of the right hip joint there was a prominence which suggested an anterior dislocation of the head of the femur. Passive adduction of the affected limb was easily accomplished, but abduction and flexion were painful to the patient and were greatly limited in their range. There was no crepitus felt in carrying out these movements. A good radiograph was obtained which clearly showed a break in the neck of the femur. Excision of the head of the femur

was advised and done. The parts removed consisted of the head of the femur (which was entire), the inner end of the neck, and separate fragments of granular callus. The head had remained connected with the neck by two portions of the cervical ligament, one at its postero-inferior aspect and another at its antero-inferior aspect. The ligamentum teres also was intact. By these connections it had escaped necrosis, but there was no attempt at bony union, the callus having been formed entirely from the neck of the femur. The separation had taken place exactly in the plane of the epiphyseal cartilage, no trace of which remained. The fragment of the neck which was removed was somewhat sclerosed. Although the patient in the present case had no definite signs of rickets, there probably was some weakening of the bone from slight inflammatory (rachitic) changes in the juxta-epiphyseal tissue, predisposing the patient to the accident. The operation was in every way successful.

The Differential Diagnosis in General Practice of Plague and Typhoid Fever.—T. Colvin, who had experience with the recent cases of plague in Glasgow, notes as characteristics of the disease its sudden onset with buboes, rapid rise of temperature, dyspnœa out of all proportion to any physical signs revealed on examination, general pains in the chest, cough and expectoration which is scanty and streaked with bright red blood, nervous symptoms of the delirious type coming on early, and absence of skin rashes. The general aspect of the patients after a very brief illness is that of a later stage of typhoid. The Widal test in the plague is negative, and if sputa are present the characteristic bacilli can be found in large numbers. As to the site of bubonic enlargement the author states that the most common glands affected are those in the groin. In almost half of the cases the inguinal or femoral glands, or both, are alone enlarged. The next common situation is the axilla and in order of frequency the cervical, submaxillary, and parotid glands. Enlargement of the supratrochlear, iliac, and popliteal glands rarely occurs.

The Anæmia of Dyspepsia Consequent on Dirt-Eating.—A. J. P. Duprey does not believe that the anæmia observed in ankylostomiasis following dirt-eating is due to the abstraction of blood from the intestinal mucosa by the parasite, but ascribes it to malnutrition, due to insufficient and improper food. This causes dyspepsia, which in its turn leads to anæmia, for the parasites in this affection feed not on the blood but rather on the soluble products of digestion which otherwise would have been absorbed and gone to nourish the system. He believes therefore that it is a mistake to suppose that the dirt-eating habit produces its symptoms from the parasites. Anthelmintics are of benefit, but recovery after their use does not follow as quickly as it would if the parasites alone were the causative factor.

On the Rôle Played by the Spleen in the Pancreatic Digestion of Proteids.—By H. F. Bellamy.

Forces Opposed to Harvey and His Researches.—Harveian oration by T. Clifford Allbutt.

A Case of Complete Coarctation of the Arch of the Aorta.—By W. Lee Dickinson.

Notes on Cases of Injury by Lightning; One Fatal.—By P. E. Hill.

Some Remarkable Cases of Sarcoma.—By A. Marmaduke Shield.

Appendicitis.—An address by Harry Littlewood.

British Medical Journal, October 27, 1900.

The Signs and Symptoms of Bubonic, Pneumonic, and Septicæmic Plague.—James Cantlie states that the skin is now generally considered to be the "port of entry" of the plague bacillus. The average period of incubation of the bubonic plague is from three to five days. The onset is generally sudden. The patient complains of splitting headache, of great weakness and prostration, of pains in the limbs and back, and sometimes in some one of the larger groups of lymphatic glands. In severe cases there are generally rigors or chilly feelings and often vomiting and nausea. Diarrhœa is not uncommon. The pulse is usually fairly full at first and of increased frequency. Respiration is rapid, and the temperature during the first three days may gradually reach 104 or 105 F., or even higher. Mental aberration appears early. It is as a rule the third day before the bubo appears. Abrasions of the skin should be sought for. Adenitis occurs in all varieties of plague except in the pneumonic and fulminant. In bubonic plague unilateral swelling of a group of glands is the rule, and one gland of the group proceeds to bubo. Various parts of the alimentary canal are affected. Constipation is the rule. The liver may be tender and somewhat enlarged: the spleen is invariably swollen. The urine is usually slightly albuminous. Sleeplessness is one of the most distressing symptoms in plague. In pneumonic plague the sputum is profuse, of a watery character at first. Generally blood does not appear till after twenty-four hours' duration of the illness. Pneumonic patches occur in either lung and at any portion. The severity of the onset of septicæmic plague is such that the patient resembles one attacked by active poison. Prostration from the first is extreme. Hemorrhages from the nose, bowel, or kidney are more frequent in this variety than in any other type of the disease. Apyrexia is not uncommon. Busy delirium followed by coma usually ends in death on the second or third day.

A Note on the Method of Using Haffkine's Prophylactic.—Margaret M. T. Christie in Calcutta in 1898, together with Dr. Nield Cook, inoculated some 2,490 patients between April and July, none of whom died of plague during that year's epidemic. The ordinary dose of Haffkine's prophylactic for an adult male was 5 c.c.; for a woman, 40 c.c.; for girls between the ages of ten and fourteen years, 3 c.c.; for children from two to ten years, from 1½ to 3 c.c. The writers selected the back and outer side of the arm midway between shoulder and elbow as the site of inoculation. The reaction in many cases began at once with pricking at this site, and the gradual formation of a hard, tender red swelling for a few inches round. The temperature rose within six hours. The height of the fever varied greatly, rarely lasting more than two days, though the arm remained more or less painful and tender for a week or ten days, and a small, hard nodule often remained for a few weeks. There were no untoward results.

The Bacteriology of Plague (with Illustrations on Special Plate).—David C. Rees declares that the micro-organism which he describes in detail in his paper is now the undisputed causative agent of plague. This organism resembles somewhat closely the bacillus of chicken cholera. It is generally from 1 μ to 2 μ in length and from 0.3 μ to 0.5 μ in width. It has rounded ends and is generally non-motile, although at a temperature of 37° C. it is actively motile. It does not form spores and has no true capsule. It is a facultative anaerobe. This bacillus is constantly present in the body of an individual suffering from the disease. If a susceptible animal be inoculated with material from this individual, the animal dies and the organism is found in its organs. These bacilli in their turn will prove fatal to other susceptible animals. The plague bacillus does not produce pus, but it can cause necrosis of tissue. If buboes containing the bacillus suppurate, it is generally due to staphylococcic and streptococcic infection.

A Case of Plague from a Clinical and Pathological Point of View.—William G. Savage and D. A. Fitzgerald sum up the chief points of interest in this case: (1) The enlarged glands; the absence of pain, tenderness, or inflammatory signs in or around the enlarged glands; (2) the bacilli in the blood were numerous enough to be readily detected microscopically; they were almost certainly bacillus pestis; (3) there were many whitish areas scattered through the liver which were probably necrotic; (4) the so-called carbuncles, red and subsequently necrotic patches on the shins, appear to be one of the characteristic features of plague, and were present on the first examination of this patient.

On the Method of Making Antitoxic and Preventive Fluids, with Special Reference to Those of Plague.—By C. Balfour Stewart. (Illustrated.)

Some Practical Notes on the Bacteriological Diagnosis of Human Plague (Pestis Hominis).—By Sheridan Delepine. (Illustrated.)

Notes on the Introduction of a Case of Plague into the Neighborhood of Cardiff.—By E. Walford.

A Note on the Organization and Conduct of Plague Laboratories.—By Walter C. C. Pakes.

Plague and Influenza: Mixed Infection in Houses.—By William C. Hossack.

French Journals.

Cancers of the Heart.—Deguy states that these neoplasms comprise two distinct groups: primary and secondary. The first class consists of myxomata, sarcomata, and fibrosarcomata. Banti as well as Albers has observed a case of primary lipoma. The class of secondary neoplasms is more numerous. This group presents two very different types, sarcomatous and epithelial, the former possibly the more frequent. Wagner had already reported one of these cases; then Friedreich made the observation that melanosarcomata, remarkable for their malignity and their tendency to dissemination, seem to give rise most frequently to multiple metastases in the cardiac tissue. Nodules, some dark brown in color and others scarcely tinted, could be seen scattered through the cardiac tissue. The writer cites two cases which have come under his personal observation. The first was that of a man thirty-six years old, who was suffering from an ulcerating melanotic sarcoma on the right shoulder. At autopsy two nodules were discovered in the heart, one anterior, the other posterior; secondary nodules were found in the endocardium as well

as beneath it. The myocardium was filled with them. The second case was that of a woman sixty years of age, afflicted by an inoperable melanotic tumor on the right leg. Metastases were also found in this heart at autopsy. The secondary cancer may be either diffuse or nodular. It is a very important fact that in this affection the valves are usually spared. The semeiology will naturally be extremely varied; there are generally present, however, palpitations, pain, dyspnœa, arrhythmia, signs of pericardial effusion, and finally sudden death. It can be seen from this enumeration of symptoms that they do not form a characteristic group. The age of the patient and the existence of a neoplasm elsewhere in the body must also be taken into consideration.—*Gazette des Hôpitaux*, October 13, 1900.

Parasites of Cancer.—The announcement is made by M. Bra that in a series of cases of cancer he has found and isolated in pure culture from the blood and pathological tissues an organism belonging to the class of the lower fungi, and whose isolation is practically possible in the majority of cases. He has determined the morphological and biological characteristics of the organism. The inoculation and ingestion of cultures of this fungus reproduce in animals the anatomical lesions that are considered characteristic of cancer; these experimental tumors have the structure of sarcoma, of chondroma, and of carcinoma. The soluble products of the fungus have a vaccinal power which it would be possible to utilize after surgical operations to prevent recurrences. They exercise an attenuating influence on the pain, the hemorrhage, and the suppuration of cancer, and in some cases a curative action.—*La Médecine Moderne*, October 17, 1900.

Two Cases of Extreme Brevity of Vaccinal Immunity.—Charles Viannay cites these cases, which occurred in his own family, one five months after a successful vaccination, the other seven months. The disease was contracted by both individuals as they were nursing the writer, who was suffering from an insignificant attack of varioloid. The writer had been previously vaccinated six times without success, and then contracted the disease by making an autopsy on a virulent case. One of the first symptoms of invasion in the cases noted was aching of the legs which preceded the backache. During convalescence, the least fatigue caused a sensation of extreme lassitude in the legs. The history of these three cases would seem to indicate a family susceptibility to this disease.—*Lyon Médical*, October 14, 1900.

Hæmatemesis in the Course of Intestinal Occlusion.—From the study which Louis Tixier and Charles Viannay have given this subject, they believe that hæmatemesis in the course of intestinal occlusion offers a very grave prognosis just as gastric hemorrhage does in appendicitis. This complication is an indication of serious trouble dependent on the cause of the occlusion in the vasomotor innervation of the digestive tract and at the same time in the profound intoxication of the organism.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 23, 1900.

The Treatment of Metrorrhagia by Faradization.—Philippot believes faradization to be the best method of treating metrorrhagia. Its field of action is more extended than that of galvanization. It arrests positively the bloody discharge after a few applications which follow each other closely. Its employment is far more simple. It does not expose the patient to the unpleasant consequences to be feared from the other method. It is painless and causes most of the subjective phenomena to disappear rapidly.—*Le Nord Médical*, October 15, 1900.

Osteomalacia.—Adenot reviews an interesting case of this disease, and concludes that the infections have a very important influence on the development and evolution of osteomalacia; that castration probably does not act directly nor reflexly on the disease, but simply by preventing pregnancy, which favors the development of the osseous malady as it influences all other pathological states.—*Gazette Hebdomadaire*, October 14, 1900.

Berliner klinische Wochenschrift, October 8, 1900.

The Anatomy of the Accessory Nasal Sinuses.—G. Brühl describes a new method of demonstrating the exact position of the sinuses and their relation to surrounding structures. The heads are immersed in an acid solution of formalin, then treated with alcohol and ether, and finally with carbolized xylol. The cavities are filled with a molten mixture of lead, tin, bismuth, and cadmium called Wood's metal, which soon hardens. They are finally submitted to the *x*-ray process, which brings out a dark spot wherever the metal has penetrated. The positions of the sinuses are definitely located in the radiograph.

The Treatment of Bronchial Affections by Position.—O. Jacobson advocates the use of the prone position in clearing the bronchi of their secretions. The patient should lie flat on the stomach while the foot of the bed is raised. The method is practically of benefit only in chronic cases in which the muscles of the air tubes have lost more or less of their normal tone.

Certain Problems of the Cell, and their Significance for the Scientific Foundation of Organotherapy.—By D. Hansemann.

Methods of Preserving Anatomical Preparations True to Nature.—By L. Pick.

The Employment of Milk Thermophors.—By D. Sommerfeld.

Examinations with Eye Magnets.—By S. Türck.

Deutsche medicinische Wochenschrift, Oct. 11 and 18, 1900.

Cure of a Case of Epileptic Idiocy.—Edmund Rose describes the operative cure of epileptiform convulsions accompanied by aphasia and imbecility in an otherwise healthy boy after a comparatively slight trauma which produced a wound of the forehead above the left eyebrow. Shortly after this had healed the convulsive seizures began and continued for several months, while the patient lapsed into a condition of complete imbecility, with involuntary defecation and micturition, etc. In spite of the not very great hope of success from surgical interference, inasmuch as the uncontrollable outbursts of fury to which the boy was subject made permanent confinement in an asylum seem the only alternative, operation was decided on. Two trephine openings were made, one at either end of the scar, and the intervening bridge of bone was removed. No evidences of fracture or abnormalities of dura or brain substance were found even on exploring with the needle, and the wound was closed. Several months later it was learned that the attacks had steadily decreased in frequency until two and a half months after the operation they had stopped entirely, and that the patient's general condition mentally and physically was perfectly normal for a child of his age. Apparently the only explanation of this happy result lies in the supposition that the disease had been due to increased tension within the skull, and that the fact that one of the trephine openings was left unclosed and was occasionally bulged out by the pressure within furnished a safety-valve for this heightened tension.

The Pathology and Therapy of Vesical Tuberculosis.—Leopold Casper divides the treatment of this condition into the general hygienic, the local, the operative, and combinations of these three. The fact that the bladder lesion is frequently accompanied by involvement of other organs, or at least that the danger of extension of the disease is always great, makes the general tonic and strengthening treatment of the highest importance, and endeavors to increase the resisting-power of the organism should never be neglected. Of the drugs for internal use creosote and guaiacol carbonate appear to give the best results, though positive conclusions are hard to draw. Urotropin unfortunately is of no use in this class of urinary disease. In the opinion of many writers local treatment is contraindicated in tuberculosis of the bladder, and reliance should be placed solely on narcotics to control the pain. The author believes, however, that by careful irrigations, which should always be small in amount and never carried to the point of effecting the least distention of the bladder wall, much good may be done and even in isolated cases cures effected. Lactic acid (up to twenty per cent.) and bichloride solutions (1 : 10,000 to 1 : 1,000) give the best results, though the former is so unendurably painful in its application and after-effects that it can but rarely be used. Even the irrigation with bichloride solutions produces a painful reaction, but this is soon succeeded by diminution or cessation of the pain and improvement in frequency of micturition. Operative treatment does not promise very favorably, and should be resorted to only when there is a strong probability that the disease is strictly localized to small areas.

The Etiological Significance of Trauma.—Dirska deprecates the tendency to attach undue importance to acute trauma as a cause for secondary illness, especially in cases in which suits for damages are involved. Traumatic neuroses are often diagnosticated, but in the author's opinion are really comparative rarities. The possibility of the lighting-up of otherwise latent tuberculous pneumonic or cancerous growths through somatic concussions is, to say the least, problematic. There are three fallacies that frequently stand sponsors for an erroneous diagnosis of a traumatic origin of a disease. First, the assumption that it is particularly the lighter forms of injury that are followed by such consequences; second, one is easily carried away by the plausibility of an ingenious theory apparently correlating the supposed cause with the effect; and third, the factor of auto suggestion is strong in the patient and there is an almost universal tendency to connect illness with some previous injury.

Viscin and its Therapeutic Application.—G. Riehl gives this name to a substance obtained from viscum album, a

European member of the tropical family of the Loranthraceæ, which has long been used in the preparation of birdlime. It is the only European plant adapted to furnish a substitute for the expensive rubber and caoutchouc preparations so extensively used in medicine, and the author's attempts to elaborate a useful preparation have apparently been successful. The new agent is cheap, is readily prepared from the crude plant by simple processes, and is soluble in unirritating media. The combination most likely to be of general use in the treatment of dermatological and allied affections is a solution in benzin with which starch, zinc oxide, and salicylic acid, etc., may easily be incorporated, and efficient and cleanly substitutes for plasters and ointments secured.

Atrophy and Development.—M. Mühlmann divides cellular atrophy into three types, plastic, histogenetic, and necrotic. These are constantly influencing development and go hand-in-hand with growth. The earlier periods of development are dominated by the plastic and histogenetic forms of atrophy, although these are also to some extent present all through life, while it is necrotic atrophy that is most active in later periods and finally causes the death of the organism.

An Apparatus for Conducting Investigations on the Metabolism of Nurslings.—By B. Bendix and H. Finkelstein.

Psychology and Cerebral Anatomy with Especial Reference to Modern Phrenology.—By W. Weygandt.

The Present Status of Hand Disinfection and the Problems of the Future.

Hemianopsia and its Diagnostic Significance.—By H. Salomonsohn.

Münchener medicinische Wochenschrift, October 16, 1900.

The First Beginnings of Idiopathic Enlargement of the Heart, and the Significance of Dilatative Cardiac Muscular Weakness in Military Service.—Eugen Wolfhügel's observations, while conducted entirely on military material and being primarily of interest to army examiners and surgeons, have yet a practical bearing on the understanding of heart lesions in general. The usual belief that the acute and apparently wholly evanescent dilatation sometimes following sudden and severe exertion is a purely temporary condition without significance, and likely to occur to individuals in perfect health, is somewhat deprecated by the author, who is of the opinion that such an event is possible only in those whose muscle has previously been weak either naturally or as the result of disease, faulty hygiene, etc. Obesity, influenza, rheumatism, and, to a less degree than generally supposed, excessive beer consumption are factors predisposing to the weakness, while of the mechanical moments involved impeded respiration and increased blood pressure are of importance. The conditions under which the soldier does his severest work, viz., wearing a tight belt supporting heavy cartridge boxes, carrying a large and cumbersome pack on his shoulders, and encased in a snug uniform which restricts motion and does not permit active skin action, are such as greatly to diminish the vital capacity of the lungs, and in reducing the extent of intrathoracic changes of pressure to deprive the overburdened heart of a great aid in maintaining both the pulmonary and systemic circulations. Increased tension within the ventricles must be relieved in one of three ways—either by discharge into the arteries, dilatation of the ventricular wall, or incompetence of the auriculo-ventricular valve. If the first of these be difficult owing to high arterial pressure, dilatation may result, though in many instances the valves yield to some extent, and by a relative incompetence save the heart muscle. The author recognizes two forms of functional incompetence—first, this regulatory incompetence, which he likens to a safety-valve action, and second, the relative insufficiency following and due to dilatation. An attack of temporary dilatation sufficiently marked to give symptoms severe enough to call the patient's attention to it and lead to its recognition by a physician must have been preceded by other slighter, unnoticed ones; and while such attacks in a raw recruit are not necessarily serious, since by proper gymnastics the cardiac tone may be sufficiently improved to make their recurrence improbable, in soldiers of several years' standing they indicate disabling weakness and should lead to the man's discharge.

Cystitis Typhosa.—Hans Curschmann collates the statistics of numerous observers and finds that in at least fifteen to thirty per cent. of all typhoid cases the specific organism occurs in the urine. In view of the vulnerability of the parenchymatous organs, bones, periosteum, subcutaneous tissue, etc., to the pus-producing powers of the typhoid bacillus, it is rather remarkable that this very frequent bacteriuria is not oftener accompanied by cystitis. Published reports of such cases are rare, however, and considerable interest attaches to three such described by the author. In each of these the bladder symptoms were preceded by an albuminuria of low grade apparently purely febrile in nature which did not appear until convalescence was well under way. Typhoid bacilli were obtained in pure cultures from the purulent sediment in the urine, which was acid in reaction, this seeming to be a characteristic of the disease. But few subjective disturbances were noted; only one of the patients suffered from vesical pain and evinced a slight tendency to tenesmus. A temperature rise referable to the complication was not observed. The etiology of the affection is still obscure; there seems to be no satisfactory reason why the vesical mucosa that ordinarily is not attacked by the bacillus should in others be unable to resist it. The prognosis is favorable, for though the condition is prone to persist for some time, the symptoms are never severe and respond well to the usual remedies, among which urotropin is said to hold first place for this class of cases.

An Addition to the Technique of Leg Amputations.—E. Meusel, in order to prevent pressure gangrene of the flap over the sharp edge of the sawn tibia, has long used the following plan with great success: After the flap has been sutured it hangs down perpendicularly over the sharp and easily palpable tibial edge. A thread is passed transversely one and a half inches through the skin, three-quarters of an inch above the sawn end of the bone, and again similarly through the skin of the flap, three-quarters of an inch below the sharp edge. If the thread be now tightened and the ends tied the flap will be drawn straight up and a crease be formed over the dangerous spot, preventing all pressure gangrene. At the end of eight days the thread should be removed lest it cut in too deeply, but by that time the tissues will have gained sufficient vitality to obviate all risk.

Renal Hemorrhage in Hæmophilia Cured with Gelatin.—E. Hahn's patient was an hereditary hæmophiliac who for several weeks had been losing large quantities of blood daily from the kidneys with the usual consequences of protracted hemorrhage. Other forms of treatment having proved unavailing he was given large amounts of gelatin incorporated with his usual food, six to eight ounces daily being used. A marked improvement was noted on the next day and a permanent cure effected in a week. In view of the simplicity and harmlessness of the procedure, together with the fact that it does not interfere with other modes of treatment that may be carried on simultaneously, it seems well worth trying in such cases.

The Occurrence and Significance of Crystals in the Stools.—By Schilling.

Disinfection with Carboformal Glow-Blocks.—By Diendonné.

Lithopædia.—By Kroemer.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ELECTION—ACTINOMYCOSIS—GASTROTOMY FOR HÆMATEMESIS—EARLY TREATMENT OF ABDOMINAL SYMPTOMS—SUBCUTANEOUS SYMPHYSEOTOMY—NATIONAL HOSPITAL SCANDAL—GUILD OF ST. LUKE—LONDON UNIVERSITY—TYPHOID—DEATH OF SIR H. ACLAND.

LONDON, October 19, 1900.

THE general election is over and the excitement connected with it is rapidly subsiding. There are eleven members of the profession in the new House. All were in the last except one—Rutherford Harris, known in connection with the South African Company rather than as a doctor. Some of the others have forsaken medicine for other occupations. Three doctors lost their seats. The strength of the profession in the House will be about the same as before.

A case of actinomycosis related by Sir D. Duckworth gave rise to a little discussion at the meeting of the Clinical Society. It was a case in which subdiaphragmatic abscess ensued. Mr. Marsh remarked on the difficulty of diagnosis and thought operative interference would in such cases be useless. Mr. Godlee took a more hopeful view, as many patients suffering from actinomycosis of the cæcum, abdominal wall, face, and neck recovered after scraping and a course of iodide of potassium. This view was supported by other speakers. It was also mentioned that the fungus is destroyed by carbolic acid, and a case was mentioned which ended in recovery after scraping followed by the application of this acid.

Mr. Mansell Moullin then read notes of three cases of gastrotomy for hæmatemesis. In two the source of bleeding was superficial erosion of the mucous membrane, which he strangulated with silk ligatures at the base. In the

other the ulcer was too large and the base too soft for this plan, so a stout ligature was tied tightly round the part of the stomach wall on which the ulcer was situated, and union of the serous coat secured by some Lembert sutures passed from the peritoneal surface. There was some fresh hemorrhage a fortnight afterward, possibly from separation of the ligature, but the patient quite recovered and is now well. Mr. Moullin said that although hæmatemesis is said to be fatal in only four or five per cent. of cases in which ulcer of the stomach is diagnosed, it often places life in danger and more often causes so much apprehension that if this operation prove to be unattended by great risk many sufferers would prefer the chance of perfect cure to months or years of semi-starvation, and the possibility of sudden death always before them. The stomach, owing to the thickness of its coats, bears sutures better than the rest of the digestive tract, and there is no reason why the mortality should be greater than in appendix cases, provided the operation is performed early and not when the patient is *in extremis*. The difficulty of finding the bleeding spot is great, and Mr. Moullin mentioned a case in which death had occurred after abdominal exploration. If such a case occurred to him again, he would reopen the abdomen and search, and would, if necessary, incise the stomach wall to find the bleeding spot. In one of his cases the erosion would in all probability have been overlooked at a post-mortem, but the bleeding still going on when he operated revealed the spot.

The early treatment of abdominal symptoms was the subject of Dr. Schacht's inaugural address at the West London Society, and he raised a voice against too precipitate a recourse to operations. Recognizing the triumphs of surgery he also recalled that many fashions had arisen and passed away in regard to abdominal surgery. The surgeons' familiarity with the peritoneum taught them to differentiate many cases, but the clinical symptoms were much the same as of old. Those most frequently present —vomiting, constipation, diarrhœa, increased temperature and pulse, pain, tenderness—were most valuable in some cases, but individually were uncertain and very often were absent. He therefore thought that all cases of doubtful abdominal symptoms should be treated at the earliest stage in one manner, viz., absolute rest in bed, restricted fluid diet, avoidance of all aperients, and small doses of opiates, preferably as hypodermic injections of morphine.

The frequent reiteration of "wasted early opportunities" in reading had so struck him that he felt our increased knowledge had perhaps developed a new danger, viz., a liability to overlook medical prevention on account of our familiarity with surgical cases. Prompt treatment in the earliest stage would shorten many an illness, lessen its gravity, and diminish the necessity for surgical interference.

Subcutaneous symphyseotomy was the subject of a paper read at the Obstetrical Society by Dr. Herman. He pointed out the advantages of the procedure in its simplicity, quickness, small risk of sepsis, and insignificant hemorrhage, and then argued that to obtain the most favorable conditions it should not be delayed until the failure of the natural powers made some operation immediately necessary. The accoucheur should ascertain the size of the pelvis before labor and estimate the size of the child. If he decided on symphyseotomy, the most favorable time for it was immediately after full dilatation of the os. The chief risk of the operation was injury to the urethra, and this was most likely to occur when the child was too large. Careful estimation of the size beforehand was therefore the only means of guarding against it. Dr. Griffith described an easy mode of ascertaining the relative size of the head and pelvis. The patient sat on the edge of the bed at such an angle that the long axis of the fœtus was vertical. Its head, then, if smaller than the pelvis, would dip into the cavity owing to gravity. Dr. Lewers had in one case found a dovetail in the middle of the joint, and had to use a saw. Dr. Spencer thought the subcutaneous method had advantages, but it must be remembered that severe hemorrhage from division of large vessels had been recorded. If the vagina was wounded, there was also some danger of sepsis. Dr. Herman in his reply said laceration of the vagina was not of importance unless it reached the urethra. He would try Dr. Griffith's plan of estimating the size of the child's head and pelvis.

The board of the National Hospital for Epilepsy and Paralysis has resolved that an inquiry is desirable into the charges that have been made, but in the letter to *The Times* stating this there is no allusion to the claims of the staff. The board seem unconscious that the accused is not the person to appoint a judge. But this board, or its "secretary-director," will no doubt proceed to ask some one to conduct an inquiry. It is not likely the staff will accept such a course.

The service at St. Paul's Cathedral under the auspices of the Guild of St. Luke was held on Wednesday evening. About one hundred and fifty doctors attended, and a goodly proportion wore their robes, to the delight of the promoters of the Guild, who attach great importance to such an exhibition of collegiate clothes, and appeared arrayed in all the glory of their various gowns and hoods. The Bishop of Rochester preached the sermon.

The reorganized London University will soon be at work. The chancellor, senate, and convocation have been elected. The standing committees and other boards will no doubt soon be appointed, and this complex institution will show what it can do.

Typhoid is increasing, as I intimated it was likely to do. There were seventy-one more cases admitted in the week, bringing the number in the hospitals to four hundred and five. The deaths were proportionately increased to twenty-two from the fifteen of the previous week. Scarlet fever showed an increase of above one hundred cases, but the number of deaths fell from fourteen to seven.

Sir Henry Acland, Bart., K.C.B., F.R.S., died on Tuesday evening. He was born in 1815, educated at Oxford, in 1841 became a fellow of All Souls', took his M.D. Oxon. in 1848, was elected F.R.C.P. Lond. in 1850. Subsequently he became professor of medicine at the University of Oxford (1858 to 1895), and a recognized, highly esteemed leader of the profession. You will remember that he accompanied the Prince of Wales on his trip to America (1860), and since then has been one of His Royal Highness's physicians. Cambridge, Edinburgh, and Dublin conferred on him honorary degrees, and a number of American and continental medical societies enrolled him as member. Among the numerous offices he had held were the presidency of the General Medical Council, the curatorship of the Oxford University galleries, and of the Bodleian Library. He also served on several commissions connected with education and sanitation. He wrote memoirs of Sir B. Brodie and of Dr. Stokes, and numerous contributions to medical and sanitary science. The fine work on the "Oxford Museum" was jointly by him and Ruskin—his intimate friend.

SUBARACHNOID COCAINE ANÆSTHESIA.

To the Editor of the Medical Record.

Sir: I believe in giving credit to whom credit is due. When we give a historical *résumé* of the origin and development of subarachnoid anæsthesia, Dr. J. Leonard Corning's name should occupy a conspicuous place. He was certainly one of the first to perceive the "possibilities" of the method of spinal cocainization. But it seems to me going a little too far when an attempt is made to parade Dr. Corning as the sole originator, discoverer, and introducer of the method, and we certainly lay ourselves open to the charge of ultrapatriotism when we designate it as "Corning's method." Dr. Corning—and I say this notwithstanding the high esteem in which I hold the doctor and his contributions to neurology—had only a dim perception of the possibilities of the method. He stated distinctly that it was not necessary to penetrate the subarachnoid space, while, as we know now, the method is absolutely worthless unless the needle has penetrated the spinal column and cerebrospinal fluid has been seen to exude. Again, he had not used his method in a single operation (the passage of a sound cannot be considered one), and was himself uncertain whether the method would ever find an application in genito-urinary or other branches of surgery. It is the method of *sub*arachnoid anæsthesia that promises to work a revolution in general surgery and obstetrics, and the credit for that method undoubtedly belongs to two men—to Prof. August Bier and to Professor Tuffier: to the first as the discoverer of the method, to the second as its popularizer. Very respectfully,

William J. Robinson, M.D.

119 East One Hundred and Twenty-eighth Street,
New York City.

Rectal Fistula.—The various methods which have been employed from the earliest time may be classified as follows: 1. Methods designed to promote healing without laying open the fistulous tracts, these are: (*a*) Cauterization; (*b*) compression; (*c*) subcutaneous division of the sphincter ani externus; (*d*) curettage with packing of the fistulous tract. 2. Division of the tissues between the fistula and the rectum is accomplished: of these we have: (*a*) Simple incision; (*b*) ligature; (*c*) écrasement; (*d*) galvano-cautery.—Dr. A. E. Halstead, *Illinois Medical Journal*, October.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Fifty-seventh Regular Meeting, Held on Friday, October 12, 1900.

A. Alexander Smith, M.D., President, in the Chair.

A Case of Vertigo of Doubtful Origin.—This case was presented by Dr. H. M. Biggs. The patient was a man, forty-seven years old, a Canadian; his occupation was that of a farmer, and in former years he followed the sea. His family history was negative. He had gonorrhœa about twenty years ago. He denied syphilis, and was well up to two years ago, when he had an attack of influenza, and to this he ascribed his present illness. Subsequent to this attack he first noticed a tendency to sway and some vertigo. This symptom had gradually increased in severity, and when Dr. Biggs first saw the patient, about a month ago, the vertigo was so pronounced that he could with difficulty maintain his equilibrium in walking, and he was sometimes unable to walk without assistance. When he lay down his vertigo disappeared, but it reappeared at once when he got up and tried to walk. Aside from the vertigo, the man's only symptom was a severe headache, partly frontal and partly occipital. He had not suffered from nausea or vomiting until about two months ago, and then he attributed his gastric disturbance to some strong medicine he was taking at the time. There was also at that time some loss of appetite, but these symptoms had since disappeared. The motor and sensory functions appeared to be normal. There was no marked change in the arteries. His vertigo was slightly better in cold weather. In staggering, he usually fell to the right side, but sometimes to the left. The patient's eyes were examined by Dr. Peter A. Callan, who found a slight degree of astigmatism, which was corrected by glasses. Since then the patient stated that he had been free from headaches. There were no symptoms, ocular or otherwise, which indicated cerebellar trouble. There were no symptoms pointing to labyrinthine trouble. The patient had never experienced sunstroke. Dr. Biggs said he put the patient upon small doses of potassium iodide and inunctions of mercury. The former soon gave rise to severe gastric symptoms. The mercurial inunctions were continued until the physiological effects of the drug were apparent. Following this there was a decided improvement in the man's symptoms.

Dr. Charles Stedman Bull said that symptoms like those described in this case were not at all uncommon after the occurrence of grippe, and they often persisted for a long time, even without a discoverable lesion. One explanation that had been offered was that they were due to a hemorrhage in the labyrinth; another, that there was a serous inflammation of the lining membrane of the labyrinth. In such cases there were absolutely no objective symptoms. In the early stages they were difficult to differentiate from cerebellar disease of a malignant type, and in order to distinguish one from the other developments must be awaited. In the case shown by Dr. Biggs cerebellar disease could be excluded, as the symptoms had lasted for nearly two years and there was no hemianopsia. As regarded treatment, Dr. Bull suggested the use of pilocarpine hypodermically. The dangers of this drug should not be lost sight of.

The president, Dr. Smith, said he had seen two similar cases in which the symptoms were relieved, one by pilocarpine, the other by the fluid extract of jaborandi.

Dr. Walter B. James suggested that the hot-air cabinet might answer the same purpose and be safer.

Dr. Robert Abbe said the labyrinthine theory would not explain the frontal and occipital headaches. He had been struck by the similarity of the symptoms in this case to those of cerebellar tumor. In the latter case, however, hemianopsia would be present.

Dr. Smith said that in one of his two cases headache was quite a pronounced symptom.

Dr. J. W. Brannan called attention to the fact that the reflexes were quite markedly exaggerated in Dr. Biggs' case.

Dr. Bull said the reflexes were not influenced in labyrinthine disease.

Some Clinical Aspects of Gout.—This paper was read by Dr. Beverley Robinson (see page 721).

Dr. George F. Shrady said that Dr. Robinson's paper opened a wide range for discussion. The remarks on appendicitis seemed to be a challenge for the surgeons to discuss that particular aspect of the subject from an entirely different standpoint than that presented by Dr. Robinson. Personally, Dr. Shrady said, he had never seen a case of rheumatic appendicitis. The theory of a possible relationship between gout and appendicitis was a very taking one, but at the same time a very dangerous one, because in obscure cases it might lead one to temporize and lose valuable time. Of course, it was well known that there were cases of appendicitis in which recovery took place without the knife, but the very large majority of them imperatively required operation. It was proper for the physician to have his say against the surgeon, but statistics proved the utility of operative interference as the almost inflexible rule, and the condition could hardly be discussed on a purely gouty basis.

Dr. Dana said that he considered gout a form of defective metabolism which the individual inherited or acquired, and that the nervous system controlled in a measure its acute exacerbations; otherwise he did not think gout had much to do with the nervous system or with nervous diseases, except secondarily through the arterial changes. It was not often a factor in causing the organic or functional diseases seen by the neurologists, and he rarely had occasion to prescribe colchicum or the other gout specifics. There were, he thought, four forms of defective metabolism which were met with by the physician, all having a certain kinship; these were rheumatism, lithæmia, gout, and rheumatic gout. One of these four processes, that known generally as lithæmia, was in particularly close relationship with the neuroses. It was a disorder of metabolism which stood apparently between rheumatism on the one hand and glycosuria on the other; it was not entirely identical with rheumatism, nor was it at all identical with gout, and it had, he thought, a certain independence in its pathology. It did not respond to the salicylates or to colchicum in any such way as acute rheumatism or gout itself, and it was certainly not due to an excess of uric acid, because very often there was no such excess in these patients.

Dr. Robert Abbe said he thought it important that surgeons should combat the theory that peritonitis of gouty or idiopathic origin was a factor in the ordinary run of cases which they were called upon to treat. The speaker said he had never seen a case of gouty peritonitis, and experience showed that peritonitis was invariably bacterial in origin, and that it was due to the transudation of the bacteria or their toxins through the walls of the intestines. If many cases of peritonitis which were usually attributed to appendicular trouble were really of gouty origin, how would Dr. Robinson explain the fact that the inflammation was invariably on the right side? Dr. Abbe said that in several hundred cases of recurrent appendicitis upon

which he had operated between the attacks, the gross appearance of the appendix in perhaps thirty or forty per cent. was apparently normal, but after distending and hardening them in alcohol, and slicing them lengthwise it was easy to make out the sequelæ of a chronic catarrhal inflammation with strictures. They all showed hypertrophic changes in the mucosa and muscular coats, with resulting strictures. With each repeated acute attack there were putrefactive changes within, and when the stricture finally became complete, rupture and septic peritonitis occurred. These gradual changes in the appendix might extend over a period of from five to twenty years, and such patients usually gave a history of recurrent attacks of appendicitis, which were apparently cured by all sorts of medicinal remedies, but finally an operation became necessary, or grave consequences ensued. Dr. Abbe said he considered the term "catarrhal appendicitis" a legitimate one, yet to speak of each attack as catarrhal was not legitimate, because the primary catarrhal condition dated far back, being perhaps a sequel of general influenza, of typhoid fever, or of some intestinal trouble which left a lurking focus and led to the subsequent symptoms. To say that there was originally a gouty element in the condition was open to grave doubt.

Dr. Joseph D. Bryant said that in several cases of gout which had been under his close observation for many years, a nitrogenous diet had proven very satisfactory. He said he was not disposed to take Dr. Robinson's statements regarding a possible relationship between gout and appendicitis very seriously. If such a relationship could be demonstrated by the author of the paper in any given case of chronic appendicitis, the speaker said he would be willing to submit the patient to a thorough course of treatment for the relief of the gout before advising surgical interference, provided Dr. Robinson would assume the responsibility of the delay. It had been found at autopsy that in at least sixty per cent. of persons who had died from various causes the appendix had undergone pathological changes: it would be very unfair to assume that in all those cases the changes depended on gout. In many cases the appendix had been found to contain fecal concretions and purulent products, which certainly could not be wisely ascribed to gout. Many patients recovered without operation and without any treatment directed to gout. Moreover, gout and appendicitis manifested their respective characteristics at periods of life so widely dissimilar as not to encourage belief in the existence of a specially causative relationship between them.

Dr. Andrew H. Smith said the problem brought up by Dr. Robinson could be solved by the collection of sufficient data bearing upon the subject. We could learn, for example, the proportion of cases of appendicitis in which there was a history of antecedent gout, or a gouty tendency. We might thus be able to arrive at some definite opinion as to whether the gouty infection was responsible for the original narrowing of the lumen of the appendix, and that this was followed, in the course of time, by the usual symptoms of appendicitis. There must be some beginning for these pathological conditions affecting the appendix, and it was known that only in a small proportion of cases had concretions or other foreign bodies been found in the appendix. What was the first departure from the normal condition of the appendix, and what caused it? After the pathological condition described by Dr. Abbe existed, all were, of course, willing to admit that surgical interference was necessary. The original cause of the condition, however, if it could be learned, might be prevented in a certain proportion of cases.

Dr. Robinson, in closing, said that Dr. Smith had struck the particular point which the speaker deemed essential in his remarks about appendicitis. He would be extremely loath to have any one believe that in his opinion appendicitis should not be operated on under certain conditions, nor did he mean to imply that all cases of appendicitis were of gouty origin. A certain number of cases, however, had come under his observation in which the gouty nature of the affection was very probable. Of course, in speaking of gout we should not confine ourselves to those cases in which there was a history of swollen joints and nodular deposits, such as any medical student would recognize at a glance, but we should also bear in mind the more obscure manifestations of the disease; these the speaker had in mind when he spoke of the possible relationship between gout and appendicitis. The philosophy of medicine taught us to try to learn the underlying factors of a disease. The mere fact that an operation was safe did not prove its utility.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, October 23, 1900.

John H. Huddleston, M.D., Chairman.

The City and its Consumptive Poor: A Plea for a Municipal Sanatorium Outside of the Corporate Limits.—Dr. Alfred Meyer read this paper. One year ago, he stated, he had addressed the section upon the subject of the State care of the consumptive poor, since which time there had been cause for rejoicing in that the State of New York was finally induced at the last session of the legislature to commit itself to the principle of State aid by the appropriation of $50,000 for a State sanatorium. Twenty-six sites in the Adirondacks had been inspected by the commission appointed by the governor, and but recently a decision had been made in favor of Clear Lake. In spite of delay caused by opposition he thought there was a strong probability that within the next eighteen months the State of New York would have reared its first sanatorium for the cure of incipient tuberculosis. The first organized effort in this city for a separate institution for the consumptive poor dated back to 1855, when a society, with Peter Cooper as president, and Dr. Alonzo Clark and other well-known citizens as trustees, was chartered by the State and issued "An Appeal to the Inhabitants of the City and State of New York." The arguments used were almost identical with the ones used to-day. Last year the object of his paper was to enlarge the State's responsibility for the indigent consumptive; in his present paper his object was to urge the need of greater responsibility on the part of the city. The main obstacle to action under the law for the establishment of hospitals for the regular treatment of pulmonary tuberculosis had been the bugaboo of expense. Dr. Meyer quoted from a recent article in the *Wiener klinische Rundschau*, written by the director of the sanatorium at Alland near Vienna: "The great expense connected therewith, which appears to be the main argument against the establishment of municipal sanatoria, must appear in an entirely different light to every one who studies the facts—that is, to every one who studies what it costs society to support the consumptive until he dies, and what it would have cost had he been cured or at least sufficiently improved by treatment according to modern methods to permit him to return to the ranks of bread-winners." Enormous sums of money were being spent to-day without the saving of a single life, merely because it was being spent at the wrong time. Our motto should be, as so forcibly expressed by Dr. Pryor, of Buffalo, last year:

At the right time, in the right place, in the right way, until cured; not at the wrong time, in the wrong place, and in the wrong way, until dead. How much would it cost the city, approximately, if it were to embark upon a project of this kind? According to the board-of-health reports there were in Greater New York during the current year, up to and including September 22d, 6,079 deaths from pulmonary tuberculosis, from which could be deduced a total number of deaths for the year 1900 of about 8,100. If we remembered that the death rate and the average duration of the disease remained about the same, we were forced to the conclusion that there were about 8,100 new incipient cases each year taking the place of those who had died. If each one of the 8,100 had six months' sanatorium treatment, the expense would be equivalent to the care of one-half that number for one year, or about 4,000 cases. At a very liberal estimate nine-tenths of these might be classified as poor and liable to become a public charge; this reduced the total to 3,645. If we allowed for those taken care of by private charitable agencies the number was further reduced to about 3,000, for whom buildings and equipments would cost about $3,000,000 and annual maintenance about $1,000,000. But no one had asked that this burden be assumed by the city. An appropriation of about $300,000 is all that the friends of this measure were asking for, and those who persisted in claiming that this sum was but the beginning of an endless chain of annual appropriation should recall the fact that in the future the city would be the judge of the practical value of its first investment. Dr. Meyer then tabulated a few cogent reasons why, in his opinion, the proposed hospital should be established: First: The problem was an enormous one and required the union of all forces, municipal, State, and private. Second: There was no doubt that the expressed sentiment of the profession in this city was in favor of the plan. Third: The increased hopefulness of the medical profession of the curability of the disease. The results in Germany had been so favorable and had stimulated the erection of sanatoria to such a degree that about twenty thousand incipient cases could now receive treatment for three months each, and seventy-two per cent. of these were returning to the ranks of wage-earners. Fourth: The inadequacy of public and private endeavor. Two conclusions drawn from figures quoted were, that the city was doing insignificantly little, and that private charity was doing twice as much. Fifth: The disease was a menace to public health. Sixth: An object-lesson would be given by New York to those other municipalities in the State to which the same authority had been given, as yet, however, barren of results. Seventh: There would be great value in the hygienic enducation of the patients, and their training in the proper disposition of their sputa would diminish the spread of the disease. Eighth: The money value to the city of lives saved would be millions of dollars, whether estimated by what it cost to rear and to educate an individual, by what it cost to care for dependent widows and children, or by the law once upon the statute books of this State valuing a life at $5,000. Ninth: At a general meeting of the Academy of Medicine held December 21, 1899, a resolution favoring the establishment of municipal sanatoria was indorsed.

Dr. John B. Cosby, commissioner of charities, pledged his support in all efforts made toward procuring such hospitals.

John W. Keller, commissioner of charities, in referring to the number of phthisis patients, the number of beds reserved for them, the number who died, etc., in the hospitals of the department of public charities for the borough of Manhattan and the Bronx, stated that an analysis of these figures would show that the demand for room for the treatment of phthisis patients was in excess of the supply. They also showed that of the patients admitted from January 1 to October 1, 1900, more than one-third had died. The boroughs of Manhattan and the Bronx had not enough room in their public hospitals to care for phthisis patients properly. Necessary isolation could not be had, although there was a prospect for an early and effective remedy for this deficiency. In February of next year the Manhattan State Hospital would have to leave Blackwell's Island, and the three buildings now occupied by the insane would revert to the department of public charities. Two of these buildings were isolated, and patients there need not come in contact with any other class of patients on the island. He, therefore, thought that the borough of Manhattan and the Bronx would have ample accommodation next year for all destitute persons suffering from phthisis. The figures demonstrated the fact that there were six hundred and thirty-five deaths among eighteen hundred and thirty-nine patients; he thought this was too great a death rate, but believed that, with the additional accommodations on Blackwell's Island, it would be materially reduced. He expressed himself as being heartily in accord with any movement for the relief of the destitute suffering from this dreadful disease.

Dr. Herman P. Biggs said that this was a matter in which he had been interested for years. Six or seven years ago he had urged upon the department of charities the necessity of adequate care for tuberculous patients, and had asked that the receiving-pavilion at Bellevue Hospital be set aside for these patients, and also that sanatoria be established for the care of incipient cases. He had then suggested that Central Islip might be a suitable place, since the city then had a large tract of land there. H. H. Porter was commissioner of charities, and had acquiesced in the plan proposed by Dr. Biggs. The plan fell through on account of lack of money enough to carry it out. At that time the question of the transfer of the insane to the State hospital had come up for consideration. As a result, a certain number of wards had been set aside in the City Hospital and in the Almshouse, and subsequently pavilions were erected at the Almshouse to be devoted to the care of these unfortunates. When the insane were removed from the Metropolitan Hospital these wards were assigned for the care of such cases. In the following administration, that of Mayor Strong, there was a scheme for the establishment of a reception pavilion at Bellevue: appropriations were made, and the erection was begun. That building was just ready for occupancy. He was strongly in favor of establishing sanatoria. So far as this city was concerned, he believed that the total number of cases, as estimated by Dr. Meyer, was far below the actual. He stated that the department of health was primarily interested in the prevention of the disease; that the care of incipient phthisis also came properly under the department's care, yet it was not so much the prevention, but the cure, for which the sanatoria were required. There were two sides to be considered so far as the department of health was concerned: first, what could be done in the way of saving lives, and, secondly, what could be done in the way of prevention. In 1889 Dr. J. D. Bryant had introduced a resolution asking for the report on the prevention of tuberculosis. Drs. Loomis, Prudden, and Biggs were the consulting pathologists, and they submitted a report. Many prominent physicians were consulted as to whether they considered it advisable that any action should be taken looking toward prevention; a negative reply was received from all but one—Dr. Janeway. All others were opposed to any action on the part of the department. Then it was decided that

it was not advisable to take any action except in a limited way—that is, in the way of education of the people. Many circulars had been given out. Nothing further had been done until 1893, when a resolution was entered calling for the report of all cases of tuberculosis, and physicians were requested to aid. Following this in 1894 the department commenced an inspection of all cases occurring in lodging-houses. In 1897 tuberculosis was declared to be a communicable disease. Since 1888 there had been a reduction in the death rate from tuberculosis in this city. In 1888 the death rate was 4.04; last year it was 2.87. He emphasized the fact that the function of the department of health was the prevention of the disease, by education of the people, by disinfection and renovation, etc. He was strongly in favor of establishing such institutions. The appropriation made in 1897 for the care of such cases in Seton Hospital was made at his suggestion.

John P. Faure, ex-commissioner of charities, was extremely glad to notice such agitation of this question. During his time of service in the department he naturally saw a great many cases, and it was a matter of much regret that he could not separate them. He was particularly glad that the department now saw a way clear to do so. Again, he thought it was a matter of great desirability that the department recognize the value of specialists or those with some special idea. It had been his privilege to be identified with work among sick children, the floating hospital of St. Johns Guild, and he believed that the large diminution in the death rate among children was due to the fact that somebody was doing something in a definite direction. He therefore favored this movement. He had recently attended a meeting of the Brotherhood of St. Andrew in Richmond, Va., where he had heard a voice from Denver. The chapter in Denver saw that many of these cases were relieved; also, that many of those coming there were poor and came too late, and the death rate was large; yet many recovered. The young men of this organization in such a small place as Denver got together and purchased land for a ranch in order to give the people who went there the benefit of climate at a minimum expense. It seemed to him that if the poor young men of Denver could voluntarily set to work to gain such an object and set such an example of what could be done, it should spur on those present to accomplish the object under discussion.

Rev. James M. Buckley, LL.D., president of the board of managers of the Methodist Episcopal Seney Hospital, Brooklyn, was convinced that both philanthropy and self-protection required the institution of measures to aid those of the poor who were yet in a condition to be helped, and to give to the families to which they belonged freedom from the danger of the close contact which was inseparable from urban poverty. He fully sympathized with the movement. The city of New York should avail itself of the provisions of the law and try one experiment thoroughly. The results would show whether it remained an experiment or furnished a demonstration.

Jacob H. Schiff, president of the Montefiore Home for Chronic Invalids, believed that tuberculosis could be efficiently dealt with only in sanatoria located in favorable surroundings, well removed from centres of population. Some few years ago a plot of one hundred and thirty-six acres was selected at Bedford Station, Westchester County, about forty miles from New York City, and provided accommodations for a limited number of phthisis patients, mostly those in the earlier stage of the disease, who had already been inmates, or, upon proper application, had been found to be proper subjects for admission to the benefits of the Montefiore Home. The number of these patients taken care of there was thirty, and so satisfactory were the results that the directors of the Montefiore Home, about eighteen months ago, came to the conclusion that they would erect larger buildings at Bedford Station and remove thereto all of the phthisical patients coming under the care of the Montefiore Home. The new buildings were destined to accommodate one hundred and fifty patients. He did not think private philanthropy could ever be able to deal adequately with the situation, and could, at best, only experiment for the benefits of the State, and, with the experience gained, point out the means which the State must employ if it was to do justice to its duty toward its people. He thought the time had arrived when proper steps should be taken by the commonwealth to deal in an efficient way with this problem, without leaving it any longer to private attempts alone.

Charles C. Savage, president of Roosevelt Hospital, said that forty years ago he had been a member of a convention of physicians which took up the question as to the contagiousness of yellow fever, and it had been decided that it was not contagious; there was no doubt that fomites, such as clothing, etc., could carry yellow fever away from the patient, and infect those who were liable to such infection. Another question brought up pertained to smallpox; there was but one opinion, which was that it was contagious. In reference to this last disease great progress had been made, especially in regard to vaccination. During the past fifty years he had had much experience as a layman in hospitals and dispensaries, and he had been greatly interested in the endeavors made to stamp out smallpox. Now he was confronted with tuberculosis, and he asked if it could be stamped out, and if it was contagious. He believed that it was infectious, and that it would be carried to those who were susceptible to it. He again asked what could be done to eradicate it. It must be stamped out in some way. In New York there were one million and a half people living in residences that contained two or more families. The hospitals could not care for these patients, because they had not the means, and besides he did not think it was right to place the patients there. He did not believe that they should be sent to the Adirondacks, because it would require too great an expense, because it was too far from their homes, and because of the difficulty in getting them there. He believed that it would be wiser to isolate them properly on Blackwell's Island and see what could be done there.

Assemblyman Nelson H. Henry said it was impossible to obtain a reason for the disapproval of the bill on the part of the mayor after the bill had passed the legislature last winter. He believed that the people in the State of New York had, to a certain extent, been educated up to the point of recognizing that something must be done toward treating tuberculosis cases, not only in human beings but also in animals, particularly the bovine species. The people must be educated, and particularly the representatives in the State must be educated in order that they may be won over and make the proper appropriation for the carrying on of such a purpose. It was not well to be discouraged at the failure last year of getting an appropriation of $250,000 or $500,000; nor at the failure of such a bill to pass the mayor last year. He thought that probably those present, including Dr. Cosby, had not been able to educate the mayor up to learning the importance of this matter. It was a most important point in dealing with these things not to use too drastic measures. He thought we were quite far off from the compulsory removal of tuberculosis cases from our midst. The people should recognize first the importance of such a law. If we started out with the posi-

tion that the cows were responsible for tuberculosis, and that they should be removed from our midst, we would immediately rouse the anger of the farmers throughout the State. We must be patient until the hayseeds died off, and await the advent of the modern farmer who might appreciate what was best for his interest and assist in stamping out tuberculosis. It was very hard to train the old hayseed farmer. The removal of the incipient cases was generally recognized as the one thing certain to secure the most beneficial results. He had always held the view that we should establish hospitals for the advanced cases near our dense centres; we could accomplish much in giving them a place of comfort, but we should also look beyond that and see what good would come to the locality whence they had been removed. He believed that the secret of successful treatment lay in the improvement of the general sanitary conditions among the people as well as among animals. The old-style barn should be cleared out, and hygienic stables erected, which supplied proper air and exercise for the cows, etc.; this would probably stamp out tuberculosis in New York. The same principle would apply to the poor of New York: the tenements must be improved. It was his experience that the legislators in Albany had given this subject much attention, that they were convinced that something should be done, and that it only rested with the people to push the matter; they should state just what was the best course, not ask too much, and they would get legislative support. He emphasized the fact that the people should be educated in this most important subject.

Dr. Cosby, referring to what Mr. Henry had stated about the mayor not signing the bill, said that the mayor's reason for not signing it was that he did not know where the expense of it would stop. If only $150,000 was called for he thought that amount could be obtained.

Dr. Henry W. Berg said it was the duty of the community to care for tuberculosis cases. There were certain cases the department of health could take care of, but the department was limited in this effort by the amount of money in hand. He asked if it was the duty of the department to take care of the incipient cases. He divided tuberculosis into two classes: first, very bad cases, or cases of chronic consumption which had reached the last stage; second, those cases which modern science had shown to be in the curative stage of the disease. Fortunately, incipient phthisis was curable, and as a civilized community it was our duty to treat the disease by the most successful method. The best method of doing this was the segregation of the cases in sanatoria, and the first requisite for entrance into these establishments was that the patient should have a certain amount of money. That requisite excluded from the benefit of these sanatoria a large number: those who had no money. He thought it was more logical to devote money to the cure of the disease than to the maintenance of these patients; they should not be allowed to become a source of danger to the community, but should be cared for in sanatoria. The treatment did not consist in the administration of drugs, serums, or antitoxins; the best method of treatment was the one advocated by Dr. Meyer.

J. J. McKelvey said it was a fact that nearly every public agitation was opposed on the ground that it led to the injury of persons or property, and he did not think this present agitation was an exception to the rule. Several years ago the State legislators began to take notice of these cases of tuberculosis among the poor of the city; they tried to find means for bettering the conditions of that class of consumptives; they naturally looked to the hospitals. The concentration of these patients in public hospitals could be effected by various charitable organizations or by the appropriation of a certain amount of money to be used for their care in these institutions. That would result in concentrating these patients in particular localities. Property interests might interfere with the scheme proposed by Dr. Meyer. As soon as these people were collected together in certain localities, the people felt that something had happened; the landlord lost because of the proximity of a consumptive hospital. All this might be combated by increased knowledge, on the part of the people at large, as to the danger of infection. In 1900 a bill was passed which directed the city to take action in apportioning $350,000 for such a hospital as this. He believed that there was no department that had to do with such matters in the city or the State that was not in favor of the indorsement of that bill. It all lay in the hands of one man, Mayor Van Wyck. Very few realized the pressure brought to bear upon the mayor. Physicians in large numbers urged its passage; representatives from the State and different societies petitioned, and fifteen hundred physicians signed a petition in favor of approval of the bill. The mayor, for some occult reason, failed to sign the bill. It seemed to him that by education should be meant the education of the mayor, of the board of estimate, and of the board of apportionment.

Dr. Leonard Weber said that it had been shown by long experience that the care and treatment which the poor tuberculosis patients in the incipient stage needed, in order to be cured and cease to be a menace to those around him, could not be provided in tenements nor in the city hospitals. Such patients should be treated in a properly located sanatorium, which need not be far away from the city, and they would be greatly improved in a short time and have a chance of getting well. Greater New York ought to have two sanatoria for this class of the sick poor, located about thirty-five miles away from the city, to the east and west of the Hudson River. In a measure these sanatoria might be made self-supporting by charging each patient $5 per week, to be paid by him, or by the borough to which he belonged if he be a pauper. Inasmuch as the tuberculous poor generally applied first to one of the dispensaries for treatment, Dr. Weber believed that it would be good and proper to have a special department for pulmonary tuberculosis at every dispensary, so conducted that the patient would be thoroughly examined, his sputa at once submitted to the bacteriologist of such department, and the necessary treatment conscientiously and liberally ordered for him. The physicians in charge should be given authority by the commissioners to send the sufferer to the city sanatorium when necessary.

Dr. S. Adolf Knopf said that this could not be solved by any one method. He thought there should be institutions for incipient as well as for advanced cases of tuberculosis. He thought that if $250,000 could be got it should be taken at once. Part of it should be given to the board of health for its work in purifying the tenements; another portion should be given for the erection of a hospital for the advanced cases; another portion should be given for the erection of a hospital for the incipient cases. He asked that a combined effort should be made.

Dr. John A. Wyeth then offered the following:

Whereas, A law permitting the city of New York to erect a sanatorium outside of its corporate limits for the treatment of the consumptive poor was passed by the legislature in 1899; therefore, be it

Resolved, That the municipal authorities be urged to take action under this law, and that in the furtherance of this object a committee of three be appointed by the chair to bring the matter before the council of the Academy.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, October 25, 1900.

J. Riddle Goffe, M.D., Chairman.

Demonstration of Uterine Myomata, with Remarks on the Attachment of the Bladder to the Anterior Surface of Uterine Tumors.—Dr. J. A. Schmitt presented these two specimens of uterine myoma removed from women respectively thirty-six and forty-two years of age. The operations had been difficult because of the extensive adhesions present. Dr. Schmitt said that when the bladder was found embedded in front of the peritoneum, the operator was justified in making a diagnosis of infantile bladder. In those rare cases in which the bladder was adherent to the parietal peritoneum, or in which a uterine tumor pressed the bladder against the abdominal wall, one might be misled, but careful examination should lead to a knowledge of the true condition present. The vesico-uterine cul-de-sac was always more or less preserved.

Dr. H. J. Garrigues said that these cases were rather rare. He had seen one operated upon many years ago by Dr. T. G. Thomas, and the description had been published subsequently. In that case the tumor was ovarian, and the bladder was situated about midway between the umbilicus and the ensiform cartilage. Dr. Thomas had cut into the bladder and inserted his fingers in order to determine the attachments. After having detached the circumference, he had discovered that the posterior border of the bladder was not adherent. After the removal of the cyst the operator had included the edge of the bladder in the edges of the abdominal wound. Dr. Garrigues then alluded to the case that he had reported, one in which he thought the term "fœtal bladder" was warranted. The bladder in this case had extended up to the umbilicus.

Dr. Schmitt replied that he considered the designation infantile bladder more appropriate. In some cases the infantile bladder persisted; in others, it changed from the conical to the ovoid shape. The urachus had nothing whatever to do with the infantile bladder, because the lower part of the allantois was formed into the bladder.

Hyaline Degeneration of a Fibromyoma of the Uterus.—Dr. Garrigues presented a specimen showing hyaline degeneration of a fibroma of the uterus. The specimen had been removed from a woman forty-five years of age, who had lost flesh and had suffered from backache for some years. On palpation he had felt a non-sensitive tumor of considerable size in Douglas' pouch, and in front of this he thought he had felt a small uterus. He had, therefore, diagnosed an ovarian cyst. On performing abdominal section he had found that what he had taken to be the uterus was the hypertrophied cervix. The interior of the mass was filled with gelatinous and degenerating myomatous tissue. These cases had formerly been described as fibro-cysts of the uterus.

Dr. H. N. Vineberg said that the case was of interest because the patient had nearly reached the menopause, and still had a fibroid tumor requiring removal. Within a comparatively short time he had been called upon to operate upon twelve women, all near the menopause, and presenting various forms of fibroid tumor.

Analgesia in Obstetrics Produced by Medullary Injections of Cocaine.—Dr. S. Marx read this paper. He presented a tabulated record of the conduct of forty-two cases of labor in which medullary analgesia had been employed almost from beginning to end. At first, he had made use of eucaine, but with practically no results, although it had been given in heroic doses. He had now abandoned it altogether. Some of his failures had been due to the inertness of the cocaine from its having been repeatedly sterilized by heat. After various experiments he had come to the conclusion that the best way was to carry two sealed vials, one containing gr. ss. of the muriate of cocaine, and the other ♏ xxx. of sterile water. When mixed together, ♏ x. of the resulting solution represented gr. $\frac{1}{6}$ of cocaine. In obstetrics he had yet to record a failure with this method of anæsthesia, and he had been so deeply impressed with its efficacy, as well as with its safety, that he would be perfectly willing to make use of it in his own family.

Dangers.—He recognized only two dangers from it, viz., sepsis and cocaine poisoning. In all of the cases reported there had been no symptoms of cocaine toxicity. Some of the symptoms observed might have been attributed to cocaine toxicity had it not been that the same symptoms had been observed in control tests in which cocaine had not been used at all. They were in reality due to spinal shock, or to a disturbance of the equilibrium inside of the spinal canal. Cocaine, like chloroform, was a specially safe anæsthetic in obstetrics. He believed the dangerous symptoms associated with cocaine poisoning were owing to cerebral anæmia, and hence grave symptoms of this kind were not likely to arise during labor, in which cerebral congestion was commonly present.

Technique.—After a large experience he had seen no occasion to change the technique first adopted and already described. He maintained, Dr. Corning's statement to the contrary notwithstanding, that it was absolutely necessary to inject the solution into the spinal canal. The same technique had for some reason failed him in gynæcological work. A needle three or four inches long, of fine temper, and with a short bevel, should be selected. Long needle-points might penetrate beyond the point of selection and do injury. The trocar point was the preferable one. To insure absence of pain from the puncture in the skin, a freezing-spray might be used. In a period of from two to thirty minutes the anæsthesia was ushered in, often rather suddenly. The operation could usually be begun as soon as firm pinching of the labia majora caused no pain. Transient vomiting was apt to be associated with the ushering in of the anæsthesia. Some annoyance had resulted from severe headache. This could be avoided by giving gr. xxx. or xl. of bromide about two hours previously. If this were not sufficient, gr. $\frac{1}{150}$ of hyoscine might be given subcutaneously in the anæsthetic area. He reserved nitroglycerin for cases exhibiting more disturbance together with cyanosis. When anæsthesia was complete spontaneous bearing down did not occur, but when the patient was told to bear down she did so as vigorously as when not anæsthetized. Explorations, versions, extractions, and forceps operations had been done, not with as great ease as under chloroform, but much more easily than when no anæsthetic had been given. There was no greater disposition to bleeding than in ordinary cases. His rule in the hospital had been to inject when the pains became severe. The method was specially suited to allaying the dreadful pains of normal labor. The ease with which the cervix could be dilated in a cocainized woman was a matter worthy of note. The method was effective and safe for both mother and child. It was true that failures would sometimes occur, and probably under the most humiliating circumstances, but there was no contraindication to the use of chloroform under such circumstances.

Some Observations on Medullary Analgesia.—Dr. S. Ormond Goldan read this paper, which was based on the use of the new method in twenty cases of various kinds. That this method was superior to the three general anæsthetics ordinarily in use he did not believe. To prevent rusting of steel needles from boiling and sterilization, they should be dried in the flame of an alcohol lamp. A platinum needle was too

soft. He now recommended the use of an "attenuated" needle of fourteen-karat gold having a short bevel. He preferred, as did Dr. Marx, the use of a metal syringe with a solid metal piston. He carried the cocaine divided into powders, each one being wrapped in tinfoil and containing gr. ¼. A line joining the crests of the ilia would indicate the location of the lower border of the fourth lumbar vertebra, and it was between the fourth and fifth lumbar vertebræ that the puncture should be made, and not more than 1 cm. to the outside. The needle should be thrust through the integument quickly, and then, after a pause to allow the patient time to recover from the first slight shock, it was slowly pushed forward into the spinal canal. For abdominal cases an anæsthesia lasting an hour and a half would probably be sufficient, but it should be remembered that sometimes when the lower extremities were still anæsthetic the patient would experience painful sensations from manipulations in the abdomen. Vomiting occurred in about half of the patients. Many of them were pale and slightly cyanosed at first, but later the face became suffused. More or less profuse perspiration was observed in all but two cases, probably as a result of paralysis of the sympathetic. There was a slight rise of temperature in most of the cases. Headache was present in about half of the patients; in four it was quite intense. Two of the patients had muscular rigidity of the back muscles and of the back of the head. In one patient this had persisted for one week. Anæsthesia was not induced in three cases. Toxic symptoms had appeared in one case—an obstetrical case. This patient had a very intense headache for two days following the injection. Cocaine introduced into the subarachnoid space differed in its action in no way from that observed when it was injected into the general circulation, except that it was possibly less toxic. Some patients were easily influenced by small doses; others required comparatively large doses. Large, healthy individuals were often influenced by small doses, while feeble and sickly persons might not be susceptible to quite large doses. It was curious that when the first injection failed to produce satisfactory anæsthesia it also failed to give rise to the characteristic physiological effects. The individual susceptibility of the patient to cocaine must be determined in the same way as in giving morphine to a stranger. It had been said that no mortality had been reported as following intraspinal cocainization, but he was under the impression that Tuffier had reported one death attributable to the cocaine. The majority of patients would prefer not to be conscious when operated upon. Anæsthesia by intraspinal cocainization he believed would have a place in surgery, not generally, but when for various reasons general anæsthetics could not or should not be administered.

Medullary Injections in Gynæcology.—Dr. J. Riddle Goffe made some remarks on this subject. He said that the field of usefulness of this new method of inducing anæsthesia had been greatly extended until it was now possible to operate on every part of the body from the tips of the toes up to and including the breasts. On September 27th he had seen one of Tuffier's assistants remove a small fibroid tumor of the breast under medullary analgesia. For these high operations it was not necessary to make the injections any higher than the fourth space, but larger doses of cocaine were required. It had also been observed that the line of anæsthesia extended higher than usual when the injection was made quickly or forcibly. Tuffier had very recently declared to the speaker that the dosage in the future would be higher than hitherto. Dr. Goffe said he believed the method could be relied upon in all obstetrical and gynæcological operations. Reasonable explanations had been offered for almost all of the failures so far encountered. Tuffier regarded the method as absolutely safe if rigid asepsis was maintained. A letter was read from Dr. Keen, in which he said that he had just used eucaine with perfect satisfaction. In gynæcological work there were, of course, psychological and æsthetic reasons for not using this method in ordinary cases. Tuffier insisted that the patient should sit on a table, not near the edge, but far back, as in the latter position the patient was not so liable suddenly to straighten out and deflect the needle.

Annoying Features.—Dr. A. Palmer Dudley said that he had tried this method of anæsthesia in only a comparatively small number of cases of general surgery, but in enough to make him far from enthusiastic regarding it. He referred to six cases, viz.: (1) A large abscess of the liver; (2) a hysterectomy; (3) a double ovariotomy for extra-uterine pregnancy; (4) for laceration of the perineum; (5) an amputation of a portion of the foot, and (6) an operation for the reopening of an old hernial abscess. One of the disagreeable features of this form of anæsthesia had been the associated nausea. In his judgment, it was safer to make the injection gradually. Symptoms of cocaine poisoning had been marked in most of his cases. The method advocated a short time ago by Tuffier had been to use a solution of cocaine that had been heated to 80° C. for three hours each day for three days in succession. It was evident from what had been said already that this technique had since been materially changed. In four of his cases an annoying feature had been involuntary stools. The retching was exceedingly embarrassing in abdominal work. The intense headache seemed to him much worse than the after-effects of ether or chloroform. General surgical cases certainly must be as carefully prepared as for ether or chloroform. If it became necessary to lengthen the operation more than had been anticipated, it would often be not at all easy to turn the patient over and give another intraspinal injection.

Duration of the Anæsthesia.—In his first case he had injected 1 c.c. Anæsthesia had been obtained in eight minutes, and had lasted one hour and fifty-eight minutes. There was no vomiting, but the patient had an involuntary stool. In the next case the anæsthesia had lasted for two hours and thirty-nine minutes. There was vomiting, which was controlled by an injection of citrated caffeine. The next patient received 1.5 c.c., and the anæsthesia lasted two hours and ten minutes. There were vomiting and an involuntary stool. The same quantity of cocaine solution was used in the next case, and the anæsthesia lasted one hour and twenty-eight minutes. There was vomiting here also, but no stool. In the next case the same dose had been used, and the operation had lasted one hour and sixteen minutes. In all but one case the temperature had risen to 101.5° or 102° F. within an hour. In the last case the anæsthesia had been induced in six minutes, but had lasted only thirty-two minutes. The dose in this case was 1 c.c. The method seemed to him more useful in obstetrics than in general surgery; it was also useful in cases of disease of the heart or of the kidney, bearing in mind, however, the deleterious effects of the cocaine and of nausea and vomiting in such cases. The method might be considered useful in certain cases of minor surgery in which the patient objected to taking a general anæsthetic.

A Typically Successful Case.—Dr. Henry C. Coe said that he had used the method in only one case, but that had been an extremely typical one. The patient was a virgin who had passed the menopause and had had a disease of long standing, for which she had been tapped eight times. On examination, there was a well-marked dropsy and œdema of

the lower extremities and of the lower portion of the back. Examination per rectum showed a diffuse mass in the pelvis. The probable diagnosis was a papillomatous cyst. On account of the œdema the injection had been made with great difficulty. Within five or six minutes anæsthesia had been complete. The patient was a woman who was almost free from nervousness, and who had been tapped sufficiently often to have lost any fright she might have had—indeed, she said that the tappings had always been "disagreeable." She talked during the whole operation, and showed no signs of discomfort. The adhesions were numerous, and the operation was rather difficult. She was given gr. xx. of bromide half an hour before the induction of anæsthesia. When seen the next day she was extremely comfortable and had been able to take food from the first. She made an uninterrupted recovery. This was a case in which he felt sure it would have been very risky to etherize; such a course would probably have led to a fatal termination. The pulse had been 140 at the time she had been on the table, but probably this was largely owing to the action of the cocaine. He thought he would have to wait some time before he found another patient that he considered a suitable case, particularly as the patients at the hospital were largely excitable Italians and Hungarians.

A Humiliating Experience.—Dr. E. H. Grandin said that it was with considerable satisfaction that he found the general opinion prevailing here was not quite so optimistic as he had expected from articles that had appeared in the medical and lay press. The occasion reminded him of his student days when Dr. Bigelow used to come into the operating-theatre of the Massachusetts General Hospital and tell of the horrors of the pre-anæsthetic days. That was his frame of mind at present; he was so horrified that he did not care to try the method of intraspinal cocainization for a long time to come. His clinical material consisted largely of highly nervous Italians, and hence the difficulties, though he confessed that this was the only class of people upon whom he would care to try the plan. If such difficulties were experienced among this class of people, how could one expect to use the method in private practice? The first time he had tried it Dr. Marx had given the injection, and after about eighteen minutes anæsthesia had been induced. He had then made one sweeping incision down to the peritoneum, but on endeavoring to proceed further the patient's sensations had been such that he had administered chloroform and completed the operation. In another case he had proceeded to do a vaginal section after Dr. Marx had very skilfully administered gr. ⅓ of cocaine by spinal puncture. This patient had made such a noise that the next patient refused to be operated upon. The lumbar puncture had been most skilfully performed, but the anæsthesia, at least while the patients were in the operating-room, had not been a brilliant success. Continuing, Dr. Grandin said that he had probably witnessed upward of eight thousand anæsthetizations, and had made use of chloroform, ether, and nitrous oxide. He had yet to see a death which could be traced to these anæsthetics if these had been administered by a competent person. He had seen very little nausea after the administration of chloroform. In one case he had observed suppression of urine and death after etherization, but this woman had been drenched with ether. He had found nitrous oxide sufficient for plastic work, for a posterior vaginal section, and for simple vaginal hysterectomies. He could not use nitrous oxide for abdominal work because there was not sufficient relaxation of the muscles. If both cardiac and renal disease were present he would be perfectly willing to test lumbar puncture and medullary analgesia.

A Rumor of High Mortality from Intraspinal Cocainization.—The speaker said that only yesterday a gentleman, who had been present at the International Medical Congress, had given and vouched for the following astounding figures, and from another source they had been confirmed—viz., one hundred cases of lumbar puncture with five deaths; in only seventeen per cent. of the cases had anæsthesia been secured. Dr. Grandin's comment on these statistics was that, if found to be true, it would take one hundred thousand lumbar punctures to warrant any one in using this new method of anæsthesia in his own family or on his patients without having first obtained their written consent. He thought the less this method was exploited, the better. Women were to-day, he declared, talking in their sewing-circles about how they could have babies easily. It could not be denied that every case of lumbar puncture was subject to the danger of sepsis, no matter how careful the operator. He wished it to be understood that he was not condemning the method or accepting it; he would be content to sit by and wait until about twenty thousand cases had been placed on record, and then possibly he might be willing to try it again.

A More Favorable Experience.—Dr. J. Bion Bogart, of Brooklyn, said that his own experience with this method covered twenty-five cases. In this series there had been four operations for hernia, two amputations of the leg, two amputations of the great toe, one excision of the metatarsal bone of the great toe, one excision of the hip, one double osteotomy for knock-knee, and five rectal cases, so that the field of general surgery had been pretty well covered. His experience with the method had not been uniformly satisfactory, anæsthesia not having been secured in the third and fourth cases. In these the cerebro-spinal fluid had not been obtained; the cocaine had been boiled for ten minutes, and the puncture had been made between the fourth and fifth lumbar vertebræ. Since he had adopted the plan of making the puncture between the third and fourth vertebræ, securing the escape of some of the spinal fluid, and boiling the cocaine for only two minutes, there had been no failures. In the case of amputation of the leg the patient had died from a septic peritonitis, the result of an intraperitoneal injury. A careful autopsy had failed to show any injury from the puncture. The patient died within forty-eight hours after the puncture. The speaker objected to the use of the metal syringe with solid piston because it was impossible with it to tell whether the instrument was in proper working order. He had recently called for three such syringes in succession, and each one had failed to work. In only two cases had there been vomiting while the patient was in the operating-room, and that had been transient. In one case there had been an involuntary evacuation of the bowel. Of the twenty-five cases there were seven failures. One of these was a case in which an effort had been made to utilize this method of anæsthesia for the amputation of the arm, but it had not succeeded. He had used the method in both children and adults. In one of the cases of failure a very large needle had been used, and as soon as the syringe had been removed the injected fluid had run out. As the patient was a young child he had not cared to repeat the puncture, and had for this reason given chloroform. Most of his work had been done at the Kings County Hospital among a class of poor foreigners. Of the twenty-five cases six were in Italians. In connection with the statement that the bowel often showed sensitiveness to manipulation, he desired to say that one of his cases was an operation for the closure of a fecal fistula. Although this had necessitated much manipulation of the bowel, the anæsthesia had been perfect. The greatest difficulty encountered had been the fear of the patient of the primary injection. As soon as

the lumbar puncture had been made and the cocaine injected, the field of operation should be prepared, and by the time this had been done anæsthesia would be sufficient for going on with the operation. One case was that of a man with an exceedingly painful hip; it was so sensitive that he dreaded to have any one approach him. The speaker said that he disclaimed any wish to minimize the danger of infection, for this was the chief danger, but the chance of infecting the spinal cord was not very great, if only because the needle passed through so much tissue before reaching the spinal canal. This, of course, did not mean that one should not be careful about sterilizing the needle and observing the most rigid aseptic precautions.

Dr. Marx said that he had warned Dr. Grandin that the anæsthesia was not complete, yet Dr. Grandin had insisted upon beginning the operation at once. He would admit that Dr. Grandin's cases were absolute failures, but others who had had many successes had also met with some failures. It was just as wrong to condemn the method so unreservedly on an unfortunate experience in two cases, as it was to report an experience consisting of only one beautifully typical and successful case. He was of the opinion that Dr. Goldan used too large doses of cocaine, and that it was inadvisable to make use of needles with stilettes, as, if these were used, they might push a blood clot back into the subarachnoid space. It was unfortunate that Dr. Grandin should have placed on record those astounding figures, vouched for by two unknown persons. We should not condemn or praise the method on mere hearsay and rumor. He purposed to write in the near future a paper on his failures, accidents, and complications, and hoped others would do the same.

Dr. Goldan, in closing, said that his first two cases had been failures, yet he had tested the cocaine in those cases upon himself and upon another, and had in this way proved it to be active. The failure was probably attributable to the use of too large a needle. He had endeavored to make his observations uniform by employing in each instance ℥ xx. of a two-per-cent. solution of cocaine. In another case the anæsthesia had been partial and limited to one side. In three cases the anæsthesia had been perfect until the intestine had been handled, and then the patient had given evidence of pain. As these manipulations had been made toward the close of the operation, it was quite possible that the effect of the anæsthetic was beginning to wear off. In one case he had made the puncture between the fourth and fifth, and also between the third and fourth lumbar vertebræ, but had failed to obtain anæsthesia. Some days later he had resorted to the method again for a secondary operation on this person, and had on that occasion secured complete anæsthesia. He was of the opinion that the sensation of traction was entirely different from that of ordinary pain. So far, he had not had occasion to make use of a stilette to clear the needle from obstruction at the time of puncture. He did not think it made any difference as regards the anæsthesia whether the puncture was made between the fourth and fifth or between the third and fourth lumbar vertebræ. If the puncture was made in the right place there was no occasion to depress the needle; it should be simply introduced straight. He had made it a point in this investigation to report his cases just as they had been met with, both the failures and the successes.

In Appendicitis, even though the temperature be normal or only slightly elevated, it is generally conceded that an operation is indicated when the combination of a rapid pulse and respiration exists.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Twenty-eighth Annual Meeting. Held at Indianapolis, Ind., October 22, 23, 24, 25, and 26, 1900.

The Section on Bacteriology and Chemistry met at the pathological laboratory of the Central Hospital for the Insane, with the chairman of the section, Dr. Theobald Smith, of Boston, presiding. Several papers were read and discussed. Among them was one by Dr. H. L. Russell, of Madison, Wis., in which he showed the degree of heat which was necessary to destroy the tubercle bacillus in milk without injuring commercially the value of the milk. He also read the report of the committee on the bacteriology of milk in its sanitary relations. As illustrating the peculiar way by which such germs find their way into milk, an incident occurring in a hospital at Leeds, England, was related. The nurses in that institution were in the habit of taking glasses of milk from the pantry up into the sick wards several hours before the milk was drunk. An outbreak of typhoid fever occurred among the nurses. Investigation disclosed the practice to which they had been resorting, and when it was ordered discontinued the epidemic subsided.

Dr. V. A. Moore, of Ithaca, N. Y., related an account of a diphtheria epidemic which was started in that city from milk delivered by a dairyman whose family had suffered from acute tonsillitis. The eldest son, who attended to the milking of the cows, had been pronounced well and resumed his regular work, but scientific investigation demonstrated that he still had germs of the disease in his system.

The general meeting of the association was presided over by Dr. Peter H. Bryce, of Toronto, Canada. The sessions were held in the amphitheatre of the German House. Addresses of welcome were delivered by ex-President Benjamin Harrison, Governor James A. Mount, and Hon. Addison C. Harris, Minister to Austria. The response to these addresses was made by Dr. Charles A. Lindsley, of New Haven, Conn.

Car Sanitation.—The first paper presented at the general meeting was by Prof. S. H. Woodbridge, of Boston, which was the report of the committee on car sanitation. The following recommendations were reported in the paper: (1) When a passenger was known to be contagiously ill, he should be isolated in a compartment appropriately equipped and ventilated in such a manner as to separate it from the rest of the car. Through trains should be provided with rooms for the sick, as well as state-rooms, interchangeable in use. (2) The interior of passenger cars should be plain, finished with hard, smooth, and polished surfaces. (3) All furnishings should be as non-absorbent as possible. (4) Coaches should be furnished with effective means for continuously supplying not less than one thousand cubic feet of warm air an hour for each single seat, and for distributing and removing the air without troublesome draught. (5) The temperature should be regulated. (6) The cleaning of cars should be frequent and thorough. (7) Floors and sanitary and laboratory fixtures should be frequently treated with a disinfecting wash. (8) All fabrics in cars should receive sterilizing treatment. All bed and lavatory linen should be thoroughly sterilized in the process of laundering. (9) Sewage tanks and earth closets should be provided under the cars. The practice of disposing of excreta by scattering it over road-beds was dangerous. (10) Water and ice should be obtained from the purest available sources. The use of tongs in handling ice should be insisted upon. (11) The water tank should be frequently cleansed and periodically sterilized with boiling water or otherwise. (12) The public should be educated to use individual cups. Paper paraffined cups might be provided by a cent-in-the-slot device.

(13) The use of canned goods in buffet-car service makes careful inspection of such goods imperative. Fruits and all eatables before and after purchase should be stored with care to avoid all unnecessary exposure to street and car dust. (14) The filthy habit of spitting on car floors should be dealt with in a manner to cause its prompt discontinuance. It should be punished as one of the most flagrant of the thoughtless offences against the public right to health. (15) Station premises should receive attention directed to general cleanliness of floors, furnishings, air, sanitaries, lavatories, platforms, and approaches, and should be plentifully supplied with approved disinfecting material. The recommendations of the committee were concurred in by the association.

Dr. J. N. Hurty, of Indianapolis, said that if the association would make a vigorous demand for white blankets for sleeping cars, instead of colored ones, it would be a great reform. The white blanket would tell its own story. Colored blankets were frequently saturated with filth.

Dr. H. M. Bracken, of Minneapolis, said that inasmuch as the travelling public paid a good price for Pullman cars, it was only right that the cars should be kept clean and in good condition. The beds were made up; people slept in them; the next morning the linen was removed, while the mattresses and blankets were thrown into the upper berths and remained there until the next night, and then were used again. It was not uncommon for people, on entering Pullman cars, to complain of the odor of stale bedding, etc.

Dr. C. H. Jones, of Baltimore, referred to tuberculous patients who travelled long distances. When the greatest care and caution were observed, the blankets used on Pullman cars were now and then spat upon by them. The attendants could not always be with such patients to cover their mouths with handkerchiefs. Railway managers should be notified of the great danger to the public from this source. When the public had been educated in this matter, a great reform would have been inaugurated.

Dr. C. P. Wilkinson, of New Orleans, stated that the chief objection to the equipment and furnishings of railway cars was that they were upholstered in absorbable material. In the extreme South rattan and steel springs were now used instead of plush and woollen furnishings.

Dr. U. O. B. Wingate, of Milwaukee, referred to the work that was being done in this direction by the International Association of Railway Surgeons, and suggested that it might be well to appoint a committee to co-operate with a similar committee of that association to do further work in car sanitation.

Dr. Hurty spoke of one railroad which was now constructing seven cars with perfectly plain interiors. The bottoms and backs of the seats could be taken out and thoroughly sterilized at the end of every run.

Dr. Domingo Orvananos, of the City of Mexico, read a supplementary report on car sanitation. Boards of health in the territories covered by the association ought to try to obtain support from the different legislatures so as to make certain provisions obligatory on railway companies, as, for instance, (1) the isolation in special cars of any persons suffering from transmissible diseases; (2) to supply guaranteed filters in the tanks of drinking-water; (3) the disinfection of bed-clothes, hangings, curtains, and towels; (4) all sleeping-cars should be provided with small disinfectant stoves for small toilet articles; (5) the absolute prohibition, under severe penalty, of expectoration on pavements; (6) all railroad cars should be provided with a sufficient number of cuspidors containing a strong disinfecting solution.

New Quarantine Methods and Changes which are Called for in Marine Sanitation.—This paper was contributed by Dr. Alvah H. Doty, of New York City (see page 681).

Prof. F. C. Robinson, of Maine, said that formerly a great deal of paper was made from rags, and he was surprised to hear that there was no danger from infectious diseases from cargoes of rags. He believed outbreaks of smallpox and other contagious diseases had been traced to rags.

Dr. H. M. Bracken vigorously controverted the statement of the essayist that healthy persons were not liable to carry disease in their clothing. Every physician of experience could cite instances of physicians who had carried contagion to healthy people.

The paper was further discussed by Drs. Wilson, Montizambert, the president, Lee, Durgin, and Jones, most of whom protested against the idea that physicians could not carry infection in their clothing.

Report of the Committee on Cause and Prevention of Infectious Diseases.—Dr. A. Walter Suiter, of Herkimer, New York, read this report. Reference was made to smallpox, which he said was on the increase, and he cited copious statistics to prove his assertion. He added the pleasing assurance that the death rate from this malady was decreasing. The latter fact must not be viewed too optimistically, because smallpox was certain, if an epidemic of it continued long enough, to develop its greatest degree of virulence. He showed the value of sanitary precautions and of vaccination by citing the fact that Porto Rico, since the United States had dominated its government, had rid itself of the disease, which before the war was very prevalent in that island. He also discussed malaria, scarlet fever, and typhoid fever, and declared himself a believer in the theory that the germs of malaria were transmitted by mosquitos in many instances. In discussing typhoid fever he referred to the declaration of Dr. Vaughan, that more than eighty per cent. of deaths among American soldiers in the Spanish war were caused by typhoid fever, and emphasized the necessity of cleanliness about military camps. He touched upon bubonic plague, and said that he did not anticipate a scourge of this disease here, but urged great sanitary precautions.

Etiology of Yellow Fever.—Dr. Walter Reed, of Washington, D. C., read a paper on this subject, it being the joint production of himself, Dr. James Carroll, Dr. A. Agramonte, and Dr. Jesse W. Lazear. A series of clinical, bacteriological, and pathological observations was narrated, comprising eighteen cases of yellow fever. Of this number eleven were designated as severe cases of the disease, with four deaths; three as well-marked cases with no deaths, and four as mild cases with no deaths. Blood cultures were made of eighteen cases during life, and of forty-eight separate cultures made from the blood on various days of the disease, and representing one hundred and fifteen bouillon inoculations and eighteen agar plates, they failed to find the bacillus icteroides in any of the tubes or plates. They failed to isolate the bacillus icteroides in eleven autopsies of yellow-fever patients. Having failed to isolate this bacillus either from the blood during life or from the blood and organs of cadavers, two courses of procedure appeared to be worthy of attention—namely, first, a careful study of the intestinal flora in yellow fever in comparison with the bacteria that might be isolated from the intestinal canal of healthy individuals in this vicinity, or of those sick with other diseases; or, second, to give attention to the theory of the propagation of yellow fever by means of the mosquito. The essayists pursued the second line of investigation by reason of the well-known facts connected with the epidemiology of this disease, and by the brilliant work of Ross and the Italian observers in connection with the theory of the propagation of malaria by the mosquito. Their ob-

servations pointed to the presence of an intermediate host, such as the mosquito, which, having taken the parasite into its stomach soon after the entrance of the patient into the non-infected house, was able, after a certain interval, to reconvey the infecting agent to other individuals, thereby converting the non-infected house into an infected house. This interval would appear to be from nine to sixteen days, allowing for the period of incubation, which agreed fairly closely with the time required for the passage of the malarial parasite from the stomach of the mosquito to its salivary glands. In view of the foregoing observations they tested the theory of Finlay on human beings. Experiments were made on eleven non-immune individuals. The mosquito used in all cases was Culex fasciatus Fabr. The results were nine negatives, two positives. The two cases reported as positive, the authors detailed at great length. Since they recorded one case in which a typical attack of yellow fever followed the bite of an infected mosquito within the usual period of incubation of the disease, and in which other sources of infection could be excluded, they felt confident that the publication of their detailed observations would excite renewed interest in the mosquito theory of the propagation of yellow fever, as first proposed by Finlay. From their studies thus far of the disease, they concluded that the bacillus icteroides stood in no causative relation to yellow fever, but, when present, should be considered as a secondary invader in this malady. The mosquito served as an intermediate host for the parasite of yellow fever.

Report of the Committee on the Etiology of Yellow Fever.—Dr. Henry B. Horlbeck, of Charleston, S. C., read this report. Reference was made to previous contributions on this subject by the committee, and a digest given of the labors of bacteriologists who had during the past twelve months devoted themselves to the study of the bacillus icteroides. The report closed with the following conclusions from an article by Proust and Wurtz, published September 7, 1900: (1) The bacillus icteroides of Sanarelli seemed to be the specific agent of yellow fever. That microorganism injected into certain animals, especially dogs, reproduced symptoms and lesions strikingly analogous to those observed in man. The toxin of this bacillus produced in animals the same effect as the microbe. The injection of this toxin into five individuals reproduced in man typical yellow fever accompanied by its symptoms and anatomical lesions. The serum of individuals attacked with yellow fever agglutinated cultures of the bacillus icteroides. (2) The bacillus had a prolonged vitality both in air and water (fresh and sea). It was certain that it was the same in the soil. Moulds favored its development. These facts confirmed conditions that had been known a long time. They explained the reawakening of yellow fever a long time after the extinction of an epidemic, and the longevity of the disease aboard vessels in bad hygienic conditions. No new prophylactic measures had come out in this knowledge of the etiology of the disease. As formerly, the prevention of yellow fever consisted in applying the measures of isolation and of disinfection, and of improving the hygienic conditions. While the numerous contributions to the cause of yellow fever were far from being conclusive, the researches made during the last few years furnished matters of information which would be guiding-stars in future investigations.

Dr. J. P. Bernaldez, of Mexico, spoke of human vaccine as a prophylactic of smallpox, and discussed its advantages and disadvantages.

Dr. M. S. Iglesias, of Vera Cruz, Mexico, spoke of the elements of defence against infectio-contagious diseases at the port of Vera Cruz.

Influence of Temperature on Vaccine Virus.—Dr. F. W. Elgin, of Philadelphia, read this paper. After detailing a series of experiments, he drew attention briefly to some of the lessons suggested by the experiments: (1) Vaccine points were unreliable when stored for any length of time at any temperature. (2) Virus on points might be inert, yet germs charged along with the virus remained active, causing a form of irritation somewhat resembling vaccine vesicles, and known as spurious vaccination. (3) Glycerin would not destroy the extraneous bacteria in lymph when stored at or below the freezing-point. (4) Continued exposure of germs to low temperature, when constant, did not destroy their activity and but slightly decreased their number. (5) Hot, and especially variable, temperatures speedily injured vaccine. (6) Hot temperatures increased enormously the number of germs in fluid lymph other than that stored in glycerin.

Newark's Diphtheria Antitoxin Plant.— Dr. H. C. H. Herold, of Newark, N. J., read this paper. Early in 1895, a laboratory for bacteriological research, with an attendant plant for the application of antitoxin for diphtheria, was established under the jurisdiction of the board of health in Newark. This department had been in practical operation for more than five years. The author presented the results of the experiment of establishing such a plant, and showed, by statistics of greatly reduced mortality from diphtheria by the use of antitoxin, that it was one of the best things the city officials and medical profession of that city had ever undertaken.

Presidential Address.—This was delivered by Dr. Peter H. Bryce, of Toronto, who sketched at great length the progress of sanitary science from its birth in the period of the Renaissance down to the present time, and declared that scientific workers ought to take courage from what they had seen accomplished in this century. The address was scholarly, and an admirably compact sanitary digest.

Report of the Committee on Pollution of Water Supply.—This was presented by the chairman, Mr. George W. Fuller, of New York City. The report took the form of records and summaries showing recent progress in the more important branches of the subject. With regard to quality, the water supply of the future should meet the following requirements: It should be free, or substantially free, from disease-producing germs. It should be clear and colorless, containing no noticeable turbidity or vegetable stain. It should be free from objectionable tastes and odors, as supplied to the consumer. It should be free from noticeable amounts of dissolved iron, such as make it unfit for household use. It should be free from excessive amounts of lime and magnesia, such as make water too hard for ordinary use. It should be carefully examined with regard to constituents capable of dissolving metals used in distributing pipes. Of the various branches of public works connected with the pollution of water supply, there was none in which such substantial progress had recently been made as in water purification. Ten years ago information upon this subject was very meagre, and comparatively few plants were in operation. During this period English sand-filter plants had been increased from about 1.5 to 10 acres, with respective normal capacities of about 4,000,000 and 57,000,000 gallons daily; and the American or mechanical filter plants had been increased from about 12,000 to 90,000 square feet, with respective nominal capacities of about 36,000,000 and 270,000,000 gallons daily. Projected plants for some of the largest cities in the country showed that in the next few years there would be very rapid development in the application of both of the leading methods of purification. Of the various processes for the purification of water supplies, there were two general methods which had shown distinctly their practicability—

namely, the English method of slow sand filtration, and the American method, employing rapid mechanical filters. For those waters which never possessed more than a slight or moderate amount of turbidity or dissolved vegetable color, the English method was somewhat more efficient, and as a rule it was slightly the cheaper for such waters. For those waters which for long periods at a time contained excessive quantities of either finely divided clay or of dissolved vegetable matter, there was now no practicable method of purification without the use of coagulants and subsiding basins. While coagulants could be successfully used in connection with the English method of sand filtration, the American method, in which coagulants were imperative, yielded somewhat more efficient and economical results, as a rule.

Teaching of Hygiene and Granting of Degrees of Doctor of Public Health.—Dr. Wyatt Johnston, of Montreal, compared methods of hygienic instruction in vogue in the United States and in foreign countries, with the result that the showing was decidedly favorable to the foreign countries. He inveighed strongly against the looseness of methods in this country, by which men were able to secure positions as health officers or as members of boards of health without having the necessary qualification. Dr. Johnston urged the association to consider this matter and endeavor to arrive at some standard for a purely hygienic education.

Dr. L. P. Jones, of Greenwich, Conn., followed Dr. Johnston, and outlined the following scheme for preventive medicine: (1) The endowment of a chair of preventive medicine in each of the leading medical colleges of the country; (2) the establishment of an institute, the members of which should be the incumbents of these chairs; (3) an award of prizes by this institute for essays and discoveries of special merit in sanitary science; (4) establishment of fellowships for a limited number of advanced students.

Disposal of Refuse Material. — This subject was dwelt upon by Mr. Rudolph Hering, of New York City, who presented a report in which he mentioned the methods for disposing of garbage in the great cities of the world. He referred to the progress made by European cities in this direction, and said that the present status of the disposal of garbage and refuse had resolved itself largely into a question of engineering.

Dr. Juan Brena, of Zacatecas, Mexico, dealt with the vice of smoking among youth, and offered suggestions as to the means of overcoming it.

Report of the Committee on Disinfection.—This was presented by Prof. F. C. Robinson, of Brunswick, Me. From what had been accomplished in this work, the following conclusions seemed warrantable: (1) Household disinfection after infectious diseases should combine the use of formaldehyde with other means. It could be safely relied upon for all exposed surfaces, and these only. (2) Formaldehyde required moisture enough in the air nearly to saturate it for its most efficient working. (3) There was much disagreement among experimenters as to the disinfection of tuberculous matter. One said a two-per-cent. solution of formaldehyde disinfected it; another, that even a ten-per-cent. solution did not. Several said that formaldehyde gas applied as above destroyed it; others denied this. Further experiments were needed. (4) Soap was a poor disinfectant, but one-per-cent. caustic alkali or twenty-per-cent. carbonate of alkali was efficient. (5) Carbolic acid, less than a five-per-cent. solution, had little scientific value. (6) The creosotes, as used in creolin, lysol, and solutol, were safe disinfectants. (7) Alcohol at from fifty to seventy-five per cent. had considerable disinfecting power, but not at other strengths. (8) Most metallic salts, except those of mercury, had little disinfecting action. (9) Bichloride of mercury, or corrosive sublimate, should be used in strength at least 5 : 1,000 if tuberculous matter was to be disinfected. A fresh solution was more active than one which had stood for some weeks. The addition of salts did not increase the strength of a fresh solution, but prevented it from losing its strength as rapidly. (10) Bright sunlight killed the tubercle bacillus in a few hours, and, as a rule, pathogenic bacteria retained their greatest virulence only when kept in the dark.

Dr. Jesus Chico, of Guanajuato, Mex., gave some hints about malaria from personal observations. He said he did not think the mosquito was as important a causative factor in distributing malaria as had been attributed to it, but in Mexico he thought the injudicious use of tropical fruits played an important rôle.

Miss Hester McClung, of Indianapolis, recounted the sanitary work of women in that city.

Report of the Committee to Define What Constitutes an Epidemic.—This was read by the chairman, Dr. Benjamin Lee, of Philadelphia. In the minds of the public at large, and of many of the profession, the word epidemic still conveyed an idea of universal atmospheric contamination. This was to be deplored, because while, on the one hand, its use inspired an indefinable horror and created panic, on the other hand it led to the disregard of the very precautions which were of essential use in restricting the spread of the contagion—namely, those which should be taken in regard to the person and the excreta of the patient, his effects, and his immediate environment. In view of changed views as to the propagation of communicable diseases, the word epidemic had outgrown its usefulness. It had become the means of perpetuating false conceptions, and its official use might be misleading and mischievous. Without attempting any stricter, more comprehensive, or more lucid definition of this word, the committee recommended that, as opportunity occurred, in all laws and regulations in which certain executive action was made contingent on the declaration by health authorities of the existence of an epidemic, the phraseology should be altered by omitting the word epidemic, and in place thereof inserting a brief statement of the condition calling for such action, as, for example, "whenever a communicable disease prevailed to such an extent, or was spreading with such rapidity, as in the opinion of the board to make it its duty to notify either the general public or the authorities of neighboring towns of the fact that such and such action should be taken." The report of the committee was adopted, and the committee discharged.

Report of the Committee on National Leper Home.—Dr. H. M. Bracken, of Minneapolis, chairman, presented this report. The committee dealt with the desirability of establishing national leprosaria in the United States. The records of Dr. Bracken for certain States, compared with those of Dr. Hyde, were as follows:

State.	Dr. Hyde.	Dr Bracken
North Dakota	2	2
South Dakota	..	1
Iowa	20	3
Minnesota	120	61
New Jersey	1	1
Ohio	..	1
Pennsylvania	6	6
Wisconsin	20	7

He presumed that Dr. Hyde's figures for Iowa and Wisconsin were estimated. Probably they were not too high. He had taken only those cases of which a history could be given. It is probable that the one hundred and twenty cases credited to Minnesota were taken from Dr. Hansen's report. It seemed to him that this, too, must be an estimate. If there were one hundred and twenty cases in Minnesota, the speaker

could not understand why they were not on his records. If there were that many cases in 1888, the number for Minnesota was much higher than he had given, for many of the cases in the official list could not have possibly belonged to Dr. Hansen's one hundred and twenty. It might appear from the report of cases in the Northwest that leprosy was far more common in Minnesota than in the neighboring State. He could see no reason for this belief, for the lepers in this district were among the immigrants from Norway, Sweden, Iceland, and China. These people had quite a representation in all this group of States. He could attribute the more complete returns for Minnesota only to the fact (1) that there had been less agitation against leprosy in this than in some of the neighboring States; (2) that with this lack of agitation against leprosy physicians reported their cases more willingly to the State board of health, which had endeavored during the last twenty years to palliate the sufferings of this unfortunate class; (3) that Minnesota was fortunate in having among its physicians men who were familiar with leprosy, and who were interested in philanthropic work, and these physicians had given material aid to the State authorities engaged in securing a list of all lepers in Minnesota. Several lepers in the Minnesota list gave the history of a previous residence in Wisconsin, but their names in not a single instance appeared upon the Wisconsin records. Of the thirty-seven living lepers known to be resident in the Northwest, seventeen only were in Minnesota, and there was a strong possibility of two of these being dead, but he had no positive knowledge of the fact. He did not dwell upon these facts as an alarmist, but simply reminded the association that leprosy had existed, did exist, and would continue to exist for years to come in all three countries represented in the association.

Establishment of Leprosaria.—A leprosarium should afford a comfortable home for lepers. This meant not only good buildings, but extensive grounds comprising many acres, where the lepers might have liberties and still be in exclusion. The buildings connected with the leprosarium must combine the privileges of a home and of a hospital. Those who had the disease in mild form might need little if any medical care. They needed comfortable clothing and good food. With those in whom the disease was more advanced, the care should be that of a hospital patient, with medicines to lessen their suffering and dressings that would commend themselves to any surgeon. A leprosarium should resemble modern colonies for epileptics. It should furnish employment for those who were able to work, and amusement of various kinds for all. Two of the strongest medical societies in Minnesota had placed themselves on record as favoring the establishment of national leprosaria; and the American Dermatological Association had also appointed a committee to determine the best methods to be used in the care of lepers.

By resolution the association placed itself on record as favorable to the establishment of national leprosaria.

Dr. John H. S. Fulton, of Baltimore, described a suitable dress for defence against infectious diseases.

Mr. F. H. Newell, government hydrographer, contributed a paper showing some results of the investigation of stream pollution, which had been made by the United States geological survey. The government, realizing the importance of public water supplies and their conservation and protection against pollution, had established a special division under the title of board of hydrography.

Report of the Committee on Animal Diseases and Animal Food.—This was read by Dr. D. E. Salmon, of Washington, D. C., chairman. He urged the importance of careful observations being made of glanders, in view of the fact that serum for use in the treatment of many human ailments was obtained from horses. Army horses were peculiarly liable to contract the disease in time of war, on account of the extra exertion and frequent lack of full rations during such periods. He roundly condemned the carelessness of the United States government in the matter of providing skilled and trained veterinarians in the army. He discussed the subject of hydrophobia, and emphasized the importance of active measures looking to the extermination of this disease. He cited statistics of many outbreaks of rabies, and showed the disease to be peculiarly virulent and almost invariably fatal to human beings. Misguided people, who declared that there was no such thing as hydrophobia communicated to man from animals, were sternly rebuked. Dr. Salmon declared that their obstructive tactics had wrought incalculable harm in the way of deceiving people into a careless attitude toward this malevolent disease. The Pasteur treatment was highly commended by the committee, which also recommended that the association take steps to enlighten the public on the disease and its treatment, as well as means for its prevention.

Tuberculosis.—The committee made strong recommendations on the subject of tuberculosis, asserting its belief in the theory that the disease could be and was communicated from infected cows through their milk. Here also the committee encountered learned men who controverted the theory, asserting that the difference in appearance of the bacillus of human tuberculosis and that of bovine indicated that the latter could not communicate the disease to human beings. Bovine tuberculosis was undoubtedly communicable. He inveighed against loose methods prevailing in many creameries, by which the milk received from an infected herd was mixed with the general supply of milk on hand; and, further, the practice of distributing, without previous sterilization, the waste milk and cream to be used as food for swine was condemned.

President Bryce added a few terse, vigorous utterances on the subject of the care which ought to be employed in dairies to guard against the distribution of milk infected with tubercle bacilli.

Dr. R. M. Woodward, of Washington, D. C., gave a résumé of the recent foreign work of the Marine-Hospital service.

Dr. F. F. Westbrook, of Minneapolis, reported on behalf of the committe on transportation of diseased tissue by mail, recommending that nose and throat specimens be included in one package.

Dr. Cressy L. Wilbur, of Lansing, Mich., presented the report of the committee on demography and statistics in their sanitary relations. He mentioned the progress that had been made in matters relating to vital statistics concerning which the association had acted in the past. He urged the association to stand for united and determined action in elevating the standard of registration laws in this country, and in insuring the practical success of new laws when enacted.

The following resolutions were introduced, discussed, and adopted:

1. *Resolved*, That the association, recognizing the benefits of medical school inspection, heartily approves the efforts of boards of health and of education directed toward the establishment of systems of inspection. (Offered by Dr. Adolph Gehrmann.)

2. *Resolved*, That the association approves of and encourages all efforts made by governments, whether national, state, or municipal, for the limitation of pollution of streams. (Offered by Mr. C. Monjeau.)

3. *Resolved*, That a committee of three be ap-

pointed, to be known as the committee on uniform municipal statistics, to take such steps as may seem practicable toward securing greater uniformity in all branches of municipal accounts, reports, and statistics, and particularly those branches relating to vital and sanitary statistics; said committee to have power to confer with similar committees from other societies already or hereafter appointed to the same general end, and to report at the next meeting of the association. (Offered by Dr. Leal, of Paterson, N. J.)

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. Benjamin Lee, of Philadelphia; *First Vice-President*, Mr. Rudolph Hering, of New York City; *Second Vice-President*, Dr. J. N. Hurty, of Indianapolis, Ind.; *Secretary*, Dr. Charles O. Probst, of Columbus, Ohio; *Treasurer*, Dr. Henry D. Holton, of Brattleboro, Vt.

Buffalo was selected as the place for holding the next annual meeting. The executive committee recommended that the time be fixed during the third week in September, 1901.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Annual Meeting, October 22, 1900.

GEORGE B. FOWLER, M.D., PRESIDENT.

Officers Elected.—*President*, Dr. George B. Fowler; *First Vice-President*, Dr. Charles N. Dowd; *Second Vice-President*, Dr. Irving S. Haynes; *Secretary*, Dr. John Van Doren Young; *Assistant Secretary*, Dr. Fred P. Solley; *Treasurer*, Dr. John S. Warren; *Censors*, Drs. Frank Van Fleet, Henry S. Stearns, Wendell C. Phillips, Robert Lewis, and Louis A. Rodenstein.

Report of Committee on Hygiene.—DR. HENRY DWIGHT CHAPIN, the chairman of this committee, presented a long and carefully prepared report. After quoting figures to show that there had been a tendency to a lower death rate in New York City in the past few years, probably as a result of the subsidence of epidemic influenza, and of a more careful oversight of the water and milk supplies, he took up at some length the question of the water supply as having a most important bearing on the health of the city. He said that it was a matter of grave concern to sanitarians that the water supply of Greater New York was not keeping pace with the growth in population. The Merchants' Association of New York deserved the thanks of all good citizens for its exhaustive and costly study of this matter. The boroughs of Manhattan and the Bronx were at present supplied from the Croton, Bronx, and Byram watersheds. All of the water for the borough of Manhattan and nearly all for the Bronx was furnished by the city. In the borough of Brooklyn all but about seven per cent. was furnished by the city. The borough of Queens was supplied by wells, of which about thirty per cent. only were owned by the city. The borough of Richmond was supplied by wells on Staten Island, and had practically no municipal supply. Forty-five per cent. of the city's supply was pumped, and the rest was delivered by gravity. In 1899 the average daily consumption in all the boroughs was 371,778,000 gallons, or an estimated daily consumption per capita of 103 gallons. The quantity directly available for the boroughs of Manhattan and the Bronx was about 290,000,000 gallons per day. In Brooklyn and Queens the consumption was nearly equal to the average available supply, or 116,000,000 gallons daily. The present daily supply of about 5,000,000 gallons in the borough of Richmond could not be greatly augmented without going outside the limits of that borough. It had been estimated that the consumption of water in 1903 would nearly equal the supply to the boroughs of Manhattan and Bronx at that time available under present methods. The engineers employed by the Merchants' Association had estimated that the total daily waste was nearly 150,000,000 gallons, the larger part of which was underground. Most of this waste could be avoided by putting the water mains in subways. If this amount could be saved the present water supply would be adequate until 1910. It would take most of the time between now and that date to secure the requisite additional water supply; hence the necessity for its immediate consideration. Of the various schemes which had been proposed, the best seemed to be that of taking the water from the Hudson River above Poughkeepsie. All the water that New York City would be likely to need until its population should have reached 18,000,000 could be secured in this way. The plan comprised the building of pumping-stations and filter-beds on the east side of the river, and an aqueduct from Poughkeepsie to the northern limits of the city, and of a reservoir near the northern limits. The experience of many other cities had proved beyond all question that artificial filtration, which was after all only an imitation of nature's process of converting surface water into spring water, was capable of freeing even highly polluted water from all dangerous organisms. The report closed by strongly advising that this additional water supply be placed under municipal management and control, as experience had shown that the cost to the consumer was almost always much less under public than under private ownership.

A New Gynæcological Syringe.—DR. C. A. BUCKLIN exhibited a new gynæcological syringe, one of that class which had for its object the closing of the vaginal orifice, thus enabling a douche to be taken without the use of a bed-pan.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, October 15, 1900.

PARKER SYMS, M.D., PRESIDENT.

An Improved Apparatus for the Administration of Gas and Ether.—DR. S. ORMOND GOLDAN exhibited this apparatus. A simple valve device allowed the breathing of air or gas as desired. The patient breathed back and forth into a very thin rubber bag holding about two gallons of gas. The inhaler was made of celluloid preferably. For ether inhalation, an ether chamber was slipped on between the valve and the face-piece. After breathing a few times into the gas bag, the ether was very gradually turned on. By this method all struggling was avoided and anæsthesia was quickly induced. The ether chamber could be used not only for fluid ether, but with a piece of gauze. For ether alone the ether chamber was simply attached to the face-piece, and the rubber bag added.

New Instruments.—DR. E. D. FERGUSON, of Troy, exhibited a grooved director for use in vaginal hysterectomy, and a forceps for lifting the uterus in the operation of ventral suspension. The director was intended to be passed behind the broad ligament so as to bring into full view of the operator the lateral tissues to be incised. The other instrument was intended to bring the uterus into the field of operation in ventral suspension. It was particularly useful in stout women who took ether badly. The instrument had acted well in practice, never having produced a visible abrasion of the uterus.

Address of the Retiring President: "The Need of Better Organization in the Profession."—DR. F. H. WIGGIN, on retiring from the office of president,

called attention to the fact that during his administration many important changes had occurred—*e.g.*, the change of the place of meeting to the Academy of Medicine. The most important change, aside from the advance in the regular scientific work, was the merging of the Association into the New York State Medical Association as a subordinate county association. This movement was significant, and indicated the trend of the age and the reaching out of the profession for something better in the way of State organization. It had been said by some that there was no demand for an organization that would prevent its members from being the victims of unjust suits for malpractice, but he knew positively, from personal contact with many physicians, that they did want it. For a long time to come there would be in many parts of the State very small county organizations, which would not have enough money to defend their members against unjust suits. A large and well-organized State association would be in a far better position to take up such a fight. An organization which was managed from entirely selfish interests he did not believe could succeed any more than an individual who thought of himself only could succeed. It was a most unfortunate fact that the general public had very little respect for the medical profession, and unless this profession was willing to fight for its own rights and look beyond selfish ends of individuals, the public would continue to esteem them lightly. Our legislators appreciated thoroughly the value and influence of organization, and while they would not listen to individuals they were ready to give serious consideration to petitions and propositions coming from an organized body having a membership of several thousand. We had been very blind, the speaker said, all these years, and had allowed ourselves to be trodden down largely through our own selfish indifference. An excellent example of this was found in the cry that had been raised against the taxing of certain small counties in order better to protect the rights of those living elsewhere.

Inaugural Address of the President, Dr. Parker Syms.—Dr. Syms, on assuming the chair, declared emphatically that the rapid onward strides which had placed the association in its present high position had been initiated and carried to a successful conclusion chiefly through the untiring energy of his predecessor in office. Dr. Syms then spoke of the possibilities of the future, and particularly of the crying need of improving the status of the medical profession. He sketched what he considered an ideal medical fraternity, and claimed that this idea could be realized by advancing along the line proposed by the committee on reorganization of the New York State Medical Association. Such an association must attend not only to its own members, but must look after the welfare of the public and zealously guard the public health. His address was fittingly summed up in the closing words of advice: "Honor the profession, and you will honor yourselves."

In Memoriam Dr. Lewis Albert Sayre.—Dr. John Shrady delivered this address, which was supplemented by remarks by Drs. Gouley and J. D. Bryant.

In Memoriam Dr. Samuel Smith Purple.—Dr. J. W. S. Gouley delivered this address.

Testimonial to Dr. Wiggin.—Immediately after adjournment of the association, a handsome loving-cup was presented to Dr. Wiggin as a token of appreciation of the work that he had done for the association while acting as its presiding officer.

Cancer.—Professor Czerny estimates that about seventy-five per cent. of known cases of cancer are inoperable, and that in Germany forty thousand patients die yearly of the disease.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 3, 1900:

	Cases.	Deaths.
Tuberculosis	215	131
Typhoid fever	105	23
Scarlet fever	101	0
Measles	47	1
Diphtheria	215	25
Laryngeal diphtheria (croup)	11	4
Cerebro-spinal meningitis	0	2

Medical Graduation of Women.—By a recent decision of the German Federal Council female medical students are entitled to be admitted to the State examinations in medicine, even if they have passed their preliminary examinations and received their medical education in Switzerland. As the State examinations in medicine begin in November, the medical men of Germany will very soon have the opportunity of meeting female practitioners, the number of German female students in Switzerland being rather considerable. Those ladies also who have already settled in Germany with Swiss diplomas will now be in a position to take German qualifications by passing State examination, without being forced to begin their curriculum again. The present favorable disposition of the government toward medical women has led to the rather absurd situation that female medical students enjoy privileges as to study abroad which are refused to the male sex.—*Lancet.*

The Effect of Modern Education upon Children.—The stress of modern education has enormously taxed the brains of children by the multiplicity of studies. Children cannot assimilate the ideas in widely differing department of knowledge at one and the same time. The effort to do so deranges in many instances the entire nervous system of the child. The so-called nervous child is not only not normal, but may be the victim of the education methods of the present day. The examination system is often a horror to such a child, as the writer knows from his own experience. The studies required of a growing child should never be allowed to disturb the health or interfere with proper rest and exercise. The modern city child seems to be unable to endure the burdens of civilized life as easily as did the children of the past, who were brought up in the country and spent the greater part of the time in the fresh open air. Whether our fathers were more hardy and robust as children than the progeny of the present generation may be an open question, but certainly the conditions of civilized life have so completely changed that at the present day mental and physical education possess equal importance for the growing child. The mind of the child to-day is too often developed at the expense of its vitality and health.—W. M. D'Aubigné Cahart, M.D.

Veterinary Surgeons in the Army.—The New York Sunday *Tribune* contains a readable article on the importance of the animal branch of the medical profession. After referring to the consideration with which the veterinary surgeon is treated in Great Britain, as recently evidenced by the widespread expressions of regret called forth from all sides at the death of Sir Henry Simpson, veterinary-surgeon-in-chief to the Queen, and by the bestowal of commissions on the British army veterinary surgeons, the article calls at-

tention to the fact that no commission is given to the veterinary surgons in the United States army. In fact, in England and the rest of Europe military veterinary surgeons are really officers, while surgeons are not. The latter are protected in the field by the Geneva Red Cross and considered as non-belligerents, the "vets" being regarded as full-fledged combatants, as much so as any other regimental or staff officers, running, therefore, the same risk of capture, imprisonment, or death at the hands of the enemy.

Should Consumptives Marry?—Mr. Edmund Owen, M.B., London, in the course of an address delivered before the Canadian Medical Association at Ottawa, spoke of the above subject as follows: "The extermination treatment of tuberculosis is a subject in which every member of the community should be encouraged to take a personal and intelligent interest. It is a great mistake to allow it to be regarded merely 'a doctor's question' and to wage a successful war of extermination the attack should be begun right early. It is a question which is of vital importance for the nursery, the school-room, the dwelling-house, the store, the office, the barrack, in fact it concerns every department and every period of life. The disease is everywhere, and its eradication is, therefore, a matter of concern to every one. It has not yet been shown that the offspring of tuberculous parents are born actually tuberculous, but it is beyond question that they are very prone to inherit a peculiar physical condition which renders their tissues an easy prey to the germs of the disease. The family history of many patients who, at the threshold of life, become the subjects of enlarged glands or of chronic affections of the bones or joints, gives incontrovertible evidence of there being a marked hereditary disposition in the matter of tuberculosis. So comes the question, Ought there to be a law preventing those who are undoubtedly tuberculous taking upon themselves the responsibility of parentage? There are some who would answer this affirmatively and without hesitation. But what would the church in general say to it, and what would the tuberculous minister in particular say to it? He would tell us that he reads in the very beginning of his book that he is to be 'fruitful and multiply,' and to do him justice it must be admitted that in England, at any rate, he does his best to carry out this instruction to the very letter. But let him finish his injunction, man was to be fruitful that he might replenish the earth. Now, though I do not claim to be in possession of peculiar knowledge on this point, I cannot think that the architect of the universe who 'saw everything that he had made and behold it was very good' could have desired that this beautiful world was eventually to be stocked with so large a proportion of tuberculous rubbish. I am fully conscious of the fact that I am advancing a somewhat extreme view, but surely the subject enters very largely into the question of prophylaxis. It is one, moreover, that will have to be deliberately approached and dealt with some day and that perhaps soon."

Can Life be Restored in Cases of Death from Suffocation, Chloroform-Poisoning, or Electric Shock?—In a paper by Dr. Prus (translation of which is by L. Freyberger) are detailed some experimental results of Dr. Prus on attempting to restore dogs partially killed as indicated in the title. In cases of suffocation the supply of air to the animal was shut off by clamping an India-rubber tube connecting the tracheotomy cannula with an apparatus for artificial respiration. As soon as possible after the death of the animals some of the rib cartilages in front of the heart were removed, the pericardial sac was incised, and the heart exposed. After it had been ascertained that there was no trace of any contraction of either auricles or ventricles, Professor Prus waited from fifteen to sixty minutes before he began his efforts at resuscitation. After removal of the clamp artificial respiration was started. The heart was then grasped in the right hand in such a manner that the thumb rested on the right ventricle, and the four fingers surrounded the left ventricle. Both ventricles were now compressed with moderate force, the compressions being made to imitate, as much as possible, the systolic and diastolic phases of the heart action. The interval between the stoppage of the action of the heart and respiration—in other words, the death of the animal—and the beginning of the direct massage of the heart varied in different cases from one minute to one hour. In thirty-one cases, or seventy per cent., life was restored. In chloroformed dogs under the same general conditions seventy-six per cent., and in dogs shocked by the electric current fourteen per cent., were brought to life again. An attempt to try the massaging of the heart was made on the body of an alcoholic who had committed suicide by hanging, but resulted fruitlessly.—*Treatment*, October, 1900.

Cases Simulating Glandular Fever.—J. P. Crozer Griffith says that in the minds of many physicians it is far from settled whether or no glandular fever exists as an entity. Epidemics have been reported which seem to prove that it does; but, on the other hand, cases are met with which for nearly every reason might be called instances of this disease, but in which a more careful consideration points to the glandular enlargement being of an entirely secondary nature. The author reports three illustrative cases, in which he considers the disease to have been due to influenza.—*University Medical Magazine*, October, 1900.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 2, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Colorado, Arapahoe Co.	October 10th to 13th	2	
Costilla Co.	October 15th	1	
Ouray Co	October 9th to 16th	10	
Wild Co	September 1st to 30th	2	
Indiana, Indianapolis	October 20th	1	
Kentucky, Lexington	October 27th	2	
Michigan, Detroit	October 20th to 27th	1	
Delta Co	October 14th to 20th	1	
Maple River Township	October 14th to 20th	21	
N. Hampshire, Manchester	October 27th	1	
Ohio, Cleveland	October 20th to 27th	27	
Utah, Salt Lake City	October 20th to 27th	9	
Smallpox—Foreign.			
Austria, Trieste	October 6th to 13th	1	
Bohemia, Prague	October 6th to 13th	5	
England, Liverpool	October 6th to 13th	3	
London	October 6th to 13th	1	
France, Paris	October 6th to 13th	..	6
Germany, Solingen	October 1st to 7th	1	
India, Karachi	September 23d to 30th	1	
Mexico, Mexico	October 7th to 14th	2	1
Russia, Moscow	September 29th to October 6th	3	
Odessa	October 6th to 13th	17	1
St. Petersburg	September 29th to October 13th	18	1
Warsaw	September 29th to October 6th	..	13
Yellow Fever.			
Cuba, Havana	October 1st to 27th	273	67
Mexico	October 7th to 21st	4	2
Cholera.			
India, Bombay	September 26th to October 2d	..	54
Karachi	September 17th to 23d	4	3
Plague—United States.			
California, San Francisco	October 14th	..	1
Plague—Foreign and Insular.			
China, Hong Kong	September 1st to 8th	4	4
India, Bombay	September 26th to October 2d	..	86
Japan, Osaka	September 11th to 29th	26	
Madagascar, Tamatave	October 16th	*	
Philippine Islands, Manila	September 7th to 15th	1	
Scotland, Glasgow	October 13th to 19th	14	1
West Australia, Perth	April 7th to August 11th	6	3

* Reported present.

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Original Articles.

DIFFERENTIAL DIAGNOSIS IN DISEASES OF THE GALL BLADDER AND DUCTS.[1]

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WITH the possible exception of appendicitis, no subject during the past decade has received more attention from surgeons than diseases of the gall bladder and ducts.

If one refers to the standard surgical text-books of twenty years ago, there will be found practically no reference to the subject; the combined space allotted to these conditions in the works of Holmes, Bryant, Erichsen, and Ashhurst being less than thirty lines. In the treatises upon general medicine of the same period the subject is but briefly discussed, the classification made of catarrhal jaundice, gall stones, and cancer, and the treatment limited to morphine, calomel, and olive oil.

Although operations upon the gall bladder have from time to time been reported since the seventeenth century, when Stalpart van der Wiel [2] first opened the organ for the removal of a calculus, it was not until after the successful cholecystostomies of Bobbs of Indianapolis in 1867, Marion Sims in 1878, and the cholecystectomy reported by Langenbuch in 1880, that a general interest was awakened.

In his exhaustive work upon the subject published in 1890, Courvoisier[3] not only reports his own sixteen cases, and the twenty-seven cases of Kocher, Kappeler, Socin, Krönlein, Fritzche, Kouffmann, Kunz, and Niehaus, but gives in addition a complete review of all the literature of the subject, and, by a careful analysis of an exceedingly large collection of clinical reports and autopsy findings, is able to establish certain facts bearing upon the pathology and symptomatology of these conditions, which have formed the framework of our present knowledge of the subject. Since the publication of this work, many new and ingenious operations have been devised and successfully carried out, and much has been added to our knowledge of the subject; and whereas in the early days surgeons were accustomed to be content before operation with the diagnosis of cholelithiasis, or inflammation of the biliary passages, the time has now arrived when, by a proper classification of our knowledge, more accurate special diagnosis may be hoped for.

The object of this communication is, therefore, briefly to review the facts which have been gathered relating to the symptomatology of these condition and present a diagnosis chart, which will, I think, present in condensed form most of the facts bearing upon the differential diagnosis in diseases of these organs.

[1] Read by invitation before the surgical section of the Buffalo Academy of Medicine, November 5, 1900.

[2] Pantaloni: "Chirurgie du foie et des voies biliaires," 1809.

[3] "Casuistisch-statistische Beiträge zur Pathologie und Chirurgie der Gallenwege," 1890.

In preparing the chart the writer has chiefly consulted the works of Courvoisier, Waring,[1] Mayo Robson,[2] Reidel,[3] Osler,[4] and Hans Kehr,[5] as well as the papers of Fenger,[6] McCosh,[7] August Herrmann,[8] Naunyn,[9] Richardson, Mayo,[10] and others.

Perhaps the most important contribution to the subject is the recently published work of Hans Kehr, who has presented to the profession a valuable report of his four hundred and thirty-three operations on the gall bladder and ducts. In these reports the symptomatology of each case is carefully recorded, as are the actual pathological conditions found at operation or by autopsy, and his work undoubtedly furnishes the most important collection of reliable data upon the diagnosis of these diseases which has appeared.

In Part I., Chapter III., of his latest work, the writer enters a plea for more accurate special diagnosis, which he assures us can be made in the majority of instances if sufficient care be taken in obtaining the history and accurately noting the physical signs. He then presents in a masterly manner the symptomatology of the twelve different classes into which he divides these diseases, and the conditions with which they are likely to be confounded, closing the chapter with a table in which he briefly outlines the chief diagnostic points of each.

His classification, which is largely a clinical one, is as follows:

I. Stone in healthy gall bladder, cystic duct free.

II. Stone in a previously inflamed gall bladder, ducts free, adhesions.

III. Subacute cholecystitis without stone—adhesions.

IV. Acute cholecystitis with stone.

V. Acute cholecystitis in contracted gall bladder—duct closed.

VI. Hydrops of gall bladder.

VII. Empyema of gall bladder, stone in cystic duct.

VIII. Carcinoma of gall bladder.

IX. Stone in common duct—acute obstruction.

X. Stone in upper segment of common duct, chronic obstruction.

XI. Stone in common duct near papilla.

XII. Obstruction of common duct from pressure of tumor of other organs.

With a view of rendering this table more useful, the writer prepared a miniature card catalogue of these classes, jotting down at first the symptoms mentioned in Kehr's table, then adding such other symptoms and signs as are mentioned by the writer in other portions

[1] H. J. Waring: "The Diseases of the Liver, Gall Bladder, and Biliary System," London.

[2] Mayo Robson: "Diseases of the Gall Bladder and Ducts."

[3] Reidel: "Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie," iv. Band, iv. Heft.

[4] Osler: "Practice of Medicine."

[5] Hans Kehr: "Anleitung zur Erlernung der Diagnostik der einzelnen Formen der Gallenstein-Krankheit."

[6] Fenger: American Journal of the Medical Sciences, 1896.

[7] McCosh: "Gall Stones; Observations on their Treatment," 1899.

[8] August Herrmann: "Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie," iv. Band, ii. Heft.

[9] Naunyn: "Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie," iv. Band, iv. Heft.

[10] W. J. Mayo: Annals of Surgery, 1899.

of the work, and occurring in the individual histories of the large number of cases reported.

To this were later added other symptoms and signs mentioned by different accurate observers and writers on the subject, either in treatises or in reports of cases, and finally such facts as he has been able to glean from his own personal observation.

During the progress of these studies it occurred to the writer that this classification, valuable as it is in its present form, might be somewhat simplified, and rendered more useful, by a slight re-arrangement which would separate pathological conditions more or less associated in the original table, and making fewer classes of purely inflammatory conditions.

Excluding such exceedingly rare conditions as actinomycosis, tuberculosis, or gumma of these organs, the natural classification would be into—

1. Calculous disease.
2. Inflammatory disease.
3. New growths.

Calculous disease of the biliary passages is of frequent occurrence, according to Reidel and Kehr, being found in ten per cent. of all adult autopsies. (The writer found it twelve times in one hundred subjects examined in the dissecting-room of the College of Physicians and Surgeons.) In perhaps ninety-five per cent. of all cases it gives rise to no symptoms (Kehr). In the remaining five per cent. it occasions symptoms which vary in intensity and importance from a slight discomfort in the right hypochondriac region to a rapidly fatal septic peritonitis.

One or more stones in a healthy gall bladder with patent ducts, produce, as a rule, no symptoms, and under these conditions the only physical signs present are those of a tumor of the gall bladder, caused by the number or size of the calculi. (The writer recently removed seven hundred and fifty-nine stones from an enormously enlarged gall bladder, which up to the time of the operation had produced absolutely no symptoms, the reason for the operative interference being the presence of a hard and irregular tumor suggesting carcinoma.)

If, however, a calculus becomes impacted at the neck of the gall bladder or in the cystic duct, or if the mucous membrane of the gall bladder becomes inflamed, symptoms are produced. In the former instance, pain of a moderate, paroxysmal character may be present, due to the expulsive efforts of the organ to rid itself of the obstruction, or to a gradual distention of the viscus with mucus; in the latter, to distention of an inflamed and sensitive organ. In the first instance the pain may occur at any time; in the latter it generally occurs during prolonged fasting, as at night, when the flow of bile is toward the gall bladder. Kehr, however, believes that the pain in these cases is practically always the result of inflammation. It is certainly a well-recognized fact that it usually begins at night, and this circumstance seems to distinguish it from the pains of gastric ulcer or other digestive disorders, which begin, as a rule, soon after a meal.

The pain originating in the gall bladder varies considerably in intensity, but presents two fairly uniform characteristics and generally extends to the back and upward to the region of the scapula and shoulder. Tenderness is rarely present in the absence of inflammation, but when present it is immediately over the organ, which usually is found behind the right rectus muscle, just below the free border of the ninth rib.

Tumor of the gall bladder, present under the conditions enumerated above, from the large size or number of gall stones, or from an accumulation of fluid, is usually more easily defined than in inflammatory conditions, on account of the absence of a pericystic exudate and of rigidity of the abdominal wall.

The presence of a number of stones in a gall bladder has occasionally been recognized during palpation by a *bruit* which, according to Petit, resembles the rubbing together of nuts in a bag. This observation has also been confirmed by Courvoisier and others.

Occasionally a stone can be distinctly palpated, as in the case reported by Lessdorf, in which he was able to grasp and appreciate the stone through the separated muscles of an umbilical hernia.

If, however, the stone becomes impacted in the cystic duct, or if the duct becomes permanently obstructed in any other manner, as by a new growth or cicatricial contraction, there occurs a gradual increase in the size of the gall bladder by an accumulation of fluid within its cavity. In the absence of infection, this fluid is sterile and consists of a thin mucus secreted by the mucous membrane, which gradually distends the gall bladder, often to an enormous size, giving rise to no discomfort excepting that produced by pressure from the size of the tumor. In this condition of hydrops of the gall bladder, the walls of the viscus become extremely thin, the fluid is at first bile stained, and later becomes cloudy and often opalescent.

A tumor of this character develops slowly, is situated immediately behind the abdominal wall below the free border of the ribs on the right side, and appears continuous with the liver at a point opposite the junction of the ninth rib with its cartilage. It develops downward and somewhat toward the median line; it moves with respiration and may permit a lateral pendulum-like motion on palpation. It is generally smooth, of even oval contour, and its consistence may be soft, hard, fluctuating, or elastic. The shape of the tumor is variable; it may be round, elongated, pear-shaped, or reniform (Reidel). A change in the size and shape of a gall bladder tumor is occasionally observed, and is probably due to a dislodgment of a previously impacted stone, or to a valve-like obstruction in the cystic or common duct. Petit reported a case in which it could be emptied by external pressure. Goldwitz and von Lucke have reported cases in which the tumor was apparently due to a paralysis from over-distention, similar to what is often observed in the urinary bladder. It may be of interest in this connection to note that the gall bladder has ocasionally been found near the median line (Kehr) or under the free border of the ribs of the left side, as reported by Raymond and Carl Beck. Congenital absence of the gall bladder has been once observed by the writer, and Courvoisier has referred to a case in which it was apparently absent, but in reality was deeply embedded in the substance of the liver.

The passage of small stones through the cystic duct may give rise to no painful symptoms. Lawson Tait, however, expressed the belief that they cause far more pain than when passing through the large common duct, and Kehr has made a similar statement. Courvoisier, however, doubts this, and reports eight autopsies in cases in which death occurred during an acute attack of biliary colic; in six of these the stone was found in the common duct, one in the gall bladder, and in one instance numerous stones were generally distributed throughout the bile passages.

The diagnosis of stone in the hepatic duct is often very difficult. Courvoisier reports fifty-two cases with fairly accurate histories. In four of these there were no symptoms, in twenty-two pain was present, without any regular type, and occasionally accompanied by digestive disturbances and vomiting. In sixteen there were enlargement of the liver and tenderness. Thirty-five had more or less jaundice (in six it was distinctly absent). In nineteen there was fever of an intermittent type. In fifteen there was a suppurative cholangitis.

The diagnosis of stone in the common duct is less

Diagnosis Chart in Diseases of the Gall Bladder and Ducts.

	Pathological condition.	Pain.	Fever.	Vomiting.	Jaundice.	Tumor of gall bladder.	Urine.	Stools.	Liver.	Spleen.	Ascites	Remarks.
I	Calculous Disease. (*a*) Stone in healthy gall bladder, ducts free.	No	No	No	No	May be present from large number or size of stones.	Negative	Normal	Not enlarged.	Not enlarged.	No	Generally discovered by accident; often unrecognized.
	(*b*) Stone in healthy gall bladder, cystic duct temporarily obstructed	May be absent; generally present during obstruction; paroxysmal	No	May be present when colic occurs.	No	May be present from distention.	Negative	Normal	Not enlarged.	Not enlarged.	No	All symptoms promptly relieved as soon as obstruction is removed.
	(*c*) Stone impacted in cystic duct.	No	No	No	No	Present; may attain large size.	Negative	Normal	Not enlarged.	Not enlarged.	No	Hydrops of gall bladder; often unrecognized.
	(*d*) Stone in hepatic duct.	Frequently present; irregular type.	Occasionally present.	May be present during pain.	Frequent	No	Contains bile pigment at times.	May be clay colored if obstruction occurs.	Frequently enlarged.	Not enlarged.	No	Diagnosis extremely difficult; symptoms generally due to coexisting cholangitis.
	(*e*) Stone in common duct; acute obstruction.	Present; acute paroxysmal radiating to back.	Generally present.	Present	Present	No	Contains bile pigment.	Clay colored.	Not enlarged.	Not enlarged.	No	Symptoms rapidly disappear when stone passes papilla.
	(*f*) Stone in common duct, movable; chronic.	Periodic attacks of acute radiating pain.	Present with chills and sweats.	Present	Present; intermittent.	Rarely present	Contains bile pigment.	Clay colored.	May be enlarged during attack.	May be enlarged from pressure of stone on vein.	No	"Fièvre intermittente hépatique" of Charcot resembles malaria; all symptoms disappear during interval.
	(*g*) Stone in common duct, impacted; chronic.	May be absent; frequently present early; may be intermittent; variable.	May be present; variable.	Often present.	Present; progressive; may vary in intensity.	Rarely present	Contains bile pigment.	Clay colored.	Enlarged	May be enlarged.	No	Condition may remain for many years; may only be jaundice with digestive disturbances and loss of weight; history of previous attacks (?) Ascites may be present from pressure of large stone or possibly from hydræmia
II	Inflammatory Disease. (*a*) Cholecystitis subacute.	Present; paroxysmal during periods of cystic duct closure from stone or swollen mucous membrane	Present during attacks of colic	May be present.	No	Present during attacks of cystic duct obstruction.	Negative	Normal	Not enlarged.	Not enlarged.	No	Tenderness over gall bladder; tendency to recurrence; generally associated with stones in gall bladder.
	(*b*) Cholecystitis acute	Acute paroxysmal radiating pain; extending to back and shoulder; may be very severe.	Present, with chills and sweats.	Present; often severe.	No	Present; tenderness; often muscular rigidity	May contain albumin and casts.	Normal	Not enlarged.	May be enlarged (sepsis).	No	May follow typhoid or other septic diseases; onset often sudden; rapid development of severe symptoms resembling appendicitis; may be necrosis of walls of gall bladder with perforation, local or general peritonitis.
	(*c*) Cholecystitis chronic (empyema of gall bladder).	Severe radiating pain at first; may disappear later; tendency to recur.	Present; severe at first, may diminish later.	Present at first.	No	Present; with tenderness; may attain large size.	Negative	Normal	Not enlarged.	Not enlarged.	No	Frequently follows acute cholecystitis; occasionally becomes quiescent, presenting practically no symptoms.
	(*d*) Cholecystitis in previously diseased and contracted gall bladder.	Present; often severe; paroxysmal.	Present; often with chills and sweats.	Present	No	No (occasionally present, due to pericystic exudate).	Negative	Normal	Not enlarged.	May be enlarged (sepsis).	No	Generally tenderness over gall-bladder area, but no tumor; local peritonitis; diagnosis often extremely difficult.
	(*e*) Cholangitis of hepatic and common ducts.	May be absent; generally present when obstruction exists, or severe infection; tenderness and pain over liver in intrahepatic cholangitis.	Present; chills; sweats; severe prostration; general sepsis.	Present	Present; variable.	No	May contain bile pigment, albumin, and casts.	May be clay colored.	Enlarged	Enlarged (sepsis).	No	Often follows severe infections of gall bladder; generally associated with stones in common or hepatic ducts; severe sepsis; generally fatal in virulent infections (streptococcus).
III	New Growths. (*a*) Carcinoma of gall bladder.	No; may occur late in disease.	No	No	Present late (portal glands).	Hard, irregular, movable tumor at first, later diffuse infiltration	Negative (at first).	May be clay colored, late.	Enlarged late in disease.	May be enlarged late (pressure on vein).	Present late.	Digestive disturbances, progressive loss of weight and asthenia; cachexia; rapidly fatal.
	(*b*) Tumor of cystic duct.	No; may occur late	No	No	No	Present when obstruction exists.	Negative	Normal	Not enlarged	Not enlarged.	No (?)	Very rare; both benign and malignant growths have been reported; diagnosis difficult.
	(*c*) Tumor of hepatic or common duct.	No; may occur late	No	No	Present; progressive.	May be present from distention with bile.	Contains bile pigment.	Clay colored.	May be enlarged.	Not enlarged	May be present late.	Very rare; diagnosis difficult.
	(*d*) Tumor of neighboring viscera producing chronic obstruction of common duct.	No; may occur late	No	No	Present; progressive; may become extreme.	Present; generally from distention with bile.	Contains bile pigment.	Clay colored.	Enlarged	May be enlarged late.	Present late.	Malignant tumors most common; chronic interstitial pancreatitis from previous infection of biliary passages may remain after cause has disappeared; enlarged portal glands; Hodgkin's disease.

obscure; the three most important symptoms are jaundice, pain, and fever. Practically all observers regard jaundice as the most constant and reliable symptom of obstruction of the common duct. When this symptom is due to calculus the diagnosis is comparatively easy; when due to other forms of obstruction it is often extremely obscure. Acute temporary common-duct obstruction from stone produces a rapidly developing jaundice, which as rapidly subsides when the stone passes into the duodenum. When the stone becomes impacted in the region of the papilla the jaundice is progressive and often becomes extreme. If, however, the dilatation of the duct above the obstruction, from an accumulation of bile, causes the stone to become dislodged, and it floats upward in the dilated common cystic or hepatic ducts, the obstruction is temporarily removed, the bile again flows into the intestine, and the jaundice disappears, only to recur when the ducts contract around the stone or it is again impacted at the papilla.

Pain in common-duct obstruction strongly points to stone. In eighty cases of calculus in the common duct reported by Courvoisier, pain was a prominent symptom in fifty-one; absent in ten; and unrecorded in nineteen.

In seventy-nine obstructions from other causes it was present in only nine instances.

In intermittent obstruction from a floating stone, it is generally more acute during the period of obstruction. It is then often paroxysmal in character, radiates to the back and shoulder, rarely is it constant and fixed in one locality. Tenderness is generally more marked nearer the median line, and slightly lower than when the gall bladder is the seat of trouble.

Fever is less constantly present, but when present is generally of a characteristic type. It was noted in nineteen of Courvoisier's cases, while in seventy-four obstructions from other causes it was present but seven times. It is often intermittent in character and is accompanied by chills and profuse sweats. This type of fever was described by Charcot as *fièvre intermittente hépatique*, and its similarity to malaria pointed out by many other observers. When present with jaundice and colic, it is almost pathognomonic of stone in the common duct. Although believed by many to be reflex or due to the absorption of bile, most modern observers agree with Schuppel in regarding it as of septic origin, as the presence in these cases of a certain degree of cholangitis is practically constant.

When the flow of bile into the intestine is hindered the urine will be dark from the presence of pigment; when completely obstructed, the stools will be clay colored.

Tumor of the gall bladder is generally absent. It has, however, been occasionally observed. Enlargement of the liver is frequent and due to the dilated intra-hepatic ducts or to an extension upward of the cholangitis, in which case there will be tenderness over the liver, and enlargement of the spleen. Ascites is present only when the obstructing stone is large and presses on the portal vein.

Inflammation of the gall bladder or ducts is present in the vast majority of patients who apply to the surgeon for relief.

Whereas it was formerly believed that biliary colic was due simply to the passage of a calculus from the gall bladder through the narrow ducts to the intestine, most surgeons now regard this symptom as the expression of an inflammatory process in these organs. Kehr states that in his opinion colic is practically always due to an inflammation of the gall bladder, and this view is also expressed by many other observers.

The fact that ninety-five per cent. of all cases of calculus present no symptoms, and the fact also that the majority of calculus cases that come to operation present, in addition, signs of inflammation, would strengthen this view.

Infection of these organs arises generally from an upward extension from the intestine, from an abnormal patency of the duodenal orifice; occasionally from some general septic disease; very rarely from traumatism. Thus Courvoisier in fifty-five cases of empyema of the gall bladder found cholelithiasis in forty-one; in two it was thought to be due to trauma, in two to general sepsis, in one to typhoid fever. Inflammation of these organs may be conveniently divided into two general classes—the mild and the severe infections; the former due to the colon or typhoid bacillus, the latter to the streptococcus or some other equally virulent organism. In the great majority of instances, cholelithiasis has preceded the inflammation and prepared the way for it.

The symptoms of cholecystitis are pain, tenderness, fever, and the presence of a tumor of the gall bladder.

In a mild infection of the organ with the ducts open, insuring free drainage into the bowel, these symptoms may be wanting. If the cystic duct becomes obstructed from stone or swelling of the mucous membrane, colicky pains occur, which may radiate to the back and shoulder; vomiting is generally present during the period of obstruction; there are usually also slight fever and general malaise, which disappear with the pain when the obstruction is relieved. Unless the gall bladder be small or deeply seated under the right lobe of the liver, a sensitive tumor may be felt during the continuance of the obstruction. These symptoms frequently subside spontaneously, but the tendency to recurrence is marked.

If chronic obstruction of the cystic duct occurs, empyema of the gall bladder results, giving rise to symptoms of varying severity, according to the virulence of the infecting agent or the resistance of the individual. This condition may also exist with open ducts, as evidenced by Courvoisier's statistics, in which he reports the ducts free in eleven of forty-one recorded cases of empyema. The pain and fever may be wanting, the only symptoms being the presence of a tender tumor in the gall-bladder region, or, in cases of a small or contracted gall bladder, only a local tenderness or muscular rigidity. In the severer cases the pain is acute, paroxysmal, and radiating, the fever is high and accompanied by chills and vomiting. A local peritonitis may be present and give rise to intra-abdominal abscess, a condition often resembling appendicitis.

In the more virulent infections the symptoms often develop with great rapidity, and are accompanied by marked prostration and a rapidly developing sepsis. Perforation of the gall bladder with a fulminating, fatal, septic, general peritonitis has been reported in a number of instances.

Jaundice is absent in cholecystitis unless the tumor of the gall bladder or cystic duct presses upon the common duct.

In inflammation of the common or hepatic ducts, however, jaundice is often present in addition to the pain and fever, but unless accompanied by stone or complete obstruction from other causes is seldom of a severe type. In the more virulent infections of the common and hepatic ducts, the process extends rapidly to the intra-hepatic branches and gives rise to general sepsis, often without other symptoms, leading, unless speedily relieved by surgical means, to multiple hepatic abscesses and death. This condition is practically always accompanied by the presence of foreign bodies in the ducts or gall bladder. In seventy-four cases analyzed by Courvoisier fifty-seven had calculi, seven ascarides, and three echinococcus.

While new growths of neighboring organs not in-

frequently produce symptoms referable to the gall bladder or ducts by external pressure or direct extension, primary new growths in these organs are exceedingly rare.

The gall bladder is most frequently affected, and in the great majority of instances the growth is carcinoma.

This disease was observed, according to Courvoisier, in seven of two thousand five hundred and twenty autopsies. In one hundred cases collected by the same author, seventeen were in males and eighty-three in females, the decade furnishing the largest number being between fifty and sixty years of age. Seven-eighths of all the cases occurred in the subjects of cholelithiasis. In sixty-six of these cases in which the history was fairly complete, the early symptoms were generally those of disturbed digestion and malnutrition. Vomiting was noted in thirty-six instances; colic in twenty-one; jaundice occurred in forty-eight instances, generally late in the disease; while in eighteen it was absent. In twelve ascites was present. Kehr states that the last two symptoms always result from an involvement of the portal glands, causing pressure on the ducts and portal vein.

The only reliable symptom which can be detected early is the presence of a hard, irregular tumor of the gall bladder. The diagnosis is exceedingly difficult; in only four of Courvoisier's one hundred cases was the nature of the disease determined during life. The disease is rapidly fatal; in fifty-three cases followed to the end, death occurred in all within nine months from the first characteristic symptoms.

The occurrence of both benign and malignant tumors within the lumen of the bile ducts has been reported by Mayo Robson and others. The symptoms at first are those of duct obstruction from other causes, and the malignant varieties are later accompanied by malnutrition, progressive asthenia, and cachexia.

Chronic obstruction of the common duct from outside pressure of tumors of the pylorus, duodenum, or head of the pancreas is of fairly frequent occurrence. As would be expected, the cardinal symptom is a progressively increasing jaundice without fever and with but little or no pain. In these cases there is a gradual enlargement of the liver and gall bladder, with ascites.

The same symptoms may be occasioned by a tumor within the duct. Intermittent jaundice has rarely been observed in such cases, probably due, as suggested by Haarimann, to sloughing of a part of the obstructing mass, allowing a temporary flow of bile into the intestine; or, as reported by Courvoisier, a pedunculated tumor near the papilla may act as a valve and occasionally permit the passage of bile.

Let us, in conclusion, briefly review the significance of the three chief symptoms occurring in diseases of the gall bladder and ducts.

Pain: The occurrence of repeated attacks of acute paroxysmal pain, in the upper right quadrant of the abdomen, strongly suggests a lesion of the biliary passages. This suggestion is accentuated if the attacks occur at night, or during fasting, and are accompanied by vomiting and fever. If the pain radiates upward to the back and shoulder, and if an area of tenderness exists under the free border of the ribs, the diagnosis is still more probable.

If in addition to the pain we have a palpable or tender tumor under the lower border of the ninth rib, in all probability the case is one of cholecystitis. If, on the other hand, there is jaundice but no gall-bladder tumor, we probably have to do with a lesion of the common duct.

Other conditions giving rise to acute pain in the upper abdomen, and to be excluded, are, first, gastric ulcer, in which the pain and tenderness are more generally located in the epigastric or left hypochondriac region, and in which fever, as a rule, is not present; appendicitis, in which vomiting and fever may also be present, but the pain and tenderness are usually located in the right lower quadrant of the abdomen; renal colic, in which the pain originates in the flank and extends downward along the ureter to the testicle, which may be retracted, and which is often accompanied by vesical irritation and hæmaturia; the gastric crisis of tabes, in which fever is absent, and although the vomiting is present, there is no characteristic point of tenderness. These cases also show an absence of the patella reflex and the presence of sensory disturbance and ataxia in the extremities. Occasionally, pain in this region, strongly simulating biliary colic, will be caused by the presence of inflammatory adhesions in the region of the pylorus and duodenum, causing a narrowing of the canal with dilatation of the stomach. Chronic intestinal obstruction, or the early pain of a local peritonitis from other causes, has given rise to difficulties in diagnosis; and lastly, syphilitic hepatitis may present pain and other symptoms almost identical with those generally found in calculous disease of the biliary passages.

Tumor: A tumor in the right hypochondriac region, which develops slowly and is preceded by a history of cholelithiasis; which is round, oblong, or pear-shaped, with a smooth convex surface, elastic or fluctuating; which lies immediately under the abdominal wall below the ribs and near the outer margin of the right rectus muscle; which moves with respiration; which allows a certain amount of lateral pendulum-like motion on account of its attachment above; which cannot be made to disappear like a movable kidney under the ribs; and which is not accompanied by pain and fever, is in all probability a gall bladder distended with mucus (hydrops). If with such a tumor there is a progressive jaundice, it is probably a gall bladder distended with bile from common-duct obstruction. If such a tumor is sensitive to the touch and is accompanied by fever it is doubtless a gall bladder distended with pus (empyema). If the tumor is ill defined on account of muscular rigidity, if there are acute radiating pain and marked tenderness in the right hypochondriac region, we have generally to do with a cholecystitis with local peritonitis. The presence of a tumor corresponding to the above description, without pain, fever, or jaundice at first, but presenting a hard, irregular surface, is in all probability cancer.

Jaundice: The occurrence of a mild transitory jaundice unaccompanied by other symptoms suggests a catarrhal obstruction of the common duct (a mild duodenitis from indigestion). The occurrence of a temporary jaundice with colic suggests the passage of a stone through the common duct into the intestine. The occurrence of intermittent jaudice, intermittent colic, and intermittent fever suggests a floating stone in the common duct. The occurrence of continued jaundice, with chills, fever, hepatic enlargement and tenderness, hypertrophy of the spleen and general sepsis, suggests an infective cholangitis. The occurrence of a progressively increasing jaundice, and enlargement of the liver, with a previous history of colic, suggests an impacted stone near the papilla. The occurrence of a progressively increasing jaundice, without pain or fever but with a tumor of the gall bladder, suggests common-duct obstruction from new growth.

Tubo-Ovarian Disease and How Best to Deal with it.—(1) In the dormant stage operate by the abdominal route. (2) In the acute stage explore by the abdominal route, then decide between completing the operation in one or two sittings. (3) Following abortion or delivery at full term, vaginal drainage often puts the patient in better shape for an abdominal section later on.—Edwin Ricketts.

THE MORTALITY FROM DIABETES MELLITUS IN THE CITY OF NEW YORK (MANHATTAN AND THE BRONX) IN 1899.

CLASSIFIED ACCORDING TO MONTH, SEX, AND AGE; ALSO AN EXPOSÉ AS TO NATIONALITY, DURATION OF RESIDENCE IN THE UNITED STATES, OCCUPATION, DIRECT CAUSES OF DEATH, AND ACCOMPANYING DISEASES.

By HEINRICH STERN, Ph.D., M.D.,

NEW YORK.

A. The Mortality from Diabetes Mellitus according to Month, Sex, and Age.[1] — A perusal of Table I. evidences that 202 deaths from diabetes mellitus were recorded. Of these, 102 took place in males and 100 in females. As in the preceding decade, 1889–1898, the greatest mortality from this affection, in 1899, occurred in the month of October. The mortality was distributed over the different seasons, as follows:

	Number of Deaths.
Spring: March, April, May	53
Summer: June, July, August	42
Fall: September, October, November	57
Winter: December, January, February	50
Total	202

The mortality among males was greater in the months of February, June, September, November, and December; it was greater among females in March, May, July, August, and October. In January and April the deaths were equally distributed between both sexes.

The greatest mortality took place between the 55th and 65th years of life; the smallest between the 10th and 15th and between the 20th and 25th years. The number of diabetics who succumbed between the 45th and 55th years was almost the same as of those who died between the 65th and 75th years. The disease terminated fatally four times oftener in males than in females between the 25th and 35th years of life. Between the 35th and 45th years the mortality of males was about twice that of females. Between the 45th and 55th years the deaths of males exceeded those of the females by about one-third. Between the 55th and 65th years the mortality of females surpassed the deaths of males by just 40 per cent. The mortality of the female sex was also higher between the 65th and 75th years, and it exceeded nearly twice the mortality of males between the 75th and 85th years.

Below the 25th year but 10 deaths ensued, of which 7 occurred in males and 3 in females. But 3 diabetics died above the 85th year—2 males and 1 female.

B. The Nationality of the Deceased Diabetics.— The greatest number of deaths (Table II.)—57—occurred among those born in Germany. Of natives of the United States, 51 succumbed to the affection. Thirty-seven of the deceased were born in Ireland, 18 in Russia and Poland, 12 in England and Scotland, 6 in Austria-Hungary-Bohemia, 6 in Holland and Belgium, 4 in Central and South America and the West Indies, 4 in Italy, 3 in France, 2 in Canada, 1 in Switzerland, and 1 in China.

These figures probably stand in some relationship to the numerical proportion of each nationality to the total populace of New York City. However, no Swedes, Norwegians, or Danes succumbed to the affection although a considerable number of New York's inhabitants are of these nationalities.

Among the American-born, 27 were males and 24 females. The mortality of males exceeded that of females also in those born in England and Scotland, Austria-Hungary-Bohemia, Holland-Belgium, and Central and South America and the West Indies. No death from diabetes was reported of females of Canadian or Italian birth.

The mortality was larger among the female sex than in that of the male in natives of Germany, Ireland, Russia-Poland, and France.

Among the 51 deaths in the American-born, many were of individuals of Irish parentage or of unmistakably Irish extraction. The high mortality of natives of Germany is not only due to their numerical strength but to the great number of German-born Jews.

The Hebrews, no doubt, are more commonly affected with chronic glycosuria than natives of the nation among whom they dwell. The death certificates of Americans furnish no direct evidence whether the deceased belonged to the Jewish race or not, nor in many instances does the name disclose the racial identity. The deceased buried in Jewish cemeteries were classed by me as Jews. A few others of undoubted Jewish origin (personal name, name of parents, place of birth) who were not interred in specific Jewish burial-grounds were also counted among the Jews. Out of the total of 202 deaths, 54, that is, almost 25 per cent., occurred in Jews. Of these, 21 were males and 33 females.

Thirty-seven of the deceased were born in Ireland. Taking the Irish as a race—as I have done with the Jews—adding those who were born outside of Ireland of Irish parentage or who are of Irish descent, we have a total mortality of at least 51—22 males and 29

Table I.

Months.	Total Mortality.	Total Mortality		Under 10.		10–15.		15–20.		20–25.		25–35.		35–45.		45–55.		55–65.		65–75.		75–85.		Above 85.		Colored.
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
January	22	11	11	1	..	..	..	1	..	..	1	1	..	2	1	2	2	3	4	..	2	1	1	..	..	1
February	9	7	2	..	..	..	..	..	..	..	..	1	..	4	..	..	1	1	..	..	1	..	..	1	..	
March	16	4	12	..	..	..	..	..	..	..	..	..	..	1	..	..	1	3	7	..	2	..	1	..	1	
April	16	8	8	..	..	..	..	..	1	..	..	..	..	2	1	2	1	1	3	3	2					
May	21	10	11	..	..	..	..	..	..	..	..	..	..	3	..	4	2	1	3	2	3	..	3			
June	13	9	4	..	..	..	..	..	..	..	..	2	..	..	..	4	1	1	2	1	1	1				
July	16	7	9	..	..	..	..	..	..	1	..	1	1	1	..	1	..	2	3	..	4	1	1			
August	13	4	9	..	..	..	..	..	..	..	..	..	..	..	1	1	3	1	4	1	1	1				
September	13	8	5	..	..	..	..	..	..	..	..	..	1	..	..	4	1	1	2	2	1	..	..	1		
October	27	13	14	1	1	1	..	..	..	..	..	2	..	1	2	1	1	1	7	6	1	..	2	..	.	2
November	17	9	8	..	..	1	..	..	..	..	..	1	..	2	3	2	1	3	3	..	..	..	1			
December	19	12	7	..	..	..	..	1		..	..	..	..	1	1	1	1	6	2	2	3	1				
Total	202	102	100	2	1	2	..	2	1	1	1	8	2	17	9	22	15	24	40	17	21	5	9	2	1	3
Total				3		2		3		2		10		26		37		64		38		14		3		

[1] Some of the following data differ slightly from the figures which I gave in a recent communication. A careful search of the original certificates of death showed that the enumerator has classified the deaths from diabetes insipidus (certificates Nos. 23,282 and 36,004) and a case of death from "dilatatio cordis" (certificate No. 13,272) among the deaths from diabetes mellitus.

females. This figure also forms over 25 per cent. of the total mortality from diabetes mellitus.

The diabetics of Russian or Polish nativity, with exception of one female, were all Jews.

The frequent mortality from diabetes in certain races, as the Jews and the Irish, may be ascribed to manifold causes. Mental exertion, the characteristic modes of living, gluttony, alcoholic intoxication, etc., might be considered predisposing factors in the production of the diabetic state, but the cardinal predisposing cause, in my opinion, is the breeding in and in to which, in a very pronounced measure, the Jewish as well as the Irish race still adhere.

TABLE II.

Nationality.	Total Mortality.	Total Mortality.		Under 10.		10–15.		15–20.		20–25.		25–35.		35–45.		45–55.		55–65.		65–75.		75–85		Above 85.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
United States	51	27	24	2	1	2	..	1	1	1	1	3	2	6	4	2	3	6	7	4	3	.	2		
Germany	57	25	32	..	..	..	..	1	..	..	..	..	..	2	..	4	1	5	14	8	12	4	4	1	1
Ireland	37	16	21	..	..	..	..	..	..	..	..	3	..	3	3	5	6	5	10	..	2				
Russia and Poland	18	7	11	..	..	..	..	..	..	..	..	1	..	2	1	2	3	1	5	1	1	..	1		
England and Scotland	12	7	5	..	.	..	..	..	..	..	..	..	.	1	.	1	2	3	1	1	1	..	1	1	
Austria-Hungary-Bohemia	6	4	2	..	..	..	..	..	..	..	..	..	..	2	1	1	..	1	1						
Holland and Belgium	6	4	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	1	1	1		
France	3	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1				
Switzerland	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..						
Cent. and So. Amer. and West Ind. Islands	4	3	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	1					
Canada	2	2	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..						
Italy	4	4	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	1					
China	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..						
Total	202	102	100	2	1	2		2	1	1	1	8	2	17	9	22	15	24	40	17	21	5	9	2	1
Total				3		2		3		2		10		26		37		64		38		14		3	

C. The Age of the Deceased Diabetics from the Different Nationalities and the Duration of their Residence in the United States.—Out of the 57 deceased German-born diabetics 2, 1 male and 1 female, lived above the age of 85. Eight died between the 75th and 85th years, 20 between the 65th and 75th years, 19 between the 55th and 65th years, 5 between the 45th and 55th years, 2 between the 35th and 45th years, and none between the 25th and 35th years. The average age attained by the diabetics of German nativity, excluding those who died during childhood and adolescence, was therefore almost 66 years.

Two diabetic females born in the United States died between the 75th and 85th years; 7 American-born diabetics succumbed to the malady between the 65th and 75th years; 13 between the 55th and 65th years, 5 between the 45th and 55th years, 10 between the 35th and 45th years, and 5 between the 25th and 35th years. The average age of American-born diabetics, with the exclusion of those who died before the 25th year was reached, amounted therefore to 53 years.

Of the deceased born in Ireland, 2 females lived to the period between the 65th and 75th years; 15—5 males and 10 females—to that between the 55th and 65th years; 11—5 males and 6 females—died between the 45th and 55th years; 6—3 males and 3 females—between the 35th and 45th years, and 3, all males, between the 25th and 35th years. The mean age attained by the Irish-born diabetics was therefore not quite 52 years.

One female among the diabetics of Russian birth attained an age between the 75th and 85th years; 2 diabetics of Russian nativity lived to the period between the 65th and 75th years, 6 to that between the 55th and 65th years; 5 died between the 45th and 55th years, 3 between the 35th and 45th years, and 1 between the 25th and 35th years. The average age of deceased diabetics, natives of Russia, amounted therefore to about 54½ years.

Of those born in England and Scotland, 1 lived above the 85th year, 1 until the period between the 75th and 85th years, 2 until that between the 65th and 75th years; 4 died between the 55th and 65th years, 3 between the 45th and 55th years, and 1 between the 35th and 45th years. The mean age attained by the diabetics of English or Scotch birth amounted therefore to over 61 years.

The 54 deceased diabetics of Jewish extraction attained the following ages:

Age.	Male.	Female.
1–10 years		
10–15 "		
15–20 "	1	
20–25 "		
25–35 "	1	1
35–45 "	4	2
45–55 "	4	5
55–65 "	5	11
65–75 "	4	9
75–85 "	2	4
85 years and above	..	1
Total	21	33

In the average those who had died after the 25th year of life attained an age of 60 years.

The duration of residence[1] in the United States of foreign-born deceased diabetics, for the different nations, was as follows:

Nationality.	Mean Number of Years of Residence in United States.	
	Male.	Female.
Germans	37	40
Irish	31	Not quite 36
Russians and Poles	Between 15 and 16	Between 15 and 16
English and Scotch	" 32 " 33	" 40 " 41
Austrians, Hungarians, Bohemians	17	" 20 " 21
Hollanders and Belgians	Between 36 and 37	44
Italians	13	

D. The Occupation of the Deceased Diabetics (Table III.).—The occupation of the deceased diabetic was not stated on every certificate of death. Out of a total of 102 deaths of males, the occupation of 82, and of a total of 100 deaths of females, the occupation of 44 was recorded.

[1] The question, "How long in the United States?" I found not always answered.

It may be surmised that the deceased male diabetics whose former occupation is not mentioned in their respective certificate of death belonged, in the majority, to the wealthier class of the population. This, however, is not the case. Some of the males were children; others, without an apparent occupation, passed away in public institutions where nothing was known about the deceased, and others died in the tenement-house districts. It is safe to assume that most of the 56 females whose occupation is not stated were "houseworkers," and that the attesting physician did not consider these duties a specific or definite "occupation."

TABLE III.

Occupation.	Sex and Age of Deceased.	No.	Mean Age Attained.
"Houseworkers"	F. 58, F. 60, F. 57, F. 35, F. 65, F. 62, F. 59, F. 58, F. 75, F. 58, F. 55, F. 67, F. 47, F. 69, F. 58, F. 60, F. 68, F. 66, F. 59, F. 52, F. 60, F. 47, F. 69, F. 55, F. 51, F. 62, F. 38, F. 58, F. 55, F. 70, F. 31, F. 60, F. 65, F. 75, F. 54	35	58
Nurse	F. 49	1	49
Railroad employees	M. 46, M. 40	2	43
Restaurant, hotel, and saloon-keepers	M. 54, M. 56, M. 39, M. 39, M. 52, M. 60	6	50
Drivers	M. 53, M. 65, M. 32, M. 56	4	51½
Porters, janitors, watchmen, etc.	M. 35, M. 71, M. 49, M. 20, M. 70, M. 67, M. 60	7	53
Butcher	M. 42	1	42
Bakers and confectioners	M. 16, M. 62	2	39
Peddlers	M. 35, M. 42	2	38½
Cattle and produce dealers	M. 59, M. 49	2	54
Clerks, agents, salesmen, etc.	M. 61, M. 36, M. 34, M. 57, M. 73, M. 68, M. 46, M. 61, M. 67.	9	56
Cooks	M. 36, M. 50	2	43
Laundrymen	M. 44, M. Chinese 30 years in U. S.; 50 years sup.	2	47
Factory worker	F. 21	1	21
Merchants	M. 80, retired; M. 45, M. 74, M. 66, M. 55, M. 55.	6	62½
Shoemaker	M. 43	1	43
Tailors and dressmakers	M. 25, M. 86, M. 60, M. 54, F. 60, M. 44, M. 54	7	54¾
Domestics	F. 72, F. 64, F. 37, M. 50, F. 19	5	48½
Laborers	M. 50, M. 55, M. 61, M. 52	4	54½
Cigarmakers and manufacturers	M. 64, M. 52, M. 63 M. 61	4	60
Typesetter	M. 35	1	35
Police officers	M. 56, M. 52	2	54
Sculptor	F. 42	1	42
Gardeners	M. 27, M. 68	2	47½
Engraver	M. 63	1	63
Color-mixer	M. 34	1	34
Lawyer	M. 65	1	65
Physician	M. 32	1	32
Clergymen	M. 48, M. 57	2	52½
Teacher	M. 67	1	67
Nun	F. 45	1	45
Journalist	M. 42	1	42
Photographer	M. 68	1	68
Morgue-keeper	M. 35	1	35
Storage-warehouse proprietor	M. 55	1	55
Builder	M. 63	1	63
Student	M. 15	1	15
Stonemason	M. 46	1	46
Carpenter	M. 52	1	52
Waiter	M. 69	1	69

Apart from the 35 "houseworkers"—for almost every woman of more advanced age dies as such—the greatest mortality (9) occurred among the great class of clerks, agents, salesmen, etc. The porters, janitors, watchmen, and kindred occupations furnished 7 deaths from diabetes. The same mortality from this affection took place among tailors and dressmakers. Six restaurant, hotel and barkeepers and the same number of "merchants" succumbed to diabetes. The mortality from diabetes of domestics amounted to 5, of drivers to 4, of laborers to 4, and of cigarmakers and manufacturers also to 4.

The death figures for 1889 are too small to permit of any definite conclusions as to the relationship between occupation and diabetes, or between occupation and fatal termination of the affection. One fact, however, is clearly evinced by a perusal of Table III., namely, that diabetes mellitus is not a special visitation upon the well-to-do, as is commonly supposed, but that it occurs in great frequency among the working people, among whom gluttony and leisure hours are exceptions.

Granted that of the 20 deceased male diabetics whose "occupation" is not stated, or who had "no occupation," 10 were persons of means, we still have 10 with "no occupation" whom we are compelled to classify among the poorer strata of society.

Adding to this	10
Railroad employees	2
Restaurant, hotel, barkeepers, total mortality 6; employees, say	3
Drivers	4
Porters, etc.	7
Bakers, etc., total mortality 2; employees, say	1
Peddlers	2
Clerks, etc.	9
Laundrymen	2
Cooks	2
Shoemaker	1
Tailors	6
Domestic	1
Laborers	4
Cigarmakers, total mortality 4; employees, say	2
Typesetter	1
Police officers	2
Gardeners	2
Engraver	1
Color mixer	1
Stonemason	1
Carpenter	1
Waiter	1

We have at least 66 of the 102 deceased males who were working for a livelihood or who were dependents upon others.

Besides, some of the professionals, whom I have entirely omitted from this last calculation, in all likelihood belonged to the poorer classes; and it is possible that some of the "merchants" even were not wealthy people. In looking over the records of the last places of residence of the deceased, the fact that the working classes are more frequently the victims of diabetes than are the so-called upper strata of the populace is once more confirmed.

E. The Direct Causes of Deaths.—1. COMA (Table IV.).—Among a mortality from diabetes of 202, death supervened 60 times by coma.

I have stated elsewhere[1] that "the greater number of these 60 instances which were designated as 'coma,' it is safe to assume, were not those of typical diabetic coma. Coma, associated with diabetes, deserves the appellation 'diabetic coma' only in certain well-defined instances."

In Table IV. I have collected the 60 cases of coma. The following facts are elucidated by it:

[1] "On Coma Diabeticum and its Treatment," meeting of American Medical Association, Section Materia Medica and Therapeutics, June 5, 1900, to be published in Journal of the American Medical Association.

Nationality: Of those who died in coma were born in

	Total.	Male.	Female.
United States	19	6	13
Germany	16	8	8
Ireland	8	4	4
Russia, Poland	7	3	4
England, Scotland	4	3	1
Austria, Hungary, Bohemia	2	..	2
Holland	2	..	2
Italy	1	1	..
West Indies	1	1	..
Total	60	26	34

Of these 60 who have died in coma, 23, 8 males and 15 females were Jews.

While the proportion of the total coma cases to the total mortality from diabetes is 60 to 202, or 29 per cent., coma occurred in 43 per cent. of the fatal cases of diabetes in the Hebrews.

Sex: Of the diabetics who have died in coma 26 were males and 34 females.

Age: The lowest age of any diabetic who has died in coma in 1899 in the City of New York was 15 years, the highest 83 years and 2 months. The mean age of all who have died in coma amounted to 53 years and about 3 months. The mean age of the males was 49 years and about 6 months, that of the females 56 years and almost 2 months.

TABLE IV.

Number of Certificate of Death.	Nationality.	Sex	Age.		Duration of Diabetes Mellitus.		Duration of Coma.	Occupation.	Concurring Diseases and Conditions—Remarks.
Manhattan Bor.			Yrs.	Mos	Yrs.	Mos.			
1,415	Holland	F.	71	6	3	..	....	None	Paralysis ; exhaustion.
1,710	Ireland	F.	62	..	..	..	....	None.	
1,901	Germany	M.	42	3	..	..	....	Butcher.	
1,920	Germany	M.	49	9	..	..	....	Not stated	Asthenia.
2,272	Germany	M.	16	..	..	..	....	Confectioner.	
2,223	United States	F.	68	9	..	..	....	Not stated.	
2,336	United States	F.	22	.	..	..	....	Factory worker.	
3,251	Germany	M.	79	10	..	..	....	Retired merchant	Convulsions.
3,925	Italy	M.	43	..	..	..	....	Shoemaker	Died in Almshouse Hospital.
6,209	United States	M.	42	..	..	..	....	Not stated	Died in Bellevue Hospital.
7,306	Germany	F.	65	..	2	3	....	No occupation	Heart paralysis.
7,935	Ireland	F.	51	10	..	..	....	Not stated	Gangrene.
7,962	Scotland	M.	35	..	..	..	....	Typesetter	Chronic diffuse nephritis ; died in Roosevelt Hospital.
8,373	England	M.	64	..	..	..	....	Not stated.	
8,771	Austria	F.	58	..	..	..	....	Housewife.	
9,549	Russia-Poland	F.	55	..	..	..	....	Housewife	Lobular pneumonia.
9,641	Germany	F.	59	..	..	..	....	Not stated	Mastoiditis (operated), seven weeks' duration.
9,932	United States	F.	42	5	..	..	....	Sculptor	Hypostatic pneumonia.
10,926	United States	F.	67	..	..	..	10 hrs.	Housewife.	
11,367	Russia	M.	40	..	..	..	....	Not stated	Phthisis.
11,877	Russia	M.	35	..	..	..	....	Peddler	Acute pulmonary tuberculosis ; died in Mount Sinai Hospital.
12,038	Ireland	F.	58	..	3	..	....	Housewife.	
12,836	United States	F.	66	..	3	..	1 week.	Housewife.	
13,672	Germany	M.	74	1	..	..	3 days.	Merchant	Thrombus.
14,146	Germany	F.	59	..	8	..	2 days.	Housewife.	
14,362	England	F.	83	2	..	..	....	Not stated.	
15,078	Germany	M.	61	..	..	..	....	Postal clerk.	
15,431	Ireland	F.	52	1	..	..	....	Housewife	Exhaustion.
19,285	Germany	M.	76	6	..	..	....	Not stated	Weak heart ; old age.
19,485	Holland	F.	75	..	..	..	....	No occupation	Arteriosclerosis ; decubitus ; exhaustion.
20,473	Germany	F.	69	..	..	..	....	Housewife.	
20,525	West Indies	M.	54	9	..	..	....	Merchant	Carbuncle (three weeks).
21,053	Ireland	M.	35	..	..	..	....	Janitor	Died in St. Vincent's Hospital.
21,380	Germany	F.	65	..	5	..	....	Not stated	Died in St. Mark's Hospital.
22,963	United States	F.	55	..	..	..	Few hrs.	Housewife.	
23,832	Germany	F.	62	5	..	..	....	Housewife	Carbuncles.
24,682	Hungary	F.	37	9	..	..	....	Housewife	Died in St. Mark's Hospital.
25,188	United States	M.	68	.	4½	..	24 hrs.	Photographer.	
25,675	Ireland	M.	53	..	..	..	....	Driver	Died in City Hospital.
27,025	Germany	F.	65	..	..	..	....	Not stated.	
27,674	United States	F.	31	11	..	..	....	Not stated	Paralysis cordis.
27,689	Russia	M.	45	..	..	..	....	Clergyman	Cellulitis hand and arm ; diabetic gangrene ; chronic nephritis ; died in Mount Sinai Hospital.
28,018	Russia	F.	62	..	..	..	....	Not stated	Cardiac paralysis.
28,228	United States(col)	F.	60	..	..	..	....	Dressmaker	Died in St. Vincent's Hospital.
28,536	Russia	F.	60	..	..	..	....	Not stated.	
28,865	Germany	M.	67	2	..	8	2 days.	Teacher.	
29,661	United States(col)	M.	50	..	..	..	....	Butler	Chronic diffuse nephritis (four years), asthenia.
29,896	Ireland	M.	32	4	..	..	....	Driver	Respiratory failure ; died in Flower Hospital.
29,972	Russia-Poland	F.	76	8	10	..	....	Not stated	Exhaustion.
30,147	United States	F.	54	..	..	..	....	Not stated	Chronic nephritis ; myocarditis.
32,137	United States	M.	15	..	..	..	....	Student.	
32,506	United States	F.	42	..	..	..	....	Not stated	Cellulitis, back and arm
32,659	England	M.	61	..	..	..	....	Cigar m'n'f'cturer	Paralysis cordis ; died in German Hospital.
32,675	Germany	F.	65	..	..	..	2 hrs.	Housewife	Diabetic gangrene of foot (two weeks).
33,300	United States	F.	36	..	..	..	....	Not stated.	
34,079	Ireland	M.	60	..	..	..	....	Porter	Gangrene.
35,663	United States	M.	56	..	..	..	1 day.	Driver.	
Bronx Bor.									
1,087	United States	F.	19	..	..	..	....	Domestic.	
1,632	United States	M.	34	..	..	..	....	Color mixer	Died in Montefiore Home.
2,059	United States	F.	31	..	..	..	....	Housewife	Acute gastro-enteritis.

2. Asthenia, Uncomplicated.—Table V.

No. of Certificate of Death.	Nationality.	Sex.	Age, Years.	Duration of Diabetes Mellitus.	Occupation.
Manhattan Bor.					
1,099	England	F.	49		Nurse.
1,880	Ireland	F.	51		Not stated.
3,018	United States	M.	57		" "
4,840	Poland	F.	35		H. W.
4,854	Ireland	M.	39	2 years	Not stated.
7,841	Germany	F.	87		" "
14,004	Germany	F.	69		" "
14,863	West Indies	F.	62		" "
15,879	West Indies	M.	65		Merchant.
17,479	Austria	M.	53		Tailor.
20,969	Germany	F.	70		Not stated.
21,466	Germany	F.	74	5 years	" "
26,878	Ireland	F.	63		" "
26,794	United States	F.	64		" "
29,023	United States	M.	71		" "
29,148	United States	M.	4		
34,083	Russia	F.	56		Not stated.
34,700	United States	M.	40		Railroad employee.
35,885	United States	M.	63		Not stated.
Bronx Bor.					
1,145	United States	M.	65		Lawyer.
3,340	Ireland	F.	61		Not stated.

3. Asthenia, Together with Gangrenous Processes.—Table VI.

No. of Certificate of Death.	Natiooality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Location of Gangrene.
Manhattan Bor.						
1,712	Germany	F.	58		Housewife	Left leg.
3,200	Germany	M.	61		Baker	Foot.
6,010	Belgium	M.	64		Cigarmaker	Foot, amputation.
7,620	United States	M.	60		Not stated	Toes.
13,301	Ireland	F.	67	2 years	Housewife	Not stated.
14,600	Germany	F.	79		Not stated	Right foot.
17,557	Ireland	F.	47		Housewife	Amputation of thumb.
32,620	Germany	M.	43		Tailor	(Carbuncles).
35,645	Ireland	M.	55		Storage warehouse prop.	Foot.
Bronx Bor.						
1,293	United States	F.	51		Not stated	(Mastoid abscess.)

Occupation:[1] In the great majority of instances the former occupation of the diabetic whose death ensued in coma was stated. The "occupations" mostly omitted were those of females.

Occupation, Males.	No.
No occupation	—
Not stated	5
Butcher	1
Confectioner	1
Merchants	3
Shoemaker	1
Typesetter	1
Peddler	1
Postal clerk	1
Janitor, porter	2
Photographer	1
Drivers	3
Clergyman	1
Teacher	1
Domestic	1
Cigar manufacturer	1
Student	1
Color mixer	1
Total	26

Occupation, Females.	No.
No occupation	4
Not stated	13
Houseworkers	13
Factory worker	1
Sculptor	1
Dressmaker	1
Domestic	1
Total	34

Duration of diabetes mellitus before coma ensued: In but few instances—in fact, too few to be of any definite value—was the duration of the affection, prior to the establishment of coma, recorded. The average duration of the 9 recorded instances amounted to 4 years and 5 months.

Duration of coma: But 9 certificates give information as to the duration of the comatose condition. This varied from two hours in one instance to one week in another. The mean duration of the comatose state in these 9 instances was a trifle over 44 hours.

Diseases and conditions concurring with the cases of diabetes mellitus which terminated in coma:

	Occurred in
Carbuncle	2 instances.
Cellulitis	2 "
Diabetic gangrene	4 "
Mastoiditis	1 instance.
Nephritis	4 instances.
Paralysis cordis	4 "
Exhaustion / Asthenia / Old age (without specification)	7 "
Paralysis (without specification)	1 instance.
Respiratory failure	1 "
Pulmonary phthisis	2 instances.
Pneumonia	2 "
Myocarditis	1 instance.
Gastro enteritis	1 "
Convulsions (no specification)	1 "
Thrombus	1 "
Arteriosclerosis	1 "

[1] It may be of interest to learn that 13 out of these 60 patients died in public hospitals. While a few—probably three—of those who died in hospitals were "pay patients"; the vast majority, on the other hand, were "charity patients."

4. Septicæmia.[1]—Table VII.

No. of Certificate of Death.	Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Extract from Certificate of Death.
Manhattan Bor.						
8,580	Austria	M.	56		Police officer	Gangrene of foot, septic parotitis, general sepsis.
12,224	Germany	M.	70		No occupation	Chronic nephritis (6 mos.), gangrene of leg, septic fever (1 week).
13,990	Russia	M.	67		Collector	Gangrene of foot, septicæmia.
16,725	Holland	M.	63	3 years	Cigarmaker	Gangrene of foot.
17,665	Ireland	F.	72		Domestic	Gangrene of leg.
18,923	Bohemia	M.	39		Saloonkeeper	Septicæmia.
21,012	England	M.	57		Agent	Gangrene.
22,243	Ireland	M.	61		Laborer	Gangrene.
24,734	France	F.	58		Housewife	Chronic endocarditis, gangrene right leg.
28,038	Germany	M.	65		Driver	Gangrene of foot.
29,451	Ireland	F.	55		Housewife	Gangrene of foot, sepsis.
29,731	Ireland	F.	37		Domestic	Gangrene.
35,647	Germany	M.	61		Agent	Gangrene of right leg, atheroma.
Bronx Bor.						
13	United States	F.	57		Inmate Colored Home	Gangrene, amputation of thigh.

[1] Under this heading I have classified all those cases of "gangrene" where "asthenia" is not given as direct cause of deaths.

5. Cardiac Paralysis, Cardiac Asthenia, and Fatal Syncope.[2]—Table VIII.

No. of Certificate of Death.	Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Intercurrent and Concurreot Diseases and Conditions.
Manhattan Bor.						
1,980	United States	F.	60	3 years	Housewife.	
7,404	Germany	F.	66		No occupation	Chronic myocarditis, chronic Bright's disease.
8,940	Germany	F.	58		Housewife.	
10,971	Ireland	F.	47		Housewife.	
11,251	France	M.	70		Timekeeper.	
11,380	Germany	F.	68		Housewife.	
11,403	Switzerland	M.	52		Cigar manufacturer.	
12,362	United States	F.	59		Housewife	Gangrene of right foot.
14,774	Germany	F.	62		Not stated.	
15,039	Belgium	M.	50		Cook	Gangrene, nephritis.
15,197	United States	M.	49	4 years	Produce dealer.	
16,226	Germany	F.	59		Housewife.	
23,179	Germany	M.	67		Not stated.	
23,850	Germany	F.	64		Domestic	Gangrene, amputation of thigh, shock.
25,103	Italy	M.	52		Carpenter.	
28,619	Ireland	M.	57		Clergyman	Acute pulmonary tuberculosis.
29,623	Germany	F.	62		Not stated.	
30,197	United States	F.	36		Not stated	Bright's disease.
31,796	United States	F.	75	12 years	Not stated	Gangrene, valvular cardiac disease.
32,850	Germany	F.	70		Not stated	Chronic endocarditis.
35,388	Italy	M.	68		Clerk	Chronic nephritis.
33,170	United States	M.	64		Not stated	Valvular heart disease.
Bronx Bor.						
290	United States	F.	77		Not stated	Endocarditis.
664	United States	F.	48		Not stated.	
2,670	Ireland	M.	51		Bartender	Aortic and mitral obstruction and regurgitation.
3,341	United States	M.	14		Not stated.	
3,642	Germany	F.	68		Not stated	Dilated heart.

[2] I have classified under this title all the cases of heart paralysis, with exception of those which occurred together with coma.

6. Congestion and Œdema of Lungs.—Table IX.

No. of Certificate of Death.	Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Intercurrent and Concurrent Affections.
Manhattan Bor.						
12,207	Ireland	M.	60		Tailor.	
22,227	Ireland	M.	55		Laborer.	
25,098	Holland	M.	75		Not stated.	
27,519	Russia	F.	49	Several years	Not stated	Chronic nephritis, myocarditis (apnœa 2 days).
29,374	Germany	M.	72		Not stated	Arteriosclerosis.
30,546	Scotland	F.	47		Not stated.	
33,049	Canada	M.	32		Physician.	
33,811	Germany	M.	60		Wine merchant	Gangrene (amputation left thigh).
Bronx Bor.						
1,941	Ireland	F.	62	9 years	Not stated.	
2,688	Germany	M.	63		Engraver	Dilatation of heart, carbuncles of neck.

7. Deaths from Diabetes Mellitus, Without Specification of Either Direct or Contributing Causes.—Table X.

No. of Certificate of Death.	Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Notes.
Manhattan Bor.						
1,365	United States	M.	2			
1,765	Germany	M.	54	6 years	Restaurant keeper.	
2,706	Ireland	F.	38			
4,455	Russia	M.	25		Tailor (operator)	Died in Gouverneur Hospital.
6,146	Russia	F.	65		Housewife	Died in Hahnemann Hospital.
7,986	Ireland	F.	61		Not stated.	
8,962	Germany	F.	75		Not stated	Died in St. Francis Hospital.
12,990	Ireland	M.	39		Bartender.	
13,776	Italy	M.	46		Stone mason.	
14,182	United States	M.	44	3 years	Laundry.	
14,207	Germany	M.	46		Railroad employee.	
14,899	Germany	F.	75		Not stated.	
18,352	China	M.	50		Laundry	Coroner's case.
21,557	United States	M.	20		Porter	Coroner's case.
23,585	Russia	F.	54		No occupation.	
24,878	Ireland	M.	63		Builder.	
29,404	Ireland	F.	55		Not stated.	
30,187	Germany	F.	76		Not stated.	
30,451	Ireland	F.	55		Not stated	Died in New York Hospital.
30,991	United States	M.	42		Journalist.	
32,586	Germany	M.	54		Tailor.	
32,851	West Indies	M.	55		Merchant	Coroner's case.
34,107	France	F.	74		Housewife.	
34,803	Russia	F.	53	1 yr. 7 mo.	Housewife.	
35,432	England	M.	46		Manager.	
Bronx Bor.						
1,672	Germany	F.	55		Not stated.	
1,882	Germany	F.	57		Not stated.	
2,913	United States	M.	27		Gardener.	
3,159	United States	F.	45		Not stated.	
3,714	Scotland	M.	68		Gardener	Coroner's case.

I made no attempt to classify the 30 remaining instances according to the immediate cause of death. In the majority of the certificates no direct cause is stated. Besides this, most of these instances occurred together with chronic affections such as phthisis or nephritis, from which death may have resulted just as frequently as from diabetes, *per se*.

F. Accompanying Affections.—

1. Phthisis Pulmonum.—Table XI.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.		Occupation.	Remarks (Extract from Certificate of Death).
			Years.	Months.		
Germany	M.	58	5	..	Cattle dealer	Phthisis pulmonum, duration six months.
Germany	F.	59	..	..	Housewife	Pulmonary tuberculosis.
Russia	M.	56	2	6	Hotel keeper	Consumption, duration one year.
Russia	M.	35	..	..	Peddler	Acute pulmonary tuberculosis; coma.
United States	M.	34	..	..	Salesman	Tuberculosis; nephritis.
Ireland	M.	57	..	..	Clergyman	Acute pulmonary tuberculosis.
United States	M.	14	..	..	Not stated	Pulmonary tuberculosis.
Russia	M.	40	..	..	Not stated	Phthisis; coma.

2. Nephritis and Other Affections of the Kidney.—Table XII.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Remarks (Extract from Certificate of Death).
United States (col.)	M.	36	.....	Cook	Chronic diffuse nephritis.
Germany	F.	57	.....	Housewife	Interstitial nephritis; aortic stenosis; arterio-sclerosis.
Germany	F.	66	.....	No occupation	Chronic Bright's disease; chronic myocarditis.
Scotland	M.	35	.....	Typesetter	Chronic diffuse nephritis; diabetic coma.
Germany	M.	70	.....	No occupation	Chronic nephritis; gangrene; septic fever.
Russia	M.	45	.....	Merchant	Nephritis.
Belgium	M.	50	.....	Cook	Nephritis; gangrene.
Canada	M.	48	.....	Bookkeeper	Uræmia (not stated that nephritis existed).
United States	M.	34	.....	Salesman	Nephritis; tuberculosis.
Austria	M.	42	.....	Peddler	Pyonephritis; cystitis.
Russia	F.	44	Several years.	Not stated	Chronic nephritis; pulmonary œdema; myocarditis.
Russia	M.	45	.....	Clergyman	Chronic nephritis; gangrene; coma.
United States (col.)	M.	50	.....	Butler	Chronic diffuse nephritis (four years); coma.
Ireland	M.	35	.....	City official	Nephritis.
United States	F.	5	.....	.....	Uræmic convulsions (not stated that nephritis existed).
United States	F.	36	.....	Not stated	Bright's disease.
United States	F.	54	.....	Not stated	Chronic nephritis; myocarditis; coma.
Ireland	F.	60	.....	Housewife	Chronic diffuse nephritis.
Germany	M.	73	.....	Bookkeeper	Uræmia (not stated that nephritis existed).
Italy	M.	68	.....	Clerk	Chronic nephritis.
Ireland	M.	55	.....	Storage warehouse prop.	Amyloid degeneration of kidney; gangrene.

3. Gangrenous Processes.—Table XIII.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus	Occupation.	Remarks (Extract from Certificate of Death).
Germany	F.	58	.....	Housewife	Gangrene of leg.
Germany	M.	61	.....	Baker	Gangrene of foot.
Belgium	M.	64	.....	Cigarmaker	Gangrene of foot.
United States	M.	60	.....	Not stated	Gangrene of toes.
Ireland	F.	51	.....	Not stated.	
Austria	M.	56	.....	Police officer	Gangrene of foot.
Germany	M.	70	.....	No occupation	Gangrene of leg.
United States	F.	59	.....	Housewife	Gangrene of right foot.
Ireland	F.	67	2 years.	Housewife.	
Russia	M.	67	.....	Collector	Gangrene of foot.
Germany	F.	79	.....	Not stated	Gangrene of right foot.
Belgium	M.	50	.....	Cook.	
Holland	M.	63	3 years.	Cigarmaker	Gangrene of foot.
Ireland	F.	46	.....	Housewife.	
Ireland	F.	72	.....	Domestic	Gangrene of legs.
England	M.	57	.....	Agent.	
Ireland	M.	61	.....	Laborer.	
Germany	F.	64	.....	Domestic	Gangrene of leg.
France	F.	58	.....	Housewife	Gangrene of right leg.
Russia	M.	45	.....	Clergyman.	
Germany	M.	65	.....	Driver	Gangrene of foot.
Germany	M.	69	.....	Waiter	Gangrene of foot.
Ireland	F.	55	.....	Housewife	Gangrene of foot.
England	F.	70	.....	Housewife	Gangrene of foot.
Ireland	F.	37	.....	Domestic.	
United States	F.	75	.....	Not stated.	
Germany	F.	65	.....	Housewife	Gangrene of foot.
Germany	M.	60	.....	Wine merchant	Gangrene of left thigh.
Germany	M.	61	.....	Agent	Gangrene of right leg.
Ireland	M.	55	.....	Storage warehouse prop.	
United States	F.	57	.....	Not stated	Gangrene of thigh.
Ireland	M.	60	.....	Porter.	

4. Arteriosclerosis.—Table XIV.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Remarks (Extract from Certificate of Death).
Germany	F.	57	.....	Housewife	Arteriosclerosis; aortic stenosis.
Holland	F.	75	.....	No occupation	Arteriosclerosis; neuritis.
Germany	M.	72	.....	Not stated	Arteriosclerosis.

5. Cardiac Dilatation.—Table XV.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Remarks (Extract from Certificate of Death).
Germany	M.	63	.....	Not stated	Dilatation of heart.
Germany	F.	68	.....	Not stated	Dilatation of heart.

6. Paralysis (Excluding Cardiac Paralysis).—Table XVI.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Remarks (Extract from Certificate of Death).
Holland	F.	71	3 years.	No occupation	Paralysis; coma.
Germany	M.	85	.....	Tailor	General paralysis; bronchitis.

7. Various Other Accompanying Conditions and Disorders.—Table XVII.

Nationality.	Sex.	Age.	Duration of Diabetes Mellitus.	Occupation.	Remarks (Concurring or Intercurring Affections).
Scotland	F.	62	.....	Housewife	Gastro-duodenitis.
Russia-Poland	F.	55	.....	Housewife	Lobular pneumonia.
United States	F.	42	.....	Sculptor	Hypostatic pneumonia.
Germany	M.	74	.....	Merchant	Thrombus left median vein.
Germany	F.	66	.....	Not stated	Myelitis.
Germany	F.	54	.....	Not stated	Acute dysentery.
United States	M.	69	.....	Watchman	Erysipelas; fistula in ano.
Ireland	M.	52	.....	Police officer	Chronic bronchitis.
Germany	M.	69	.....	Waiter	Pulmonary embolism.
England	F.	70	.....	Housewife	Acute diarrhœa.
United States	F.	31	.....	Housewife	Acute gastro-enteritis.
Ireland	M.	52	.....	Laborer	Acute rheumatism.
United States	F.	60	1 year.	No occupation	Phlebitis of leg; cerebral embolism.

It is a deplorable fact that many practitioners habitually omit to furnish the exact and complete data connected with a case of death. This is especially true of the young hospital internes. A statistical attempt, like this one, can serve a definite purpose only if all the facts pretaining to a case of death have been conscientiously reported.

Inasmuch as the recognition of the chief and contributing causes of death depend entirely upon the amount of attention devoted by and the ability of the medical attendant, the value of the various certificates, emanating from so many sources, for statistical studies must naturally differ.

Many cases treated for "diabetes" or glycosuria are neither "diabetes" nor glycosuria. On the other hand, diabetes mellitus is not infrequently entirely overlooked and many a certificate of death containing the insignificant words "inanition," "asthenia," "exhaustion," etc., affixed to the name for some acute disorder, should instead bear the designation "diabetes mellitus."

56 East Seventy-Sixth Street.

THE USE OF THE SUPRARENAL CAPSULE IN DISEASES OF THE LOWER AIR PASSAGES. A PRELIMINARY REPORT.

By SAMUEL FLOERSHEIM, M.D.,

NEW YORK.

Reports on the use of the suprarenal capsule in diseases of the upper air passages have been published by Joseph A. Mullen, H. L. Swain, Beaman Douglass, H. H. Curtis, W. H. Bates, S. Solis-Cohen, and others.

The diseases in which I have used the suprarenal powder are: acute tracheo-bronchitis, chronic bronchitis, bronchiectasis, congestion and œdema of the lungs, hæmoptysis, and pulmonary tuberculosis.

The suprarenal powder was always administered in the form of three-grain capsules, placed in the mouth, thoroughly chewed without water, and swallowed in a few moments. The action of the suprarenal powder administered in this way became apparent in three to ten minutes. The capsule of suprarenal powder should not be swallowed whole with water, because the juices of the stomach may destroy it.

Acute tracheo-bronchitis: In thirty-two cases the suprarenal powder lessened the frequency and severity of the cough. In some cases the cough entirely disappeared or remained absent from ten minutes to nine hours, according to the severity of the attack. The expectoration was decreased in amount, the mucous râles in the bronchi were diminished, and in those cases in which the attack was of a mild type, the râles entirely disappeared. The sensations of tightness, rawness, pulsation, and dryness in the upper portion of the chest and throat were more or less temporarily relieved. The respirations became easier, and the patients stated that they could expand their chests more fully than before the administration of the suprarenal powder.

When the suprarenal powder was administered at the onset of a bronchitis, three grains every one or two hours, with no other treatment, a cure was usually obtained in twenty-four hours. The acute rhinitis was also promptly relieved by the administration of the suprarenal powder.

Chronic bronchitis: Twelve cases of chronic bronchitis were temporarily relieved by the administration of the suprarenal powder. The benefit was apparent within fifteen minutes after the first dose.

Bronchiectasis: The expectoration when profuse was markedly diminished by the suprarenal powder. The cough was lessened, and the patients felt much relieved.

Bronchial asthma: When the paroxysms of asthma are due solely to nervous influences, the suprarenal powder has no power to control the attack. But if the attack is accompanied with hyperæmia of the bronchial mucous membrane, the suprarenal powder is usually beneficial.

Congestion of the lungs: When the suprarenal powder was administered the râles disappeared within fifteen minutes. The slight dulness over the posterior and lower portion of the lungs also disappeared. The slight cough and watery expectoration which were present in many of the cases were promptly checked. In a few the râles remained absent.

Œdema of the lungs: When the suprarenal powder was administered the râles markedly decreased in number, and the dulness became diminished with the rapid absorption of the fluid. It should be administered frequently. It may act in the same way here as it does in œdema of the nose, by relieving congestion.

Hæmoptysis: In sixteen cases of hæmoptysis from various causes, the suprarenal powder, chewed, stopped the bleeding from the lungs in less than half an hour. In six cases, the hemorrhage stopped in five minutes. The suprarenal powder was more efficient than other remedies employed. It was not objectionable in any way.

Pulmonary tuberculosis: In eight cases of pulmonary tuberculosis the expectoration and the cough were diminished by the suprarenal powder within fifteen minutes. The patients breathed more easily and felt brighter. Hæmoptysis, when present, was controlled. Some of the larger râles and many of the smaller ones disappeared.

The following are a few of the cases in which the suprarenal powder was administered:

Case I.—Mrs. L. S——, aged fifty-nine years, had a severe attack of acute bronchitis with profuse expectoration and a constant harassing cough. The suprarenal powder was administered with difficulty. In four minutes the cough was lessened in severity and the expectoration diminished in amount. Five minutes later gr. vi. more was administered, and in six minutes the cough had almost entirely disappeared. The hoarseness, rawness, and sensation of tightness around the neck and chest materially lessened. The action of the two doses of the suprarenal powder continued for about three hours.

Case II.—Mr. F——, aged twenty-four years, had a tracheo-bronchitis with acute rhinitis, with a short, frequent cough and a slight expectoration. Three grains of the suprarenal powder was administered, and in two minutes the nose opened, the cough and expectoration disappeared. The next day he developed a severe bronchitis from exposure, when gr. xviii. of suprarenal powder, in divided doses, were necessary to control the cough completely. The relief was permanent.

Case III.—Mrs. M. A——, aged thirty-seven years, developed a severe attack of acute bronchitis Suprarenal powder within two minutes lessened the cough and expectoration, and the patient felt better. The suprarenal powder was administered every two to three hours with benefit.

Case IV.—Mr. G. H——, aged twenty-nine years, had a severe attack of acute bronchitis with expectoration of a very thick, tenacious, yellowish mucus and a severe cough with marked hoarseness. Suprarenal powder, gr. vi., had no effect in ten minutes. At the end of that time gr. x. more was administered with apparently no benefit. Five-grain capsules of ammonium carbonate were ordered to be taken, one every two to three hours, and the patient to report when the expectoration became thin. The following day I ad-

ministered gr. vi. of suprarenal powder, and in six minutes the cough and expectoration became perceptibly lessened. At the end of fifteen minutes gr. ix. more were administered, and in twenty minutes the cough and expectoration had almost entirely ceased. His throat, which had felt hot and sore, was much relieved.

Case V.—Mrs. L. H——, aged forty-seven years, developed a severe attack of bronchitis following an extensive burn of the face, neck, chest, and right arm. Suprarenal powder was administered every hour. The cough was temporarily controlled.

Case VI.—Miss A——, aged fifteen years, had an attack of acute bronchitis. She was suffering from kyphosis, pulmonary tuberculosis, cardiac disease, anæmia, and rachitis. The suprarenal powder stimulated her diseased heart; the cough became lessened, the expectoration diminished in amount; the pain and rawness in the chest, which she experienced on inspiration, disappeared; the burning sensation in the throat lessened, and on inspection of the throat it was observed that it gradually became paler. Hæmoptysis, which was slight but constant for three days, was promptly checked.

Case VII.—Mr. P. K——, aged forty-eight years, had a severe attack of acute bronchitis on a chronic bronchitis with bronchial asthma. He expectorated three pints of mucus daily for two years. He was in a desperate condition: he was cyanotic; the heart was weak; the cough was extremely harassing with no intermission for two hours before I saw him. He seemed to be suffocating, and showed signs of impending heart failure. Six grains of suprarenal powder was administered with great difficulty on account of the constant coughing. In two minutes the cough became perceptibly lessened, and a change came over the patient, which indicated that marked relief was afforded. The respirations became fuller and easier, and the heart was stimulated. In five minutes the profuse expectoration and very severe cough had almost entirely disappeared, to the great surprise of the patient, his relatives, the neighbors, and myself. No such prompt and marked relief was afforded by any other treatment. The patient remarked that he had not felt so well in two years. The action of the suprarenal powder continued twenty minutes, when his symptoms began to return. A second dose gave prompt relief.

Conclusions.—1. Indications for suprarenal powder: The suprarenal powder is indicated in acute and chronic bronchitis, bronchiectasis, asthma, congestion and œdema of the lungs, hæmoptysis, and in some cases of pulmonary tuberculosis, especially in those associated with hæmoptysis.

2. Method of administration: The suprarenal powder was administered in the form of three-grain capsules on account of their convenience. The powder is to be chewed without water and then to be swallowed in a few moments.

3. Rapidity of the action of suprarenal powder: The action became apparent in from two to fifteen minutes.

4. Permanence of the action of suprarenal powder: In some cases the action of the suprarenal powder was permanent, while in the majority of cases the action was temporary, continuing from ten minutes to six hours.

218 East Forty-sixth Street.

Rigidity of the Spine.—J. H. McBride reports for the first time the histories of two cases seen some thirteen years ago. Case I. was that of a soldier who was not wounded in service, but whose spine some ten years later began to get stiff. The head was thrown forward and carried in that position apparently with the greatest care. The knees were bent in, apparently from contraction of the adductor muscles, while the hip joints were almost immovable. Early in the disease he had some pain in the left foot but that disappeared and otherwise he had no pain, spasms, or tremors. Later a curvature of the dorsal spine developed. Case II. was that of a laborer in whom the diagnosis of hypertrophic cervical pachymeningitis was made, the condition following trauma.—*Journal of Nervous and Mental Disease*, October, 1900.

The Diagnostic Value of Babinski's Sign.—J. Kollarits describes this phenomenon as being best elicited when the muscles of the lower extremities are relaxed, and the patient with closed eyes knows nothing of the experiment about to be performed. The thigh with the leg slightly flexed is to be supported by the observer's hand, and the sole of the foot gently irritated by pricking, tickling, etc. In normal adults the foot will be dorsi-flexed and the toes flexed toward the plantar surface, but if the sign be present, while the foot is flexed as before, the toes are extended. The significance of the phenomenon, according to its discoverer, is that it is present only, though not always, when the pyramidal tracts are diseased. A review of the literature leads Kollarits to believe that this is true, and that the symptom is of value in distinguishing organic from functional disorders. Furthermore, in apopletic cases it gives early information as to which side will be the paralyzed one.—*Klinisch-therapeutische Wochenschrift*, September 23, 1900.

Exclusive Soup Diet and Rectal Irrigations in Typhoid Fever.—Basing his statements upon a personal experience of one hundred and fifty-three cases in private and hospital practice during the last ten years, A. Siebert gives the following as the results of this mode of treatment: 1. Delirium, headache, insomnia, nausea, vomiting, and tympanites usually disappeared within forty-eight hours of treatment. 2. Tympanites, nausea, and vomiting never developed in any patient, even when complicating pneumonia was present. 3. The fur on the tongue disappeared within a few days. 4. Appetite came frequently on the fourth day of treatment, even when the thermometer registered 102° to 103° F. 5. Even excessive diarrhœa (fifteen to twenty-five daily stools) disappeared invariably within the first week of treatment. 6. In all uncomplicated cases the temperature began to decline within twenty-four to forty-eight hours after the beginning of treatment and invariably would reach the normal figure within ten to twelve days. 7. In cases complicated by pneumonia, nephritis, or phlebitis when treatment began, the temperature usually remained in accord with the inflammatory conditions found until these also disappeared; while the cerebral, gastric, and intestinal disturbances usually subsided as rapidly as in the uncomplicated cases, excepting anorexia. 8. Complications, when not present at the start, were very rare and then usually developed within the first two days. 9. Intestinal hemorrhage was noticed in three cases, none ending fatally. Perforation did not occur. Five feedings were given during the day. After an initial purge the patients seemed to do as well for forty-eight hours on cold water alone as on any kind of food. Then soups were given made of barley, oatmeal, rice, and peas, strained and well salted and peppered. Two days later lentil soup and the yolk of a fresh egg were added to the oatmeal, rice, and barley soups. An adult was allowed half a pint of two kinds of soup alternating, every three hours. Five to fifteen drops of dilute hydrochloric acid were given before each meal unless hyperacidity prevailed, but no other medicine. Cold water was allowed ad libitum.—*Northwestern Lancet*, October 1, 1900.

MEDICAL RECORD:

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THE SYMPTOMATOLOGY AND TREATMENT OF PANCREATITIS.

THE difficulties surrounding the diagnosis of intra-abdominal disease are so well known as not to require elaboration. Nevertheless, a good deal of light has been thrown in recent years upon this subject, and among the affections to which considerable attention has been given are those of the pancreas. Like other tissues, this organ may be the seat of hemorrhage, of inflammation, of new growths, and its ducts of cystic dilatation and of calculi. A special feature of all forms of pancreatic disease may be the development of the condition known as fat necrosis. By reason of its relations with the intestine, the pancreas is peculiarly exposed to the dangers of infection, and through the junction of its excretory duct with that of the liver, disease of the one may give rise to symptoms also of disease of the other. An admirable description of pancreatitis is given by Mayo Robson (*Lancet*, July 28, 1900, p. 235) in a clinical lecture recently delivered before the Medical Graduates' College and Polyclinic of London. The acute disease, it was pointed out, may be hemorrhagic, suppurative, or gangrenous. It usually sets in with sudden pain in the superior abdominal region, attended with faintness or collapse and followed by vomiting. The bowels are almost always constipated, although flatus may escape and a large enema may secure an evacuation. Should the patient survive for a few days, diarrhœa may supervene. The pain undergoes paroxysmal exacerbations and is attended with tenderness above the umbilicus. It is soon followed by distention in the superior abdominal region, which may become general, and by vomiting, first of food and then of bile. Slight icterus is usually present, and becomes gradually more pronounced. The aspect is anxious and the face pinched. The pulse is rapid and small, while the temperature may be normal, subnormal, irregular, or high. Delirium may develop at a late stage. If careful examination can be made the pancreas may be found enlarged. Death usually occurs between the second and the fifth day from collapse, although in less acute cases life may be more prolonged.

In cases of subacute pancreatitis collapse is less marked and may be wanting; the upper abdominal region does not become so rapidly swollen, and vomiting is less severe and less prolonged. In other cases the onset is more gradual, though the symptoms may be similar. Tenderness over the pancreas is well marked, and it may be possible to feel the swollen gland, especially under an anæsthetic. Constipation gives place to diarrhœa, and pus or blood may appear in the stools, which may have a very fetid odor. The pulse is less rapid and less thready, and the temperature more irregular. Repeated rigors may occur. Constant dull epigastric pain is present, with paroxysmal exacerbations. The more urgent symptoms may subside and improvement appear to be taking place, but loss of flesh continues and relapses usually occur, leaving the patient each time more feeble, until death supervenes from asthenia. Albuminuria is pretty constant, but glycosuria is rarely present, and lipuria is an uncommon symptom. Should an abscess develop a tumor may appear in the superior abdominal region, or the pus may burrow into the loin and form a perirenal abscess, or under the diaphragm and form a subphrenic abscess; or it may follow the psoas muscle and form a subperitoneal abscess in the iliac region, or pass over the brim of the pelvis and collect in the left broad ligament. The abscess may rupture into the stomach and the pus be vomited, or into the bowel and the pus be voided through the anus. With the evacuation of the pus, temporary relief follows, but relapses usually occur and a mild form of septicæmia persists, with a hectic temperature. Death is the usual termination, although recovery may occur after a tedious and prolonged illness.

Chronic pancreatitis probably arises usually by extension from chronic catarrh of the pancreatic duct, secondary to gastro-duodenal catarrh, though it is frequently associated with biliary or pancreatic lithiasis, or with gastric, pyloric, or duodenal ulcer. Its onset may be gradual and painless, or attended with severe epigastric pain, followed by jaundice and associated with nausea and vomiting, and perhaps followed by a feeling of chilliness or even a rigor. A tender spot is usually present an inch above the umbilicus in the middle line. The jaundice tends to deepen with each attack until it becomes continuous and chronic, although it is not necessarily present at first. The pain may undergo paroxysmal exacerbations or consist merely in a dull ache, deeply seated, and burning and boring in character. A swelling of the pancreas can sometimes be made out, but usually only under anæsthesia. Loss of flesh and of strength are always well-marked symptoms. Vomiting may sometimes be absent, but the appetite is usually wanting, and flatulent dyspepsia is present, together always with a sense of fulness and weight at the epigastrium for some time after eating. The stools are white when the pancreatic fluid alone is absent from the intestines. Diarrhœa is often present and the intestinal discharges are offensive and fatty. Albuminuria is common and glycosuria may occur. Fever may be absent, although in some cases the temperature pursues a hectic course, especially when ague-like paroxysms occur. When jaundice is present the pulse may be slow, although it is not much accelerated even when the temperature is elevated, though it may be poor. In the later stages, especially if jaundice is present, hemorrhages from the

nose and the bowel, hæmatemesis, and petechiæ occur, and death results from progressive asthenia. In the more chronic cases, especially when there is contraction of the head of the pancreas, a tumor will be formed by the distended gall bladder.

Chronic interstitial pancreatitis is to be differentiated from gall stones in the common duct, from carcinoma of the head of the pancreas or of the liver and the bile ducts, and from chronic catarrh of the bile ducts. The disease may last for months or even years. The presence of glycosuria renders the outlook more grave. Increasing weakness and the supervention of hemorrhagic tendencies usually indicate the near approach ot a fatal termination. Under surgical treatment the prognosis is most favorable.

In the treatment of acute infective pancreatitis the pain at the outset is so acute as to necessitate the administration of morphine, and the collapse will probably demand the use of stimulants, which, on account of the associated vomiting, may have to be given by enema. In the early stages the symptoms are so indefinite that the indications for surgical treatment are not sufficiently clear to warrant operation, and no surgical procedure would be justifiable until the collapse has passed off. As prompt evacuation of the septic material is necessary for recovery, early exploration in the left costo-vertebral angle is demanded.

In the subacute form of pancreatitis morphine may be required to relieve the paroxysmal pain, and stimulants and food by the rectum to relieve the collapse and sustain the strength. Distention may require relief by lavage of the stomach and turpentine enemata, or by the administration of calomel by the mouth in small, repeated doses, or in doses of five grains, followed by an aperient. Should diarrhœa supervene, salol and bismuth, with small doses of opium, may be given. Should surgical treatment be decided upon, a median incision above the umbilicus will enable the operator to palpate the pancreas and locate any incipient collection of pus, which should if possible be evacuated by a posterior incision in the left or right costo-vertebral angle, or, failing that possibility, the collection of pus may be aspirated, and the cavity opened and packed with gauze, which may be brought forward through a large rubber drainage-tube that will in the course of from twenty-four to forty-eight hours establish a track isolated from the general peritoneal cavity. Should a definite abscess form and approach the surface in front or in either loin, incision and drainage will be demanded. The strength must be maintained by careful feeding and the judicious administration of stimulants. Further collections of pus and subphrenic abscess or empyema will require special treatment.

In cases of chronic interstitial pancreatitis, manipulation of the indurated tumor may detach calculi impacted in the duct, while in others the relief of tension, as the result of draining the bile ducts by cholecystotomy or cholecystenterostomy, may indirectly drain the pancreatic duct and thus lead to a subsidence of the pancreatitis, then to an opening of the common duct by the relief of the tension, and so to cure. The simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis should make the surgeon hesitate to decline operation in any case of distended gall bladder when the patient is in a condition to bear it, or even in any case of chronic jaundice without distention of the gall bladder when the general health is deteriorating; for although if the disease be malignant little good can be done, yet if the disease prove to be chronic pancreatitis real and permanent cure may be brought about. If a calculus be felt embedded in the head of the pancreas or impacted in the pancreatic duct, it may be reached through the second part of the duodenum by laying open the papilla and exploring the duct, or by dividing the peritoneum passing between the duodenum and the hepatic flexure of the colon, and then cutting through the overlying pancreas on the concretion. If the papilla be incised it does not require suture, and exploration of the ducts by the duodenal route may be unattended with hemorrhage. The anterior duodenal opening requires closing by a mucous and a serous suture. Drainage of the right kidney pouch for from twenty-four to forty-eight hours is advisable, although not always necessary, and this is best secured by means of a stab wound at the most dependent part. For attacking the head of the pancreas or the pancreatic duct a vertical incision should be made through the right rectus and not in the middle line. In cases presenting deep jaundice, it is well to prescribe calcium chloride in twenty-grain doses thrice daily for twenty-four or forty-eight hours before operation, and to give it in an enema form for twenty-four hours afterward in sixty-grain doses thrice daily. Of seventeen cases operated on in which chronic pancreatitis was found, recovery ensued in sixteen.

CAUSES OF SUICIDE.

Dr. J. W. C. Cuddy, professor of medicine in the University School of Medicine, Baltimore, contributed to *The Baltimore American* an able article on the subject of suicide. He is of the opinion, which is probably shared by most scientific men, that no absolutely sane person takes his own life. In those cases in which an individual commits suicide there is undoubtedly an unhinging of the mental balance. This may be temporary, but nevertheless self-destruction must be attributed to an insane impulse. There are many, however, of course, who do not hold this view, but believe that suicide may be a deliberate sane act. Dr. Cuddy writes as follows on the matter: "There are very few direct causes of suicide, and these are the very ones which will most readily disarrange the harmonious workings of a healthy mind. The most frequent causes of self-destruction to which I allude can best be told by a quotation from one of my own lectures to the medical class during the last session. In that lecture I said: 'The main exciting causes of suicide are financial depression, religious mania, and unrequited love. The first mentioned are generally male adults, who, as a rule, complete their sad taking off by the help of the leaden ball or glistening steel; the unbalanced religionist generally seeks some secluded spot, where with hempen cord he chokes out

the God-given life which should have been used for a better purpose; while it remains for lovesick maidens and half-crazed men to terminate their useless existence by the aid of some poisonous drug, nearly always the same, for the intelligence of such persons rarely leads them beyond the laudanum bottle of the household, in whose somnolent depths they seek their voluntary oblivion.' Now these three causes which cover the majority of cases of suicide are all producing agencies of deranged nerve action, and it is but natural to conclude that in these instances the brain cells are sufficiently disorganized to produce a condition whereby normal or mental control is lost prior to the consummation of the suicidal act. The question might be asked, Why do not these operative causes act alike in all similar cases? All brains are not constituted nor developed alike. Some are able to resist the most distressing and depressing agents, just as some bodies will exist in a bacteria-laden atmosphere and escape unscathed, while others similarly placed will readily succumb, even to fatal results."

Dr. Cuddy also mentions heredity as perhaps a predisposing cause, but fails to draw attention to one of the most potent causes of suicide—alcoholism. There can be no doubt whatever that strong drink drives a vast number of human beings to death by their own hands. It would, of course, be extremely difficult, probably impossible, to tabulate definitely in their correct order the various causes of suicide. The majority of observers would haply declare both religion and the lack of religion to be responsible for more suicides than any other one cause, but few will deny that to excessive drinking is due directly and indirectly a holocaust of victims.

SANATORIUM FOR CONSUMPTIVES IN ENGLAND.

Liverpool is one of the most progressive towns in Great Britain. The good work she has done in furthering and extending the knowledge of tropical diseases among the medical profession of her country is well known. Through the efforts of Liverpool philanthropists the first public sanatorium for the open-air treatment of consumption has been commenced. This establishment will be in connection with the Liverpool Hospital for consumption, and is to be erected in a healthy locality near the sea-coast at a convenient distance from the town. The building is to be essentially for use rather than for ornament. The main structure will consist of three blocks, the largest of which will be chiefly devoted to dining-accommodation. The peculiar feature of the dining-hall will be that it has a roof only and no sides. Around this main building a number of small bungalows are to be constructed, each to contain six bedrooms, and nothing more. No accommodation will be provided for the patients other than bedrooms and a dining-room, so that when not eating or sleeping they will be living in the fresh air. The erection of a sanatorium on these lines is decidedly a movement in the right direction. The organized adoption of the open-air treatment of consumption has in Great Britain, and in a lesser degree in this country, lagged somewhat. In Great Britain especially, old views die hard and prejudice is difficult to overcome. In Germany, and in some other parts of the world, the new method has had gratifying success. Probably a want of knowledge among the general public is the greatest barrier of progress. There are undoubtedly many persons who would regard with distrust the suggestion that the tuberculous patient should be out in the open even in the winter, and there are assuredly some who would esteem such a mode of treatment as emanating from the brain of a madman. The chief requirements of a person suffering from phthisis in any stage are air and light, and further than this it is undoubtedly possible in the early stages by these means to effect a cure. For the popular ignorance on the question of the treatment of tuberculosis the medical profession itself is largely responsible, having up to a comparatively recent period taught and practised a different system. If its members will assist strenuously by precept and practice in illuminating the public mind on the subject, they will be acting for the good of everybody. Dirt, dust, and darkness are the greatest propagators of tuberculosis, and until this fact receives a widespread appreciation, then, and not till then, will there be a fair likelihood of the spread of the disease being checked.

News of the Week.

Dr. Pozzi's Duel.—Dr. Devillers, who some time ago wantonly insulted Dr. Pozzi in his club, and forced him to fight a duel, has had to pay for it in the courts. The government, in spite of Dr. Pozzi's protests, instituted proceedings against Devillers for assaulting a member of the French Senate, and the court condemned him to pay a fine of 3,000 francs.

The Russian Red Cross Society.—The Russian government, for the second time within two months, has imposed a special tax for the benefit of the Red Cross Society. The first was a tax of from 5 to 10 rubles upon licenses to travel abroad, according to the length of time for which the license was granted; and now railway tickets are taxed 5 kopecks when the fare is 2 rubles or upward. It is estimated that the ticket tax will yield $125,000 yearly, and that on licenses $100,000. It is understood that the Czarina, whose interest in the Red Cross Society is keen, originated the idea of imposing the taxes.

Disinfection of Lepers' Mail.—The following plan for disinfecting the mails from the leper settlement at Molokai has been instituted by Dr. Carmichael of the Marine-Hospital service at Honolulu. All mail from the leper settlement will be disinfected with sulphur dioxide at the settlement and then transferred directly to the steamship and received aboard in clean and disinfected sacks furnished by the post-office authorities. At Honolulu the mail will be taken in the sacks directly to a room in the post-office used for disinfection purposes and disinfected with formaldehyde with-

out removal from the sacks. All letters are perforated or the corners clipped at the settlement before disinfection. No case of leprosy, the surgeon reports, has yet been discovered among the post-office employees, although non-disinfected mail from the leper settlement has been handled by them for many years.

Crowd Injuries.—Sixteen hundred persons suffered injuries requiring medical attendance in the crowds that assembled in London on Monday of last week to welcome home the volunteers from South Africa.

The Cost of the Plague in Glasgow.—According to a despatch from Glasgow the estimated cost to that city of the recent visitation of the bubonic plague was £1,000,000 ($5,000,000).

Yellow Fever in Mississippi?—A case of supposed yellow fever has been reported to the Mississippi State board of health from Natchez, the patient having died last week. A Marine-Hospital surgeon has been sent to that city to trace, if possible, the source of infection.

Smallpox in Paris.—It is reported in *The Sun* that an epidemic of smallpox has broken out in Paris, due probably to the massing there of Arabs and other people from the East during the Exhibition. Notices have been posted by the police warning persons who have not been vaccinated within six years to be vaccinated now. Every precaution to stamp out the disease has been taken.

Rabies in New York.—A fox terrier was killed in this city a short time ago, after it had bitten other dogs and a boy, and examination by the bacteriological department of the board of health confirmed the diagnosis of rabies. The board of health has issued a statement calling "the attention of physicians and others to the occurrence of a number of cases of rabies among dogs throughout the city, and would request that wherever persons are bitten by strange dogs, or stray dogs, they immediately consult a physician and have their wounds cauterized, and if then there is any question as to the existence of rabies in the animal, communicate at once with the department of health."

The Civil Rights of Hospital Internes.—The case of the Bellevue Hospital interne and four male nurses, who were arrested on the charge of having illegally registered, has been decided in their favor by Justice Andrews. The cases were in the nature of test cases, and as a result of the decision five hundred and fifty-six internes and helpers in Bellevue and other city institutions, whose status was in doubt, were allowed to vote. The law which forbids the pauper inmates of city institutions to vote was the basis of the charge against them, but the court said that "it cannot be truthfully said that the physicians, hired helpers, or pupil nurses are supported by the public. The physicians render most valuable services to the patients in the hospital and are allowed to lodge and eat there, not as a matter of charity, but as a matter of convenience and almost of necessity, owing to the nature of the duties which they are at all times called on to perform."

A Tax on Childless Frenchmen.—A bill has been introduced into the French Senate providing for a tax on celibates of both sexes after they reach the age of thirty, and upon childless couples who have been married for five years, the tax to be maintained until a child is born to them. The aim of the bill is, of course, to provide a remedy for the threatening depopulation of France, by increasing the birth rate.

A Death Under Chloroform.—A boy nine years old, who was being anæsthetized preliminary to an operation for injury to the thigh, died last week at the New York Polyclinic Hospital. Chloroform was the anæsthetic employed, and the boy died soon after the inhalation was begun.

Excessive Mortality among the Alaska Indians.—Officers of the United States revenue cutter *Rush* report that the Indians of the Aleutian Islands, as well as those of the Alaskan peninsula and on the mainland, are dying at an alarming rate. The *Rush* was engaged during the summer in Indian census enumeration. Attu Island, in past years densely populated with Alaskan natives, contains only seventy-three, and Atka, the largest island of the group, has an Indian population of but one hundred and seventy-five. That island half a century ago supported a great tribe. Last season measles and pneumonia carried off the Indians by the score, and should these diseases become epidemic again next year the archipelago will become almost depopulated.

Yellow Fever in Havana is decreasing. In a report recently presented to the Washington authorities, Dr. A. H. Glennan, of the Marine-Hospital service, now chief quarantine officer for the island of Cuba, says that the number of cases decreased in the last week of October, and that there were only thirteen deaths in that week. He quotes with approval the assertion of Dr. W. C. Gorgas, of the United States army, now chief sanitary officer of Havana, that, notwithstanding the general distribution of the disease, infecting localities not heretofore infected, and the large number of people attacked, an epidemic condition does not exist, and that such a situation in Havana is impossible. He says that from June 1st to October 19th there were seven hundred and eighty-nine cases officially recorded; that the official maps of the city show that there are eight hundred and fifty-seven square blocks in the city, and that of this number five hundred and twenty-five square blocks have had no cases at all. In any ordinary acceptation of the word epidemic as applied to diseases in great cities, Major Gorgas says, this certainly does not show that there is an epidemic there. In a population of two hundred and thirty-two thousand the average during October, which has been the largest of the year, has been ten new cases a day. In September there were seventy-two deaths from consumption, fifty-two from yellow fever, and forty-three from enteritis. Yellow fever, therefore, should not be considered epidemic any more than consumption or enteritis. It has been decided that hereafter the steamboat companies will meet the Spanish transatlantic liners outside of Havana harbor

and will transfer immigrants destined for other points. Those going to the rural districts of the provinces of Havana and Pinar del Rio will be sent to the Cabanas Barracks, and will not be allowed to remain in Havana. It is thought that these precautions will result in a rapid decrease of the yellow fever, as ninety per cent. of the cases now under treatment are among the immigrants.

Trial of an Emergency Ration.—A board of army officers is making a test of the efficiency of three different emergency rations. Two of these rations are offered by manufacturers and the third is one proposed by the board itself. This is composed of two cakes of sweetened chocolate and three cakes of a meat-and-cereal compound. The chocolate weighs four ounces and the meat and cereal in combination respectively four and eight ounces, a total weight of sixteen ounces, besides three-fourths of an ounce of salt and one gram of red pepper. The ration is contained in a hermetically sealed can with rounded edges like a flask, six and one-fourth inches long and one and one-half by two inches. The can is opened with a key. The ration is to be part of the permanent equipment of the soldier in the field. It can be eaten dry; as a soup or a porridge, or the porridge may be fried. The question to be decided is whether the ration has sufficient quantity and quality, and will not nauseate when used alone. The first test was made about two weeks ago in Oklahoma. The detachment of troops started from El Reno, and marched across the Indian reservations of the Kiowas, Comanches, and Apaches to Fort Sill. During the march the men lived wholly upon the emergency ration. The food went hard with the men for the first few days, but after that time they seemed to enjoy it.

The Distinction between Anopheles and Culex.—Major Donald Ross and Mr. A. E. Austen in the report of their expedition to Sierra Leone in 1899 laid great stress on the position assumed by mosquitos when at rest, as a means of discriminating between the malaria-bearing mosquitos of the genus Anopheles and those of the genus Culex, the latter of which so far seem to take no part in the dissemination of human malaria. They said that the Anopheles always, when at rest, sat in a characteristic attitude, their bodies being maintained at an angle of at least 45° to the surface on which they settled. Frequently, they said, the tips of the palpi were in contact with the wall on which the insect was resting, and the body was so much elevated that it was practically at right angles to the wall, the insect appearing as if it were standing upon its head; and it was held that, owing to this extremely characteristic resting attitude of Anopheles, it would be impossible for any one who had once seen a specimen at rest to mistake it for a Culex, for the latter when at rest allows its body to hang down vertically. Now Dr. Sambon and Dr. Low have been passing the summer on the Campagna, and they directly traverse this statement as to the attitude of these insects. They say that they have observed thousands of Anopheles, but none of them ever assumed the position described by the members of the Liverpool Malarial Mission, and they hold that although the resting position may be a means of distinguishing between certain species, it is not a criterion by which Anopheles can be distinguished from Culex which was the point insisted on, a point which has already been copied into many text-books.—*The Hospital.*

The Comparative Cost of a Medical Education.—In a recent article in the London *Daily Mail* a comparison was made of the cost of education in the different professions. It was asserted that, on the average, it cost the student about £950 to qualify as a physician; £800 to become a lawyer; £775 to enter the church; £600 to become an officer in the army; and £400 for an officer in the navy.

College of Physicians of Philadelphia.—At a stated meeting held November 7, 1900, Dr. Charles W. Burr read a paper, prepared by himself and Dr. D. J. McCarthy, entitled "Asthenic Bulbar Palsy," reporting a fatal case in which only diminution in the size of the pons was found after death, without histological alteration, and a second case in which the symptoms disappeared and recovery ensued. Dr. John B. Deaver read a paper entitled "Appendicitis versus Cystitis," reporting several illustrative cases. He emphasized the significance of pain in the left iliac fossa as indicative of appendicitis with pelvic involvement. Dr. W. Joseph Hearn read "A Report of a Case of Resection of a Large Portion of the Ilium for Chondro-Sarcoma." Dr. W. W. Keen described a method of transplantation of the tissues in one mammary region to the opposite side to replace structures removed in the treatment of recurrent malignant disease of the breast.

Pathological Society of Philadelphia.—At a stated meeting held November 8th, Dr. William L. Coplin exhibited (1) an improved mechanical stage for Dölken's microscope; (2) an improved drawing ocular; (3) a revolver for securing parfocal adjustment. Dr. M. P. Ravenel presented a communication entitled "A Possible Source of Infection in Tuberculosis," in which he detailed observations demonstrating the possibility of the conveyance of tubercle bacilli with the particles of mucus expelled by cows in the act of coughing. Dr. Joseph McFarland reported a case of deciduoma malignum, which seven years ago had been clinically considered one of sarcoma of the uterus, and on histological examination presented appearances suggestive of endothelioma. Dr. McFarland also exhibited the Blake-Minot microtome, with which small sections of soft tissue embedded in paraffin can be cut as thin as 1 μ. Dr. A. E. Woldert exhibited specimens of the middle intestine of the Anopheles quadrimaculata, containing the xygates of the Proteosoma Labbé, loaned by Surgeon-Major Ronald Ross, of the Liverpool Tropical School of Medicine. Dr. Woldert also reported a case of malarial hæmoglobinuria, and exhibited the malarial parasites obtained from this source. Dr. M. B. Hartzell presented a communication entitled "Note Relative to the Parts of the Skin Invaded by the Microsporon furfur in

Tinea Versicolor, with Illustrations." He showed that the invasion of the parasite was not confined to the horny layer of the skin, but at times invaded also the hair follicles. Dr. A. O. J. Kelly exhibited specimens of abscess of an hypertrophied prostate, greatly thickened, contracted, and ulcerated bladder, diphtheroid inflammation of the large and small intestines, and inflammation of the kidneys. Dr. W. M. L. Coplin exhibited a specimen of ulceration of the œsophagus into the trachea and the posterior mediastinum of as yet undetermined origin. Dr. W. G. Spiller exhibited specimens illustrating Mallory's new neuroglia stain.

Modern Bullet Wounds.—Surgeon-General Sternberg in his annual report has much to say regarding the effect of gunshot wounds made by rifles of reduced calibre. A review of the statistics shows that the percentage of fatality during the Spanish-American War, in which small-calibre projectiles were used, was much lower than in the Civil War, when extremely large bullets were used. Rapid healing follows wounds made by the Mauser bullet, and infection was seldom noted, but when present was almost invariably about the wound of exit and consisted of a slight slough and a drop or two of pus under a scab. Among the fourteen hundred wounded none died of external hemorrhage, and it was not necessary to ligate a vessel for alarming hemorrhage on the field. Clean-cut perforations without fracture were the rule in wounds of the principal joints. A majority of gunshot wounds in the head ended fatally. Penetrating wounds of the abdomen were fatal in most cases. Owing to the smallness of the sectional area of modern bullets, pieces of clothing and other infectious material are not generally carried into the wound.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the two weeks ending November 8, 1900. October 29th.—Surgeon A. M. D. McCormick commissioned surgeon from November 11, 1899. October 30th.—Assistant Surgeon R. E. Ledbetter ordered to the *Constellation*. October 31st.—Surgeon C. Biddle detached from the *Texas* when put out of commission, and ordered home to wait orders. November 1st.—Medical Director C. H. White detached from the naval museum of hygiene, Washington, on reporting of relief, and ordered home to wait orders. Medical Inspector G. P. Bradley ordered to duty in charge of the naval museum of hygiene, Washington, November 15th. Surgeon H. E. Ames detached from the *Kearsarge* and ordered to the *Massachusetts*. November 3d.—Medical Inspector J. C. Boyd detached from the *New York* when out of commission, and ordered to the *Kearsarge*. Passed Assistant Surgeon E. S. Bogert, Jr., detached from the *New York* when out of commission, and ordered to the *Massachusetts*. Passed Assistant Surgeon M. S. Elliott detached from naval station, Port Royal, and to duty on the *Annapolis* when placed in commission. Assistant Surgeon W. M. Garton detached from the *Massachusetts* and ordered to the *Indiana*. November 5th.—Assistant Surgeon J. St. J. Butler appointed assistant surgeon from October 26, 1900. Passed Assistant Surgeon J. M. Moore ordered to naval station, Port Royal. November 8th.—Passed Assistant Surgeon E. M. Shipp detached from Norfolk hospital and ordered to the *Michigan*. Passed Assistant Surgeon H. D. Wilson detached from the *Michigan* and ordered to naval hospital, Norfolk, Va. Passed Assistant Surgeon L. W. Spratling detached from Yokohama hospital, and ordered to naval station, Cavite, Philippine Islands. Pharmacist S. Douglass ordered to additional duty on the *Massasoit*.

Obituary.

HENRY DRURY NOYES, M.D.,

NEW YORK.

Dr. Henry D. Noyes died at his summer home in Mount Washington, Mass., on November 12th, at the age of sixty-eight years. The cause of his death was pneumonia. He was born in this city and was educated at the New York University, from which he was graduated with the degree of A.B. in 1851. He was graduated in medicine from the College of Physicians and Surgeons in the class of 1855, and after serving on the house staff of the New York Hospital went abroad to continue his studies. Upon returning to this city he entered upon a special practice in diseases of the eye and ear, in which he achieved great distinction. His contributions to periodical medical literature were numerous and valuable, and he also published a treatise on the diseases of the eye. He was among the first to recognize the immense importance of cocaine as a local anæsthetic in operations upon the eye, and his letters on this subject to the Medical Record went far to establish the value of Koller's discovery and to popularize it in this country. He was for many years professor of ophthalmology and otology in the Bellevue Hospital Medical College, and was also executive surgeon to the New York Eye and Ear Infirmary. He was a member of numerous special and general medical societies and social organizations. A widow and three children survive him.

Dr. Noyes was the type of the progressive specialist, as during his whole professional life he adhered strictly and solely to perfecting himself in his particular branch of work. Combining the rare qualities of skill, sound judgment, and broad conservatism, he was ever a sound counsellor and one always to be trusted in the management of the gravest and most responsible cases. Having a finished and terse literary style, and being an eloquent and forcible speaker, he always impressed his colleagues as a born leader and a clear thinker. To the very last he was active in his work as a teacher, writer, and lecturer, proving that a sound constitution, a clear brain, and a steady hand are the legitimate rewards of a well-ordered and consistent life.

Obituary Notes.—Dr. Salome Merritt, a well-known advocate of woman's rights, died on November 7th at her home in Somerville, Mass. She was born at Templeton, Mass., on February 22, 1843. In 1871 she took up the study of medicine in the New England Female Medical College (now Boston University). Later she came to New York and was graduated in 1874 from the New York Free Medical College for Women, an institution which flourished for six years only. She began to practise medicine in 1876 and followed it as a profession since. She was a charter member of the Woman's Suffrage Association of Mas-

sachusetts, and was elected its president in 1893 and the four years following. She was president of the Ladies' Physiological Institution, and also served on the Committee of Counsel and Co-operation, a union of several Boston societies, whose aim it was to encourage moral reform, improved sanitation and dwellings for the poor, and other branches of benevolent work.

Dr. Nathaniel P. Rice, a retired physician of this city, died on November 10th, following a cerebral hemorrhage which occurred last summer. He was born in Cambridge, Mass., seventy-two years ago. After attending the public schools he went to Harvard, where he was graduated in the class of '49. He received his degree in medicine at the Harvard Medical School. At the outbreak of the Civil War Dr. Rice joined the New York volunteers, and two years later became a surgeon in the regular army, serving with the Army of the Potomac. He was medical director in Virginia and North Carolina in 1864–65.

Dr. J. S. Walters died at Pittsburg, Pa., on November 8th, at the age of fifty-four years. He was born in Chede, Staffordshire, England, and was a graduate of Guy's Hospital, London.

Progress of Medical Science.

Medical News, November 10, 1900.

The Examination of Stomach Contents. — B. A. Bastedo states that the simplest and best test-meal consists of a good-sized hard breakfast roll without butter, taken on an empty stomach. The roll should be thoroughly chewed and washed down with twelve ounces of water. At the end of an hour a stomach-tube is passed. If fermentation is present there is a layer of foam on the surface and there is an odor of butyric and other fatty acids. Mucus may be noted by lifting it up on a loop of wire. Of the filtered contents, 5 c.c. is placed in a porcelain dish with a drop or two of one-half of one per cent. alcoholic solution of dimethyl-amido-azo-benzol. If this becomes pink, it indicates the presence of free hydrochloric acid. The Congo-red test may then be tried. If blood is suspected, it may be tested for by adding glacial acetic acid and then ether to a bit of the stomach contents. The mixture should be shaken, set aside, and the ether poured off. To this ether should be added a few drops of tincture of guaiac and then a like amount of peroxide of hydrogen. A dark-blue color indicates blood. The writer then indicates the proper diet for various conditions of abnormal acidity. A suspected ulcer contraindicates the use of the stomach-tube, in which case the vomitus may give valuable information.

Bronchial Disease Not Invariably a Contraindication for Ether Anæsthesia in Abdominal Surgery.—Thaddeus A. Reamy declares that he believes that in properly selected cases ether inhalation is positively curative of bronchitis. Its action in these cases is probably largely local. He enumerates the following points which are essential to avoid unpleasant complications and to secure desired results: (1) Proper preparation of the patient; (2) preparation of the operating-room with a temperature of 98° to 100° F.; (3) pure ether; (4) a proper inhaler; (5) the proper methods of administration; (6) due caution against exposure in removing the patient from the operating-room to her own room, which should not be below 80° to 90° F. for several hours after the operation; (7) proper care of the patient during convalescence. She should be permitted to drink large quantities of water and should keep the bowels freely open.

Further Experience with Subarachnoidean Injections of Cocaine for Analgesia in All Operations below the Diaphragm.—By John B. Murphy.

Some Observations on Anæsthesia by Intraspinal Injections of Cocaine.—By S. Ormond Goldan.

The Hydriatric Treatment of Tuberculosis.—By J. H. Kellogg.

New York Medical Journal, November 10, 1900.

Facial Neuritis Associated with Unilateral Retro-Orbital Neuritis.—Report of case by W. M. Leszynsky. The patient was a woman aged thirty-eight years, who five weeks previously, after severe pain and tinnitus in the left ear (referred to exposure to cold) noticed that the left side of her face was paralyzed. Examination showed complete left facial paralysis with lagophthalmos, and loss of faradic irritability in nerves and muscles. The muscles reacted to galvanism AnCC < CaCC. Sense of taste was impaired on the left anterior two-thirds of the tongue. There was loss of taste for sweet, sour, and salt, but bitter could be distinguished. The palate, tongue, and pupils were normal. Chronic catarrhal otitis affected both ears. There were no physical signs of pulmonary disease, and no evidence of syphilis. The usual galvanic treatment of the facial muscles was instituted. By December 15th (in two months) she was able to close the left eye. On the 20th she began to complain of severe pain in the left temporal region and also over the supraorbital-nerve distribution, with tenderness on pressure and inability to sleep on account of the pain. There was no fever, but, the bowels being constipated, she was given gr. v. of calomel and gr. xx. of compound jalap powder. One week after the beginning of the pain, vision began to fail in the left eye, and two days later the eye was totally blind. The pain disappeared entirely at the end of the second week. The right eye was not involved. The left pupil was larger than the right. L. 5; R. 4. In the left there was no reaction to light, consensual, +, in convergence normal. Right pupil: no consensual reaction, but otherwise normal. There was no perception of light in the affected eye, while the right eye showed vision of $\frac{20}{15}$. At first there was slight œdema of the papilla, with blurring of outline on the nasal side of the disc. This gradually increased, and at the end of a week the papillitis was quite pronounced. The patient improved under the iodide and mercurial inunctions. Ten months later, vision was $\frac{20}{200}$; the ophthalmoscope showed optic atrophy. One year from the last-named date the following note was made: Although the nerve and muscles react to faradism 28 mm. (quantitative decrease in irritability), there is no improvement in the motility of the facial muscles. Optic-nerve atrophy is well advanced, and the vision of the affected eye is limited to perception of light, while the pupillary condition has remained unchanged.

An Unusual Case of Meralgia Paræsthetica, with Intermittent Lameness (Claudication Intermittente—Type Charcot).—By A. Gordon. The patient was a man aged forty-five years. The symptoms developed during typhoid fever. The disease mentioned in the title is due to some pathological or functional alteration of the external cutaneous nerve or a branch of the lumbar plexus. Whether the patient was sitting or walking he complained of a burning sensation over the antero-external surface of the upper two-thirds of the thigh, from the anterior spinous process down and over the posterior surface of the upper third, from the crest of the ilium down, covering the external surface of the buttock. Only on the upper third of the thigh did the area of disturbed sensation pass over the middle line. There it reached the internal surface of the limb as far as contact with the scrotum. The area bounded by the above outlines was not universally affected. Tactile sensation was much diminished. Pinching and rubbing were extremely painful. Thermic sensations were normal, but the temperature of the affected side was lower than that of its opposite. The mechanical and quantitative electrical reactions were exaggerated, but the qualitative was normal. The distribution of the paræsthesia was somewhat irregular. The author says that if the syndrome meralgia paræsthetica is the result of some functional or pathological change in the external cutaneous nerve, there are, nevertheless, cases in which the same symptoms, pain and paræsthesia, go beyond the zone of distribution of that nerve; also there are some, if not the majority, in which only one branch of it is affected, some in which other phenomena are associated with it, and, finally, some so-called pseudo-meralgias, in which the underlying cause is not in that nerve.

Ruptured Urethra, with Report of Cases.—N. Jacobson reports four instances under the following case headings: Subcutaneous rupture, external urethrotomy, faulty dilatation, subsequent divulsion, recovery; complete severance of the urethra subcutaneously, perineal section, perineal drainage, recovery; urinary fistula following urethral rupture, perineal section, recovery; penetration of the branch of a tree through the anterior wall of the rectum, severing the urethra completely, recovery. In general, diagnosis is made from urethral hemorrhage with retention of urine, associated with bleeding into the perineum, scrotum, and buttocks. Repeated introduction of a catheter into the bladder is not wise, and the wearing of a permanent catheter is not advisable. Jacobson believes that careful exploration with the finger will often enable us to locate the proximal end of the severed urethra.

A Case of Congenital Ocular Defect.—By E. E. Blaauw. The patient was a young woman aged twenty years, who complained of headache. On examining her eyes he found vision in each eye $\frac{5}{6}$; vision in both eyes together with + 0.5 D. $\frac{5}{5}$. With the Javal-Schiötz ophthalmometer a conical

astigmatism of ± 1 D., max. 0° (1). In the right eye fine opacities in the vitreous. When asked to follow an object with her left eye, she appeared absolutely incapable of so doing in the temporal part of the visual field, all abductive power of that eye seemed absent. She did not squint, never saw double images, and carried the head in a normal manner. By bringing a prism with its base horizontally before one eye she saw two homonymous images, especially after coloring the one, but not often was one image perceived.

A Case of Mastoid Abscess; Recovery without Operation.—By J. D. Harrigan.

What the Law Requires of the Surgeon.—By Dudley S. Reynolds.

Endothelioma of Bone with Many Metastases.—By F. H. Brandt.

Journal of the American Medical Ass'n, Nov. 10, 1900.

Rötheln: its Differentiation from Measles or Scarlet Fever.—Henry Koplik believes that rötheln is a distinct and definite disease, independent of measles or scarlet fever. The best authorities agree that the exanthema of rötheln appears first on the face. After remaining in full efflorescence on the face and trunk only from a few hours to a day, the rash begins to fade, and the patient may in the next twenty-four hours present a perfectly normal skin. The writer has never seen the pigmented spots seen in true measles. The buccal mucous membrane is the crucial test in diagnosis. In no case of true rötheln has the writer seen the rose-red spots with the bluish-white speck in the centre seen in measles. The buccal mucous membrane in most cases of rötheln is of a normal pale-pink hue. The temperature in this disease is highest at the outset of the disease when the eruption has appeared on the face. The writer has observed enlargement of the lymph nodes behind the sterno-mastoid muscle. Generally, the tonsils are enlarged. In varicella the spleen is sometimes palpably enlarged, but not in rötheln. Scarlet fever does not affect the face so distinctly, and on the trunk scarlet fever shows the acute dermatitis as a background for the punctate character of the general eruption. These punctate spots in scarlet fever have no particular arrangement; in rötheln, if the papules are as small as those of scarlet fever the skin between the papules has a normal color. The exanthema of measles of the discrete type closely resembles that of rötheln. Then the buccal mucous membrane is the crucial test. The highest temperature never goes beyond 103° F. The general condition of a patient is that of a person suffering a slight malaise. It requires little or no treatment. Children should be kept indoors till all signs of the exanthema have disappeared.

Measles and the Exanthemata: Shall Children be Kept Therefrom? Likewise from Diphtheria and Pertussis.—C. F. Wahrer does not believe that it is always best to keep children from acquiring measles, at least not with as good a reason as we have for preventing their acquiring such virulent diseases as scarlatina, variola, or diphtheria. As to rötheln and varicella, neither is ever fatal. Scarlatina not only kills thousands of children, but is followed frequently by serious sequelæ. It is not apt to be acquired by adults. As to diphtheria, what has been said of scarlatina is largely true of it. Variola is always a dangerous, loathsome malady with a large mortality. Pertussis is in early life very fatal and frequently attended by serious complications. Although adult life is not entirely exempt from it, still it is not so easily affected. The mortality from measles is great, but mostly during adult life. Its most dreaded complications and sequelæ are principally met with in adult life. Measles, ever so mild, is a prophylactic against any future exposure. There is a very light mortality among children under the age of fourteen years. The writer believes the disease should always be quarantined against in children's hospitals, in private schools, in severe winters, and in the unsanitary districts of crowded tenements. But when children in ordinary health can be exposed to a mild epidemic of measles, there would probably be as much benefit as when cowpox is substituted for smallpox. Adults are just as liable to acquire measles as children, and when acquired the disease usually becomes more dangerous. Till the diagnosis is established, it is best not to allow patients to come in contact with others.

A Clinical and Pathological Study of the Rash of Scarlet Fever.—The following inferences are drawn by Jay F. Schamberg: (1) The color of the rash in scarlatina varies in different individuals, and at different times in the same individual. Accurately speaking, it is never scarlet and only occasionally bright red. More commonly it is a dull red with an appreciable element of brown. (2) There are other elements of the eruption of scarlet fever besides the erythema, namely, puncta, vesicles, and goose-flesh papules, and these lesions occur with a considerable degree of constancy. (3) Vesicles are far more common in the rash of scarlet fever than is ordinarily believed. They are more profuse in intense eruptions, although they may be present in mild ones. The amount of desquamation is as a rule proportionate to the degree of vesiculation. Vesiculation may be so copious as to deceive the physician in his diagnosis. (4) Desquamation on the body begins as pin-point, powdery scales at the summits of the desiccated vesicles. Irregular or jagged rings of desquamation then form, which enlarge until the horny layer is completely shed. (5) Histologically, the rash of scarlet fever is a dermatitis exhibiting deep and extensive changes in the corium. The greatest degree of inflammation is exhibited about the hair follicles, which are frequently disintegrated by a serous and cellular exudate. Vesicles have their seat either in the epidermis or in the walls of the hair follicles. The persistence of desquamation and of the infectivity of the scales is to be accounted for by the depth of the pathological process in the skin.

Some Experiments of the Relation between Audition and the Circulation of the Blood in the Head.—Hamilton Stillson relates some of his personal experiences in hearing. His left ear had for a time a slight tinnitus with slight lowering of hearing-acuity. The tinnitus was caused by tubal œdema. The writer then speaks of palpating the tube by means of the tongue thrust into the post-nasal space. Fixing the attention on the tinnitus would increase its intensity, and brushing the hairs at the external orifice of the auditory meatus would cause a different tinnitus—caused by the contraction of the muscles in that vicinity. Pressure on the mastoid bone increased the tinnitus and raised its pitch. Pressing against the mastoid tip of the tinnitic ear caused it to hear objective sounds louder and in a slightly higher pitch. Lying down increased the tinnitus and lessened the hearing-distance. With head suspended, in the tinnitic ear the hearing-power seemed at first slightly diminished and then increased, but no rhythm in the objective sound could be noticed. Moving the head to and fro in its vertical axis caused a peculiar bell-like tinnitus in both ears, more noticeable in the tinnitic one.

Treatment of Lupus Vulgaris with X-Rays.—J. T. Knox reports this case of a girl aged twenty years. The disease involved the nose and upper lip, and had already caused perforation of the nasal septum. The rays were applied for from six to ten minutes each sitting, every other day, placing the affected parts from four to eight inches from the tube, according to the density of the rays. The total number of applications was seventy-four. Improvement was noticed soon after the beginning. The unaffected parts of the face and head were shielded by means of a mask. A cure was effected.

Ossification of the Choroid Leads to the Identification of the Body in an Insurance Case.—By Robert L. Randolph.

Tuberculosis of the Testicle, with Special Consideration of its Conservative Treatment.—By John B. Murphy.

Tubercular Tumor of the Orbit.—By Howard F. Hansell.

Etiology and Prognosis of Adenoids.—By A. M. Corwin.

Boston Medical and Surgical Journal, November 8, 1900.

A New Test-Meal.—A. E. Austin says that the Ewald test-meal consists of two rolls and two glasses of water; the meal of Riegel consists of soup, beefsteak, and a roll. That used in the experiments described by the author consisted of 2 gm. of dried egg albumen, compressed into half-gram tablets. These are taken with two glasses of water and the stomach contents are withdrawn one hour after taking. Among the interesting points brought out was the unreliability of the presence of lactic acid as a diagnostic symptom. It is also quite evident that impaired motility is the most important condition in the so-called nervous dyspepsias, arising probably from the lack of innervation dependent upon shock or worry. It may be present with either impaired or superabundant secretion of hydrochloric acid. The former condition is probably the more distressing from the formation of organic acids and gases. It is of interest also that the increased flow of gastric juice is always accompanied by a relative increase in the amount of hydrochloric acid, or it may be that lack of motility and diminished hydrochloric acid are associated, and the small quantity withdrawn is due to inability to remove the total contents of the stomach. Egg albumen in the form of tablets seems to fulfil all the conditions that attach to a successful test-meal.

Spinal Caries with Abscess.—Ernest B. Young gives an analysis of seventy-eight cases. Incision of the abscess was done in the majority of cases. The prognosis of spinal caries with abscess, apart from the cases in which the abscess opens spontaneously, seems to be very slightly influenced by the treatment accorded the abscess, although undoubtedly affected by the proper fixation of the spine. Considering the series as a whole, the mortality was about

thirty-five per cent. at an average period of three years and nine months after the first symptom, the mortality being slightly greater among those in whom the disease commenced before the tenth year. In both children and adults the most common cause of death seemed to be a gradual deterioration of the whole system. The causes of death in a few cases in which it was possible to get a reliable report were: general tuberculosis, 4; amyloid, 1; tuberculous meningitis, 3; shock of operation, 2; sepsis and renal, 1; phthisis, 1.

The Agglutination of the Patient's Serum of the Bacteria Found in Cystitis and Pyelitis, with a Consideration of the Pleomorphism of the Bacteria Found in These Infections, Especially as Regards Chromogenic Properties of the Staphylococci.—Thomas R. Brown reports three cases, in two of which there was an absolutely positive reaction, and a suggestive reaction in the third. A careful bacteriological study of over eighty cases goes to show that the colon bacillus is the commonest cause of cystitis and pyelitis in women, while various staphylococci, the tubercle bacillus, and the bacillus proteus vulgaris are also quite frequently found. The pleomorphism of the colon bacillus is very marked. Results obtained with the staphylococci suggest that many of what we now consider separate species may have arisen originally from a common staphylococcus, and the variations in cultural peculiarities, in chromogenic tendencies, etc., may have been directly dependent upon the various factors, favorable or otherwise, which surrounded the special micro-organisms since that time.

The Management of Abdominal Testicular Ectopia Associated with Inguinal Hernia.—By Charles A. Powers.

Celluloid as Material for Flat-Foot Supports.—By Alfred H. Freiberg.

Philadelphia Medical Journal, November 10, 1900.

Value of Potassium Bicarbonate in Colds and Influenza.—Stephen Harnsberger states that potassium bicarbonate, given early, will in nearly every instance abort a cold very effectually and almost at once. The remedy is well borne by both elderly and weak persons. When the tonsils are involved or when the catarrhal inflammation affects the other air passages or the alimentary canal, its use is very effective. Pneumonia is not so frequent in such cases, and when it does occur its course is milder and shorter. The writer wishes, however, particularly to call attention to the influence of this drug in influenza. He gives gr. xxx. in a cup of milk every four hours during the day, and no other diet for forty-eight hours. If milk is not well borne, then cold water is used. He also believes that the action of this drug is greatly assisted by a cathartic, such as calomel, podophyllum, etc. When heart failure is imminent, then rest in bed should be enjoined. The writer believes that there is no superior treatment for influenza.

The Treatment of Syphilis: a New and Tolerable Form of Administering Mercury, with Report of Sixty-five Cases Treated at Bellevue Hospital.—By Winfield Ayres.

Localization of a Bullet-Wound of the Spinal Cord; Removal of the Bullet from the Spinal Canal.—By Howell T. Pershing.

Aneurism of the Heart with Thrombosis of the Left Coronary Artery.—By Judson Daland.

Analgesia in Obstetrics Produced by Medullary Injections of Cocaine.—By S. Marx.

Study of a Mummy Affected with Anterior Poliomyelitis.—By John K. Mitchell.

The Journal of Experimental Medicine, October 25, 1900.

Acute Internal Hydrocephalus, a Clinical and Pathological Study.—Charles W. Burr and D. J. McCarthy report the case of a man aged thirty-three years, who was suddenly seized with fever, bradycardia, constipation, rigidity of the muscles of the neck, headache, stupor, and delirium. For three weeks the intensity of the symptoms varied greatly, after which the patient improved very much physically, but showed many of the mental symptoms of paretic dementia. One week later both fever and meningeal symptoms returned, and after lasting about a week again intermitted for four days, only to return again and end in death. On post-mortem examination only a moderate internal hydrocephalus was shown, with proliferation of the ependyma and ependymal glia, perivascular round-cell infiltration in the subependymal tissues, and sclerotic and degenerative changes in the choroid plexus. To determine the cause of the lesions, if possible, the writers instituted a series of experiments on kittens by injecting into the ventricles of these animals sterilized urine, glycerin extract of the adrenals, tuberculin, hydrochloric and carbolic acids. They conclude from their results that the non-purulent inflammation of the ependyma produced by acid irritants differs only in degree from the reactive changes following the injection of toxins into the ventricles. Changes in the ependyma without changes in the subjacent tissue probably do not occur. The inflammatory condition experimentally produced, by whatever agent, did not cause any increase in the ventricular fluid, and the only evidence of an exudate from the ependyma was the amorphous material which probably was made up of degenerated cells. The microscopical sections in the toxin experiments resembled the sections from the case under discussion. The mental condition of the patient corresponds to that seen in other auto-intoxications. Both of these facts point to the hypothesis that the changes found were secondary to a toxic condition of the ventricular fluid. The exacerbations which Quincke compares in their sudden development and variability to angioneurotic œdema appear to them to be rather the manifestations of varying intensity of auto-intoxication, such as occurs in uræmia and syphilis. Finally, the hydrocephalus alone by its mere mechanical action, if sufficient fluid is present, can cause many symptoms.

A Case of General Gaseous Emphysema with Gas Cysts in the Brain Found after Death and due to Bacillus Mucosus Capsulatus, with a Consideration of the Gas-Producing Properties of Certain Members of this Group in the Cadavers of Animals.—This case is reported by W. T. Howard, Jr. The patient was a white woman aged forty years. On admission to the hospital she was comatose and never regained consciousness. The pulse was 108 to the minute, regular and rhythmical. There was Cheyne-Stokes respiration, the apnœa lasting twenty seconds. The extremities were cold and cyanotic; the skin was cool and moist. Examination of the chest and abdomen gave negative results. There was incontinence of urine, and none could be obtained on catheterization. The patient was in the habit of taking large quantities of morphine. She died eight hours after admission. The clinical diagnosis was morphine poisoning. The writer presents the following summary: In the case reported in this article there was septicæmia with special localization of the micro-organisms in the brain, with gas cysts of the brain and general gaseous emphysema due to bacillus mucosus capsulatus (aerogenes group). The bacillus isolated from the organs of this case, as well as other members of the aerogenic group of bacillus mucosus capsulatus, can cause general gaseous emphysema in the cadavers of rabbits, either with or without the intravenous injection of sugar before the animal is killed; the gas, however, being most abundant and rapidly found in the former case. It is not impossible that some of the published cases of gaseous emphysema in which a bacteriological examination was not made may have been due to members of the bacillus mucosus capsulatus group. The writer then notes that Dr. Welch has called his attention to the possibility that diabetes may have existed in this case. The possibility must be admitted, since no examination of the urine was possible. There is evidence that certain bacteria incapable of producing gas in tissues and organs of the body under other conditions may do so in diabetics on account of the presence of an abundance of sugar.

Two Cases of Necrotic Broncho-Pneumonia with Streptothrix.—Charles Norris and John H. Larkin call attention to the rarity and importance of such cases. The first case was that of a man aged forty-five years; the second was of a man aged twenty-three years. The writers give the following *résumé* of their discussion: The two cases of broncho-pneumonia in men forming the subject of this article were characterized by intense catarrhal and necrotic inflammation of the bronchi and by the presence of numerous streptothrix colonies in the bronchial lumina. Introduction of the bronchial material of Case I. into the trachea of three rabbits induced pulmonary abscesses and empyema of the pleura and pericardium in one of the animals. Introduction of the bronchial material of Case II. into the ear vein of a rabbit and into the trachea of a second rabbit induced likewise pulmonary abscesses and empyema. The empyemal pus of these rabbits contained filaments and rods morphologically identical with those composing the streptothrix colonies of the human cases. From Cases I. and II. a streptococcus was cultivated on the ordinary media, the streptothrix not being isolated in culture directly from the human organs. By inoculating the fresh and sterile kidneys removed from a normal rabbit with the empyemal pus of a rabbit injected into the ear veins with the bronchial material of Case II., the streptothrix from this case was finally isolated in pure culture, and its morphological and biological characters were studied in detail.

Amyloid Substance and Amylaceous Bodies in Multiple Syphilitic Tumors of the Bones, with Remarks on the Relation of Amylaceous Bodies to Amyloid Substance.—By W. Ophüls.

A Preliminary Report on Acid-Resisting Bacilli, with Special Reference to their Occurrence in the Lower Animals.—By D. Murray Cowie.

On the Presence of New Elastic Fibres in Tumors.—By Alice Hamilton.

The Lancet, November 3, 1900.

Puttee Paralysis (?) after Enteric Fever.—J. W. Springethorpe reports the case of a soldier who suffered from a condition frequently seen in that class after typhoid. Examination disclosed marked wasting of the tibial muscles of the left leg, with apparent wasting of the peroneal and extensor muscles also. The muscles reacted to the faradic current, but with a noticeable weakness. Those on the right leg showed no present difference or abnormality. There had been no implication of the calf muscles and there was no present tenderness on pressure over the nerve trunks in that region. Under faradism and massage the muscles rapidly regained their normal reactions, and their action at the time of writing has become practically perfect. The trouble was thus confined absolutely to the muscles and surfaces supplied by the peroneal nerve, the musculo-cutaneous branch of which supplies the peroneus longus and peroneus brevis, together with the dorsal surfaces of the foot and toes, while the anterior tibial branch supplies the tibialis anticus, the long and short extensors of the toes, and the long extensor of the big toe, as well as the dorsal surfaces of the inner toes. This implication of the peroneal nerve suggested injury, and when symmetrical, bilateral pressure as the probable cause. Such a cause is at once suggested in the puttees used so extensively and indiscriminately by the soldiers in the South African campaign. On being asked the patient stated that the last few rounds of the puttees were fastened rather more tightly than elsewhere directly over the head of the fibula, and thus pressed the peroneal nerve against the bone.

Uncomplicated Æstivo-Autumnal Fever in Europeans in the Gold Coast Colony, West Africa.—A. J. Chalmers says that this is the most common fever experienced by Europeans in the territory named. Predisposing causes are chills, constipation, mental worry, excesses of any description, disease of an organ lowering the vitality, poor food or indigestion, and insolation. Infection occurs through mosquitos, the especial variety being called by the author Anopheles Kumasii. The cansation is the parasite called "Heamonenas præcox." At first small and unpigmented, it grows and may be from one-fifth to one-third as large as the corpuscle, and becomes pigmented. Clinically the type of fever is quotidian; rarely it is tertian, but these typical fevers may be altered and become almost continuous by slight complications without malignant symptoms. The principal symptoms and signs are headache, pains in the back and legs, sense of weariness, thirst, and anorexia with nausea. There is tenderness over the liver and spleen, which are enlarged. Vomiting is frequent, and the bowels incline to constipation. The pulse rate sinks below normal on the fall of temperature. Without malignant symptoms the mortality rate is very low. Treatment may be summarized as follows: During the rise, antipyretics and, if necessary, cold applications and aperients; during the remission, quinine and some saline diaphoretic mixture. If the temperature is over 104° F., phenacetin with calomel and a hot lime drink; after the attack, tonics.

Have Maternal Impressions any Effect on the Fœtus in Utero?—By William Duncan. A woman, in the seventh week of pregnancy, was photographed with her husband. When the wife saw the photograph she exclaimed that her husband's "right hand looked deformed as if it had only a thumb and little finger." On frequent subsequent occasions she showed the photograph to friends, always pointing out the deformity to them. When the child was born —after a normal labor—the right hand was deformed, and the resemblance to the father's right hand, in comparing the two photographs, is sufficiently striking. Now comes a very remarkable occurrence. The nurse in charge of the baby white out walking one day showed the deformed limb to a neighbor who happened to be a few weeks pregnant. She was very shocked, but remarked, "What a lucky thing that both arms are not deformed." This woman was duly delivered of her first child at full term, and "both its hands and feet were deformed." The mother was of a very nervous temperament. She often expressed her opinion that it was the shock of seeing the hand of the first patient's child that caused her child to be born deformed. She would allow no one to see the child. She has since been removed to an asylum. Both of the children, apart from the deformity, are well developed and healthy. No previous cases of deformity can be ascertained as having occurred in either family.

Arrested Mental Development following Depressed Fracture of the Skull; Trephining; Improvement.—Alfred Clark reports the case of a mulatto child aged eleven years, whose development was normal till her fourth year, when she fell backward striking her head against the leg of a table. On recovery from the immediate effects of the injury she seemed all right except that she had a fit about once a week preceded by a spasm of the right arm and leg. The mental faculties became stationary and the gait shambling. She developed a genius for mischievous destruction, so that she had to be closely watched. Examination showed a depression in the left occipital bone near the parieto-occipital suture and about two fingers' breadth from the middle line. It was about an inch and a half long and three-quarters of an inch wide. Trephining showed the meninges enormously thickened and adherent. No fluid was obtainable by trocar and cannula passed into the brain. The adhesions were separated as far as possible, the disc of bone was replaced, and the wound closed. Recovery from operation was uninterrupted. The fits and spasms never returned and her mental condition vastly improved, so that three months later she seemed developing according to the standard of a child of four or five.

Nature's Alkaline Treatment of Gout and Rheumatism by the Use of Natural Alkaline Thermal Waters.—By C. N. Brandt.

Diagnosis of Thoracic Aneurism by the Roentgen Rays.—By Hugh Walsam.

The Wedge Operation for Entropion and Trichiasis.—By H. Herbert.

Bacteriological Diagnosis of Disease.—By Sheridan Delépine.

Tonite Explosion as a Cause of Death.—By A. S. Morton.

Surgery as a Science and an Art.—By C. Y. Pearson.

Lengthening the Tendo Achillis.—By R. A. Hibbs.

Impetigo following Vaccination.—By J. J. Harding.

Surgery of the Stomach.—By A. Ernest Maylard.

British Medical Journal, November 3, 1900.

Myelopathic Albumosuria.—This affection is defined by T. R. Bradshaw as a disease characterized by an invasion of the cancellous tissue of the bones of the trunk by a cellular growth, by a disappearance of the osseous tissue, and by the presence in the urine of large quantities of a peculiar albuminous substance belonging to the class of bodies known as albumoses. The bones chiefly affected are the ribs, sternum, and the bodies of the vertebræ. Microscopically the structure resembles sarcoma. The condition is called "multiple myeloma." The disease occurs in the second half of life and seems more frequent in men than in women. The first symptom noticed is generally pain in the lumbar region. Later, the pains become more general. The urine contains a proteid which superficially resembles albumin but differs from it in several reactions. The writer gives the following characteristic reactions. (1) It coagulates at a comparatively low temperature (60° C. or 140° F.). (2) The coagulum is redissolved on boiling. (3) It is readily precipitated by hydrochloric acid, as well as by nitric acid, and the precipitates are dissolved on boiling. The diagnosis is easy, as the condition of the urine appears to be pathognomonic of the disease. The disease seems always fatal, but sometimes its course is remarkably prolonged. No treatment so far tried seems to have the slightest effect on the progress of the disease.

The Treatment of the Paroxysmal Stage of Whooping-Cough.—John Edward Godson describes the method which seems most satisfactory to him as follows: Commence at once with the continuous inhalation of creosote. Before the use of any anti-spasmodic remedies, the lungs should be cleared of bronchitis as much as possible. Belladonna seems effective in broncho-pneumonia. Moderate doses of antipyrin may be given in all cases, if or when the chest is fairly clear and the circulation good. Expectorants should be used at the same time. Wholesome food, fresh air, light and warm clothing are necessary. The writer gives the average length of time required for cure in a variety of cases last year as 19.8 days. These figures do not represent the benefit derived from the creosote treatment. The number of paroxysms is immediately much diminished in every case by the use of this drug.

The Propagation of the Filariæ of the Blood Exclusively by Means of the Puncture of Peculiar Mosquitos.—B. Grassi and G. Noè by proper experiments have demonstrated that when Anopheles bite, the larvæ of filaria immitis, which have been collected in the inferior labium, come out of their resting-place and are thus inoculated in the bitten animal, the mechanism of exit representing a most singular and admirable phenomenon for the diffusion of parasites. The experiments of these writers have been far more extended than their present report of them, but their entire results will be given at a later date. However, even now it can be stated that undoubtedly the blood filariæ, as the parasite of malaria, are inoculated by the puncture of special mosquitos, although in a different way. The exit of the larvæ does not, as Bancroft thought, take place through the œsophagus and pharynx.

Foreign Body Twenty-five Years in the External Auditory Meatus.—Arthur H. Benson reports the case of a man aged thirty-five years, who twenty-five years ago had put a

piece of slate pencil into his right ear, where it had since remained. He was very deaf and both ears were packed with cerumen. The ear was syringed and the cerumen softened with oil. The next day, when the ear was being syringed, a piece of slate pencil, three-quarters of an inch long, came out. It had a sharp point and had lain for twenty-five years jammed sideways in the meatus, causing no pain. After inflation by Politzer's method, the hearing in the right ear was improved to whisper at two metres and C. V. at seventy-five metres.

Ambidexterity.—James Sawyer is an enthusiastic advocate of ambidexterity. He states that an excellent way for the acquirement of this accomplishment is the learning of sinistral handwriting with pen and ink. When one can write comfortably with the left hand other accomplishments will become easy. Ambidexterity would prevent many occupation pareses. It would tend to a more equal use of the two sides of the brain, and might prevent or help some cases of hemicrania or perhaps some cases of hemiplegia.

Contribution to the Technique of Bacteriology.—By Marc Armand Ruffer and Milton Crendiropoulo. (Illustrated.)

An Address on Some Aspects of Modern Medical Theory and Practice.—By Alfred H. Carter.

Mode and Rapidity of Reduction of Temperature by Quinine.—By William Sykes.

Abdominal Wound Inflicted by a Rhinoceros.—By E. Wynstone Waters.

Suprarenal Gland Extract as a Hæmostatic.—By O. F. F. Grunbaum.

The Bromide Sleep in a Case of Mania.—By Philip M. Ragg.

A Case of Perforating Gastric Ulcer.—By G. Michelmore.

A Case of Scarlatina Pemphigoides.—By Arthur Somers.

Poisoning by Strychnine; Recovery.—By William Dick.

Wasp Sting of the Tongue.—By Herbert W. Nott.

The Diagnosis of Diphtheria.—By H. B. Donkin.

French Journals.

Researches Concerning the Natural Immunity of the Dog against the Anthrax Bacillus.—In the discussion of this subject, M. Phisalix states that when a dog is inoculated subcutaneously in the thigh with a young culture of anthrax in which the spores have not yet developed, and when in the course of from five to eighteen days the animal is killed and the glands of the groin are examined, new cultures are obtained with characteristics completely different from those of the anthrax bacillus which has been inoculated. These new cultures are not virulent; but according to the length of time between the inoculation and the examination of the gland, and according to the intensity of the local reaction, the morphological characteristics of the microbe are recognizable or they are so changed that an observer not knowing the nature of the original inoculation would fail to recognize the micro-organism as that of anthrax. It is colored by the Gram method and does not form spores. The writer in his experiments has introduced virulent bouillon cultures contained in collodion capsules into the peritoneum of a dog. The transformation of the bacillus is due to the influence of soluble dialyzable substances. When the serum of a dog is used in the capsule as the culture medium the modification of the organism is far more rapid. It is probable that in the living animal the bactericidal and modifying power of the blood is due to substances which are elaborated principally in the glands and white blood corpuscles.—*Le Bulletin Médical*, September 26, 1900.

Fracture of the Skull; Hemorrhage from the Superior Longitudinal Sinus; Intervention; Cure.—G. Alexandre reports this case of a sailor aged forty-four years. He received a violent blow on the head, causing a severe hemorrhage which had resisted all efforts made to check it, till he was brought to the hospital six hours after the accident. The pulse was very weak and the face pallid. Blood was escaping by the mouth, nose, and from the wound. The wound was located in the left frontal region about an inch and a half above the eyebrow, extending laterally to the median line. Under chloroform anæsthesia the borders of the wound were excised, and a large resection of the frontal bone made so that the source of the hemorrhage could be reached. The flow of blood was stopped by a tampon. The recovery was uneventful. There was scarcely any deformity, only a small depression in the left frontal region. Hearing was slightly diminished on the left. There has been absolute amaurosis of the left eye since the accident. The results led to the conclusion that at the same time with fracture of the vault there had been section or compression of the optic nerve or of the chiasm by a lesion at the base.—*La Médecine Moderne*, September 26, 1900.

The Intervention of the Dentist in the Treatment of Syphilis.—Bruneau declares that in the course of syphilis, but principally during the first stage, the lesions of the buccal mucous membrane alone give evidence of the general infection of the organism. It is also true that it is to local causes of irritation, situated for the most part about the teeth, that the persistence of syphilitic ulcerations of the mouth can be attributed. Also the phenomenon of intolerance, mercurial salivation, which so often necessitates interruption of treatment, has no other origin than a pre-existing lesion of the gums. This is occasioned either by a poor state of dentition or by the presence of tartar about the neck of the teeth. Leaving aside external causes of irritation as tobacco, alcohol, etc., it is especially the teeth and gums that must be carefully examined in order to combat successfully the causes of syphilitic buccal lesions. The effort of the physician in treating syphilis should be: (1) To prevent the appearance of lesions of the buccal mucous membrane; (2) to anticipate and prevent the harmful effects of mercurial medication.—*La Presse Médicale*, September 26, 1900.

A New Method of Treating Tuberculosis by the Transfusion of Medicines by Means of Static Electricity, or the Method of F. Crôtte.—Ducamp speaks in terms of the highest praise of this method of treatment of the fearful scourge tuberculosis: Formic aldehyde is transfused through the affected organs by means of the currents of static electricity. The vapors of formic aldehyde are inhaled for a few minutes two or three times a day. The writer concludes from his own experience that tuberculosis is always curable in the first stage by this method, almost always in the second stage, and a third, at least, of the cases in the last stage. He thinks great credit should be given to H. F. Crôtte for elaborating this method.—*Gazette Hebdomadaire des Sciences Médicales*, September 23, 1900.

Bucco-Pharyngeal Tuberculosis.—Samuel Bernheim concludes that the etiology of bucco-pharyngeal tuberculosis, like that of every localized infection, is composed of three elements: the bacillus, the individual predisposition, and the port of entry. It may be primary or secondary, the latter being the rule. In this case the infection is carried by the lymphatics or the blood. When primary, it follows a direct inoculation. Among the causes which aid this infection are tobacco, poor teeth, and defective hygiene of the mouth. Its localization on the different organs of this region is very variable.—*La Tribune Médicale*, September 26, 1900.

Münchener medicinische Wochenschrift, October 23, 1900.

The Treatment of Obstipation.—E. Roos has endeavored to enrich our therapeutic resources by an attempt to stimulate a sluggish intestine to increased peristaltic activity by modifying its bacterial flora, adopting the somewhat unusual medicament of keratin-coated capsules containing pure cultures of the bacillus coli communis. These being obtained from the fæces of an individual having normal daily movements, it was supposed that on introduction into an intestine in which the reverse state of affairs existed a sufficient stimulus might be given to cause a more adequate peristalis. On experiment it was found that in cases of moderate constipation some improvement was effected, but that the cure was not permanent, which latter fact seems explicable to the author on the ground that the newcomers do not gain a permanent foothold in the alien mucosa and are therefore unable to continue their beneficial action indefinitely. Somewhat similar results were obtained with lactic-acid bacilli and yeast, the latter being equally effectual alive or dead.

The Atropine Treatment of Intestinal Obstruction.—Marcinowski contributes two cases to the list of reported instances in which an apparently imperative laparotomy has been avoided by the use of large doses of atropine. The first of these is that of a woman presenting the typical picture of intestinal obstruction, who six hours after the subcutaneous injection of gr. $\frac{1}{2}$ of atropine sulphate had a soft movement accompanied by flatus, and went on to make an uncomplicated recovery. The other case is that of a man who gave similar symptoms after apparently successful taxis for hernia. After fecal vomiting had set in, the same dose of the drug was injected with a like happy result. Absolutely no untoward effects were noted from the enormous amount of alkaloid given.

The Treatment of Gall Stones with Olive Oil.—Kurt Witthauer assumes a conservative position in regard to operative interference for cholelithiasis, and advises medical treatment in cases in which there is no daily febrile movement nor palpable gall bladder. The most successful agent in his experience is olive oil in large quantities (12–16 oz.), daily given by mouth as long as the patient can stand it, and then by rectum. The stools should always be sifted, that no stones may pass unnoticed. In one case a patient passed one hundred and thirty-seven stones while under this treatment.

Bertillon's Method of Body Measurement Practically Applied.—By Wengler.

Short Dermato-Therapeutic Contributions.—By F. Siebert.

The Surgical Treatment of Noma.—By H. Ranke.

A Case of Thoracopagus.—By E. Toff.

Lithopædia.—By Kroemer.

Berliner klinische Wochenschrift, October 15, 1900.

The Effect of Johimbin.—A. Loewy says that this is the name given by Spiegel to an alkaloid extracted from the bark of an African tree called "yumbehoa" or "johimbehe," and appears to belong to the rubiaceæ. To another alkaloid the name of "johimbenin" has been given. A decoction of the bark of the tree is used by the African natives as an aphrodisiac. Loewy's experiments on mice, cats, and dogs were made with hydrochlorate of johimbin. The effects noted were a dilatation of the vessels supplying the genitalia, with swelling of the testicles and finally full erection of the penis. The local results were in fact very much like those of cantharides, but there seemed to be no irritant effect on the kidneys, and repeated trials on the same animal did not seem to produce any inflammatory changes in the parts affected. Overdosage caused, in warm-blooded animals, interrupted respiration, lessening of the pulse rate, and fall of blood pressure. If artificial respiration was continued, the pulse rate and blood pressure gradually diminished in a proportionate ratio until death occurred from cardiac paralysis. The action of the remedy appears to be confined to the genitalia exclusively in safe dosage. The author has given the remedy to one man, who took by mouth 5 mgm. of johimbin three times daily. The result was genital hyperæmia with powerful erections, though the drug did not seem directly to stimulate the libido sexualis.

Certain Cell-Problems and their Significance for the Scientific Foundation of Organo-Therapy.—D. Hausmann lays down the general proposition that there exists between the various kinds of cells an altruistic relation in the sense that one variety of cell exercises a definite influence over all other varieties, and that progressive changes in one variety cause in the others an altruistic hypertrophy, but retrogressive changes an altruistic atrophy. Organo-therapy builds itself upon this theory of altruism in cell relation and the specificity of cell function. Hence we may attempt to introduce into the body the particular substance of which it has been, by cell destruction, deprived. Naturally the substance introduced can replace only the positive result of the function of the lost cell, that is, the latter's internal secretion. In case of organs with a double function but little or no result can be expected. Hence organo-therapy is necessarily confined to organs with a single definite function. It is folly to introduce hepatic substance for liver troubles or kidney substance for kidney diseases. Also in pancreatic diabetes organo-therapy can have but a partial result, although this malady results from a failure of internal secretion.

The Theory of Rabies at the Close of the Nineteenth Century.—By V. Babes.

On Methods of Preserving Anatomical Specimens True to Nature.—By L. Pick.

The Downes Urine Segregator.—By A. Freudenberg.

Annals of Surgery, November, 1900.

Retrenchment of Lipomatous Abdominal Wall Combined with Operation for Radical Cure of Umbilical Hernia.—By J. B. Bullitt. The patient was a woman aged thirty-eight years, presenting a pendulous abdomen hanging down like an apron on the thighs, being on a level with the perineum when the patient was in a dorsal position and two inches lower when in an upright position. Careful examination led to the diagnosis of omental hernia. The contents of the sac could be partially reduced. Operation was done as follows: A transverse incision about six inches long was made two inches above the umbilicus, which had been previously stuffed with cotton and closed by means of three sutures. The hernial sac was encountered close to the skin, being covered by it and a thin layer of fat. The sac was found to contain a part of the transverse colon and omentum. The omentum alone was slightly adherent, but was not especially large and fat-containing, and, therefore, was not tied off. The intestine and omentum were easily returned through the ring. The edges of the ring could be readily brought in apposition, and closure was effected by mattress sutures taken from side to side through the base of the ring, closing it from above downward; a half-dozen heavy chromicized catgut sutures were necessary for this purpose. The sac was made up of the peritoneum on the inner side and the abdominal fascia on the outer, these two layers being amalgamated, inseparable, and forming one structure. The sac was then cut off about a half-inch from the margins of the ring, and a second running suture of No. 2 plain catgut was made, bringing the sac stumps together. The abdominal wall contained a layer of fat from three to four inches thick. The horizontal incision which had first been made was now prolonged in both directions to the two flanks, and a second transverse incision was made about seven inches below the first and joining the ends of the first incision in the two flanks. These two incisions extended through the fat down to the fascia; the enclosed portion of the abdominal wall, amounting to several pounds of skin and fat, was now dissected up and removed in the shape of a wedge. A continuous catgut suture was now applied from side to side, apposing the deeper portions of the exposed area. Above this, interrupted and buried catgut sutures were applied in tiers; and, finally, the skin was approximated by silk worm-gut sutures placed at intervals of several inches, and then a plain catgut suture applied in buttonhole fashion. Recovery was uneventful.

Report of a Case of Actinomycosis Hominis.—The patient of J. C. Oliver was a man aged forty-nine years. The method of inoculation could not be determined. The disease began as an ulcer on the inside of the right cheek just opposite to a clamp used for holding artificial teeth in place. The ulcer was curetted under cocaine and examination made for tubercle bacilli, but none was found. The use of the iodide was without benefit. The ulcer extended and became very painful, and the submaxillary gland of the same side enlarged, later softened, and was incised. The nature of the discharge led to a suspicion of actinomycosis, but microscopical examination at this time was negative. Other swellings appeared about the neck and under the ear. Discharge from the latter site presented the streptothrix of the disease and later the ray fungi. Previously, with a view of removing the focus of disease, the lower lip had been split midway between its centre and the right angle of the mouth, and the incision was carried backward in a curve to the lower part of the ear. Everything suspicious, including the submaxillary gland, was removed. Some black, sloughing tissue was found in the vicinity of the sinus in the submaxillary region. This was removed with a sharp spoon. The ulcer in the mouth was removed by carrying an incision completely around it. In the dissection of the neck, the lingual artery was divided. The patient finally died of a severe arterial hemorrhage from the submaxillary region, probably from the lingual artery, which had been divided at the time of operation. Because of inability to ligate this vessel, a hæmostatic forceps was left on the divided end of the artery for forty-eight hours. The artery was divided January 4, 1900; the fatal hemorrhage occurred March 3, 1900.

A Contribution to the Study of Intra-Abdominal Omental Torsion.—Weiner gives a summary of the histories previously reported by various authors and adds one from his own practice. From his summary it will be seen that omental torsion occurs more often in males than in females (presumably on account of the more frequent occurrence of inguinal hernia in men), that it is not met with in youth, and that it is found only in persons who have a hernia; although the diseased omentum is not always found in relation with the hernia. The portion of omentum affected may be small, or may be composed of almost the entire omentum. The etiology of the cases in which the omentum is not connected with a hernia is very obscure. In the other cases the etiology can generally be traced to forcible attempts at reduction of the hernia. In not a single case was the diagnosis made before operation. The cause for this is not far to seek. Not only are omental tumors extremely rare, but they have no characteristic symptoms; the symptoms they call forth are those produced by an abdominal tumor through its mechanical action. When the torsion takes place in connection with a hernia, the diagnosis is naturally made of an incarcerated hernia. In all of the cases the urgency of the symptoms was recognized, and a prompt operation was performed. There is a practical point of some value. If we cut down on a hernia that produced the symptoms of strangulation and find only a strand of omentum in the inguinal canal, we should always investigate the intra-abdominal portion of the omentum to make sure that there is no torsion present there.

Traumatic Rupture of the Small Intestine; Abdominal Section; Recovery.—By J. J. Buchanan. A boy aged eighteen years was hit in the abdomen with the handle of a pair of tongs with which he had been carrying a billet of iron. When seen five hours later there was no evidence of contusion, abdominal distention, or excessive rigidity of the abdominal muscles. Peristalsis was absent, and on this symptom, taken with the slight rigidity, moderate pain and two attacks of vomiting, an abdominal section was decided on. A rupture of the small intestine was found at the free border with eversion of the mucosa and escape of fecal matter. Peritonitis with exudation of seropus involved about one-third of the small gut. The wound was closed, and the head of the bed elevated ten inches as recommended by G. R. Fowler. With the exception of vomiting on the second day, the later history was without

incident. The author considers the points of interest in the case to be (1) the extensive peritonitis and free exudate present six hours of the injury, (2) the rupture of intestine without trace of external injury, and from what would appear to have been a slight blow; (3) the almost entire absence of symptoms apart from cessation of peristalsis and slight vomiting, and (4) the apparently favorable effect of Fowler's posture in the after-treatment.

A Study of One Thousand Operations for Acute Intestinal Obstruction and Gangrenous Hernia.—Concluding article by C. L. Gibson.

A Skiagraphic Study of the Normal Membral Epiphyses at the Thirteenth Year.—By E. R. Corson, M.D.

Zeitschrift für klinische Medicin, vol. xli., Nos. 1–4, 1900.

(Festschrift dedicated to Hermann Senator on the twenty-fifth anniversary of his professoriat.)

The Hydriatic Treatment of Some Common Dispensary Diseases.—The maladies discussed by H. Rosin are of such mild nature that they are never brought to the notice of those engaged in hospital work, and have received but little attention at the hands of text-book writers, but yet come often enough under the observation of the dispensary or practising physician, and frequently tax his resources to the utmost in their treatment. The first of these, variously called moysitis, myitis, or, preferably, as corresponding to neuralgia, the analogous condition in the nervous system, myalgia, may be etiologized under the two heads of cold and trauma. Of these the later is by far the most frequent and may take the form of awkward or misdirected movement overexertion in the regular performance of some normal act, such as the lumbago of gardeners and bricklayers, or, finally, may result from perfectly natural movements in those whose muscles have become weakened and incapable through wasting disease. Almost any region of the body may be affected, but the musculature of the trunk (neck, thorax, abdomen, lumbar region) is most frequently the seat of the trouble. The diagnosis is often difficult, for the subjective symptoms are wholly unreliable, and no dependence is to be placed on the statements of the patient, who usually locates his disease in heart, lungs, kidneys, etc. Tenderness limited to certain muscles with increased sensibility to faradism and hyperæsthesia of the skin help to differentiate the affection from rheumatism, neuralgia, bone and joint diseases, tabes, trichinosis, heart disease, stomach and liver disorders, etc., which must all be thought of and excluded. Internal medication is nearly always hopelessly ineffectual, while massage and electricity are too expensive for poor practice. Hydrotherapy affords the most suitable method of treatment, and may be applied as a Priessnitz pack, hot fomentations, or poultices of oatmeal or flaxseed, brine baths, sweat baths, or the half bath followed by cold effusions. An affection often simulating rheumatism or arthritis deformans is a combination of parasthesiæ, most often involving the hands or feet of women, and characterized by tingling, numbness, pain, stiffness, etc. In these cases burying the affected member in a pail of sand which has been heated in the oven, together with daily hot full baths prolonged for twenty minutes, is of great service. Various forms of disturbances of sensation connected with the stomach, independent of organic disease, the epigastric pulsation of neurotic women, and chlorosis, are all disorders likely to be greatly benefited by hydrotherapy in the form of hot packs, partial or full baths, cold douches, Turkish baths, etc.

Contributions to the Study of Diverticula and Dilatations of the Œsophagus.—Th. Rosenheim believes that these conditions are much more frequent than is usually supposed, and that with improved methods of technique the diagnosis will be made in many cases that would formerly have passed unrecognized. In his estimation the œsophagoscope is of the greatest value, though its use and the successful interpretation of the results obtained apparently require a degree of practice and experience to be expected only of the specialist. A manœuvre that is more easily applicable is the filling of a suspected diverticulum with a bismuth subnitrate mixture, and then employing the Roentgen rays, when the sacculation will be clearly outlined by the shadow of its metallic contents. Dilatations not secondary to new growths are usually due to atony of the œsophageal wall accompanied by more or less spasm of the cardia. The diagnosis is commonly easy, and may be made by the presence of regurgitation of undigested food which has not been acted on by the gastric secretions, dysphagia, and the œsophagoscope. In treating this condition systematic lavage is of the greatest value, both in relieving the subjective discomforts attendant on the condition and in correcting the tendency to inflammation nearly always produced by the presence of the decomposing food masses within the sack. The patient may safely be allowed to perform this operation himself, though the systematic overdistention of the cardiac orifice, which usually has also to be performed, should never be attempted by any but a physician. The application of astringent and antiseptic solutions to the atonic mucosa is often of benefit, as is also the regular use of electricity by means of the œsophageal electrode. Rest and general hygiene, which may have to be supplemented by the administration of sedatives, and plentiful nourishment (by the rectum if necessary) should be insisted on. Fat is an especially important article of diet, and may conveniently be given in the form of melted butter or olive oil a short time before meals.

Hanot's Cirrhosis.—Hasenclever ascribes to Senator the credit for having systematized the formerly conflicting views on the various types of cirrhosis, and by establishing definite pathological classifications having reconciled to each other the contradictory teachings of different writers. The essentials of his findings are as follows: (1) The size of the diseased liver will depend on the amount and the character of the adventitious connective tissue it contains. If no cicatrical contraction takes place, the organ remains enlarged and the function of vessels and parenchyma remains unimpaired, the case then representing a typical Hanot's cirrhosis. On the other hand, contraction of the tissue induces a diminution of size with concomitant destruction of liver cells; typical Laennec's cirrhosis. Portal hypertrophic cirrhosis and portal cirrhosis with jaundice due to gastro-duodenal catarrh are subclasses of this type. (2) If the formation of bile is diminished while its outflow through the biliary passages is unimpeded, no jaundice results. This is the case in Laennec's type, since the parenchyma cells are early destroyed, while the larger bile passages remain patent. In Hanot's form, however, opposite conditions prevail, since the bile is manufactured in normal amounts, while the ducts are narrowed through angiocholitis or periangiocholitis. (3) Ascites and venous dilatation of the abdominal wall and in the gastro-intestinal tract are due to congestion of the portal vein. (4) The swelling of the spleen has not yet been satisfactorily explained. Congestion alone is not a sufficient cause, and probably the same poisons (alcohol, syphilis, malaria) which affect the liver act on the spleen also.

The Relations between Diabetes Mellitus and Tabes Dorsalis.—W. Croner says that tabes and diabetes may occur simultaneously or consecutively in the same patient, or that either disease may simulate the other. In looking for a common cause syphilis is the most plausible, for while it is now universally believed that locomotor ataxia is not a syphilitic manifestation, specific infection undoubtedly precedes the nerve lesion in the majority of cases, and through a secondary arteriosclerosis, which is a well-known producer of diabetes, may also be assumed to stand in at least an indirect causal relationship to the latter disease. Granting the possibility of a common cause, the appearance of both diseases in the same patient is not so surprising, but it is also of interest to note that the diabetic condition may be only a secondary complication, possibly dependent upon the invasion by the tabetic process of regions of the central nervous system controlling the sugar metabolism of the body. Symptoms common to both diseases are general weakness and prostration, various forms of paralysis, ataxic gait, especially in the dark, parasthesias of the legs, patches of analgesia and anæsthesia, hypersensitiveness to cold, decreased sexual power, trophic and secretory disturbances, perforating ulcer, decubitus, hyperidrosis, muscular atrophy, absence of the patellar reflex, the occurrence of sugar in the urine, amblyopia and amaurosis, while the neuralgia of diabetes often closely simulates the lancinating pains of tabes. The pupillary reaction affords the most constant differential diagnostic sign.

A Case of Hypertrichosis Universalis with Precocious Sexual Development.—E. Lesser says that cases of excessive hairy growth must be carefully divided into two classes. In the first place there are instances of true hypertrichosis in which there is simply an abnormal growth of hair in those parts of the body where at least a suggestion of hairy growth is normally present. On the other hand, there are also cases in which every portion of the body, including the forehead and cheeks, is covered with a fine silky growth differing in nature from the ordinary hair. These are really lanugo growths representing instances of imperfect development, and the names "hypotrichosis" or pseudohypertrichosis lanuginosa have been proposed for them. An interesting feature is that defects in the dentition nearly always accompany anomalies of this class. The author describes an individual of the former type who at the same time gave evidence of premature sexual development. The patient, a girl aged six years, presented nothing abnormal at the time of birth, but in her second year a progressive enlargement of the breasts took place, which has continued until now they are of the size of a fist. In

the third year a menstrual discharge appeared which recurred eight or nine times and then stopped, while eighteen months ago a general diffuse growth of hair took place, which on the face is of the nature of a masculine full beard, and on the body covers the whole surface more or less densely except the hands and feet. The genitals resemble those of an adult in size and development.

Critical and Experimental Observations on the Relation between the Kidneys and Glycosuria.—Friedrich Richter's experiments tend to furnish a theoretical basis for the clinical observation frequently made that an intercurrent nephritis often lessens the intensity of cases of diabetes. French clinicians have made the observation that in individuals giving symptoms of contracted kidney three or four times the amount of sugar usually sufficing to produce an alimentary glycosuria had to be given before its presence could be detected in the urine. Acting on the theory that a damaged renal epithelium was less able to excrete sugar, the author gave animals such substances as aloin, cantharidin, or calcium oxalate, known to have a destructive effect on the kidney parenchyma, and then by administering phloridzin or diuretin was able to estimate the degree to which glucose elimination was influenced. In all cases the appearance of the sugar reaction was greatly delayed, and positive evidence afforded that the permeability of the kidney for this substance had been notably diminished. To what degree this, so to speak "mechanical," factor is concerned in the pseudo-cures of diabetes through nephritis, and whether some organic condition is not also to be considered, remain to be proven by further investigation.

The Pathology and Treatment of Typhoid Fever.—E. Barth lengthens somewhat the period of incubation of typhoid, which is usually given as two to three weeks, but which he thinks may extend even longer than four weeks, the conclusion being that at least five weeks' time are necessary for a thorough quarantine. Cases in which the disease develops in less than two weeks are likely to be severe, often ending fatally. In the matter of diagnosis the Widal and diazo reactions represent the greatest advances of recent years. Diarrhœa is not the typical symptom that the older clinicians made it; out of sixty cases only one-half the number exhibited it. Of the various intestinal antiseptics in use calomel is perhaps the most reliable, but its action depends rather on the thorough cleaning of the intestinal canal it entails than on any germicidal action, for at the outbreak of symptoms large numbers of bacilli have already gained access to the lymphatics and internal organs, where they are safe from antiseptic drugs. The Brand treatment properly applied is the most important factor in the treatment, but it requires careful adaptation to each individual case, and even then is not a specific but simply a general tonic and supporting measure.

A Contribution to the Etiology of Progressive Pernicious Anæmia.—W. Bussenius endeavors to elucidate somewhat the complex etiology of this disease by the description of a case in which the cause seemed less obscure than usual. The patient had been under medical observation for a period of eleven years, at the end of which time he was suffering from chlorosis and obesity. For over one and a half years his condition remained practically unchanged, the symptoms not being sufficiently serious to prevent the performance of his military duties. He was then given a furlough that a rest in the country might completely rehabilitate him, but instead of this his disease rapidly assumed a malignant form, and both the symptoms and blood examination pointed toward pernicious anæmia. In the absence of more satisfactory grounds the author attributes the destructive action on the red blood cells to the toxins contained in supposably inferior or even decomposed thyroid tablets surreptitiously taken by the patient to reduce his weight

Investigations on Absorption and Metabolism in Gastric Apepsia with Reference to Pernicious Anæmia.—By Strauss.

The Simultaneous Occurrence of Scoliosis and Apical Infiltration in Childhood.—By M. Mosse.

Congenital Dextrocardia without Transposition of the Viscera.—By H. Löwenthal.

Fibrinous Pneumonia in Phenylhydrazin Poisoning.—By S. Kaminer.

Faraday's Law in Electro-Therapy.—By F. Frankenhauser.

Corrosion of the Œsophagus with Caustic Lye.—By Bornikoel.

The Gaseous Contents of the Stomach in Infancy.—By H. Leo.

Laryngoscopy in Childhood.—By A. Kirsten.

Aneurism of the Heart.—By Strauch.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN ORATION — GYNÆCOLOGISTS ON MEDICAL TREATMENT—GUY'S HOSPITAL—NEWSPAPER EDITORS ON HOSPITALS—STUDENTS AND A "DIVINE HEALER" QUACK—DRUNK OR DYING—PATHETIC DEATH OF A SURGEON.

LONDON, October 26, 1900.

PROF. CLIFFORD ALLBUTT delivered the Harveian oration at the Royal College of Physicians on the 18th inst. He discoursed on the forces opposed to Harvey and his researches, and showed the physiological darkness which preceded him. To put his great discovery in right perspective he thought we must have some vision of the history of philosophy, science, and medicine. Medicine, he said, had its sources among the Greeks, contrasting therein with theology and law; in the schools of Hippocrates and Alexandria it was based on natural history and anatomy. Galen, the first of physiologists and last of the great Greek physicians, practised the method of verification by experiment, introduced perhaps by Archimedes, subsequently lost till the time of Gilbert, Galileo, and Harvey. The orator then referred to some of the problems which engaged the thoughts and energies of men during the ages intervening, with special reference to philosophical questions which bore on medicine. He pointed out the weight of the social systems, opinions, prejudices, and habits against which Harvey had to contend. As an example, almost in the year of the publication of the "De Motu Cordis," the Paris parliament decreed that no teacher should promulgate anything contrary to the accepted doctrines of the ancients. Harvey's discovery burst like an earthquake on corrupt Galenism, venerable sophistries, current abstractions bequeathed by realism, and long-winded dialectics and dogmas based on uncritical subservience to texts. His work stood out even more against a background of superstition, magic, witch-burning, alchemy, etc. In terrestrial and celestial physics Galileo, persecuted as he was, had some strong current with him; Copernicus was before him, Kepler beside him; but in physiology upon the path of Galen the waters had closed as upon the track of a ship. Among Harvey's contemporaries none could claim a share with him in the discovery of the central fact of physiology, or in his application of the method which opened the way to his successors.

At the Gynæcological Society a paper by Dr. Heywood Smith gave rise to a discussion on treatment. Dr. Smith dwelt rather on the medical aspect of gynæcological cases, noticing briefly the several diseases in which other methods than operation might be considered. Mr. Skene Keith thought the society was apt to ignore the medical side of the specialty, and yet he thought the paper showed a hankering after operations, though in some cases surgery was put in the background.

Dr. Routh compared gynæcologists to politicians with their divisions of conservatives, moderates, and radicals. The circumstances and wishes of each patient must, he said, be considered. He related three remarkable cases illustrating the sympathy between the uterus and the mamma.

Mr. Bowerman Jessett commended the caution of the paper, and said that was the line of the prudent surgeon. He had not found treatment of any use in cysts of the breast, and if no improvement took place after a few months at the seaside he advised excision, as these cysts often degenerated into malignant disease. In inoperable cancer he had tried oöphorectomy and thyroid extract in five cases, but without benefit. Several years ago he had removed the ovaries of a patient and had just had to remove her breast for cancer, so the principle of the operation seemed at fault. If it were correct, a patient ought not to develop mammary cancer long after the ovaries had been removed.

Dr. Parsons said they knew little of the causes of endometritis, but one of them was prolapse, and this he treated by pessaries. For local applications he had tried carbolic acid, iodized phenol, and linimentum iodi for three years each, and found the last the most effectual. He observed some surgeons practised hysteropexy for displacements more than others. In his experience pessaries had usually sufficed.

Dr. Snow protested against treating tumors of the breast in patients over middle age. This was the time cysts occurred, and they degenerated into cancer sooner or later.

Dr. Jellett mentioned that the French school attribute one out of four cases of pyosalpinx to tubercle, a view confirmed by experience in the Rotunda Hospital of Dublin.

Dr. Macnaughton-Jones agreed with some previous speakers on the value of a discussion on these lines. He held that the advance of gynæcology was through pathological research, and on that alone treatment should be based. True conservative treatment did not consist in tampering with disease by uncertain methods, but in adopting radical measures when nothing could be expected from palliative ones.

Dr. F. Edge said each man did best along the lines he knew best. Some men might operate oftener than others, but all first used such general treatment as seemed possible and suitable. Personally he had not found oöphorectomy and thyroid administration of value.

Guy's Hospital seems to have been particularly unfortunate in reference to a class of fatalities in which charges of neglect or mistake have been made. The latest is a case said to be tuberculous meningitis sent to the hospital late at night by a local practitioner, and which was refused admission by the house surgeon on duty. It is not said whether any beds were available, but some of the newspapers have endeavored to get up a cry against the hospital by depicting a fancy scene in which boys were discharging the duties of the physicians and surgeons. It is a pity the writers of such paragraphs have not the honesty to inform themselves of the facts. Superficial inquiry would teach them that the house surgeons are by no means inexperienced boys, as they suppose, but the pick of the young men coming forward in the profession, invariably fully qualified and serving the hospital without fee or reward. It is a pity, too, that editors should insert sensational correspondence containing unsupported charges. One of these letters speaks of Guy's as "the slaughter-house," and declares that it is well known by that name. Another thinks mistakes prove the want of "outside control by representatives of the new London corporations," forgetting that these bodies are not supporters and that subscribers are. But that letter appears to be the production of one of the "anti" tribe.

I suppose you know all about Dowie, the faith-healing quack, as he hails from Chicago. He has come here to raise money for Zion City, which he will build, he says. Some medical students attended one of his lectures and shouted him down. On a second occasion others boo'd him as he approached the lecture room protected by a band of pugilists. Result—arrest and fine of some of the students. They would no doubt have been better employed in their studies than in disturbing the meeting of an arch-impostor who calls himself the "Divine Healer," but it seems a little hard to be severe on such an ebullition of disapprobation when unbridled violence was winked at during some of the recent elections.

Now and then cases occur showing the difficulty of diagnosis between "drunken condition" and "disease." A painful case came before the coroner on the 18th, in which a gentleman was actually seen to fall three times, but was taken off to the police station by the constable, who said he knew he had a broken skull. But a medical man was not sent for until the next morning!

Mr. A. S. Brown, F.R.C.S. Edin., died on the 17th after an accident. He was on his way to the South of France, and seeing a fellow-traveller fall off the quay at Boulogne waded in and rescued him, carried on artificial respiration for two hours, and then went on in his wet clothes to Paris, where he became so ill that he hurried home and died of pneumonia.

THE MODERN TREATMENT OF PULMONARY TUBERCULOSIS.

(A Criticism of a Paper on the Same Subject by M. J. Brooks, M.D., of Stamford, Conn., in the Medical Record, October 13, 1900.)

To the Editor of the Medical Record.

Sir: Without anticipating the annual report of the commanding officer of this institution, I desire to use certain facts, the result of observation both here and in previous experience, to controvert some of the very positive statements of Dr. Brooks. Constant association with consumptives and careful studies of the disease have not furnished me with the positive views on the subject that seem to be possessed by him. In view of the fact that many eminent students of phthisis and pulmonary tuberculosis are still divided on many points, particularly the biochemistry of the etiological factor and the histogenesis of tubercle, I do not regret my own somewhat agnostic attitude. I deem it my duty to use the facts in my possession to combat, if not invalidate, the misleading impression gained from reading Dr. Brooks' article. The citation of a large number of authorities, all on one side of a question, does not constitute argument, and that seems to be the distinguishing characteristic of this author's method of treating a vast subject.

In an easy, off-hand way he disposes of all the perplexing problems of this disease, and with an iconoclastic hand smashes the most cherished ideas of a large body of men, some of whom for a quarter of a century have studied and labored with pulmonary tuberculosis in all its phases, and have written volumes on the climatotherapy of the disease. The evidence accumulated by the workers in this field throughout the arid regions of the United States is at least worthy of citation, and must be taken into consideration, weighed, and studied before the efficiency of high dry climates in the treatment of pulmonary tuberculosis and phthisis is voted *nil*.

If I read Dr. Brooks' article understandingly, he believes, unequivocally, that both high and dry climates are unnecessary in considering the subject of phthisiotherapy. Notwithstanding the quotation of a number of authorities bearing him out in this, and that "the verdict of the International Congress at Moscow, 1897, was to the same effect," he has not brought any cold facts to bear in substantiation of his position.

It is true that there are no parts of the world suitable to human habitation that are free from tuberculosis. It is equally true that the natives of certain districts enjoy a partial immunity. According to Dr. Brooks, such comparative freedom from the disease is entirely due to the primitive and healthful mode of life of the people themselves. Now, is this invariably true? To my mind, for New Mexico at least, it is easy to prove the contrary.

It is claimed (and has been proved) that the inhabitants of eastern Colorado, western Texas, New Mexico, and Arizona enjoy a relative immunity to pulmonary tuberculosis. Excepting Colorado, the Mexican, now that the Indian has practically vanished, may be considered to constitute the bulk of native population in the districts named. It is a fact that he enjoys practical immunity from consumption. This freedom from the disease cannot be due to mode of life alone; for the Mexican is constitutionally filthy. Witness the smallpox which they have always with them. The Mexican is never so contented as when, with his family, he is close to a hot fire in a stuffy one-room adobe house, having but one window and one door, both of which are tightly closed even in summer time. The atmosphere of these places is simply intolerable to a white man, as I can testify from many personal experiences.

As a district physician among the poor of New York, I became accustomed to the dirty and unhealthful environment of the tenements, but have never seen anything approximating the unhygienic surroundings and life of the Mexicans. Their food is very objectionable from a health point of view, and is almost invariably fried in bacon-fat. Further comment on the habits of the Mexicans is unnecessary; and yet these people are practically immune to tuberculosis, and undoubtedly this freedom from the disease can be explained satisfactorily only by taking climatic conditions into consideration.

The vital statistics of Denver, Colorado, have an important bearing on the relation of pulmonary tuberculosis to climate. This is a modern city in every respect, and the habits and environment of the people in no way differ from those of other cities of equal size. The death rate of Denver, including the large number of consumptives who yearly make this city a Mecca, is no greater than that of New York (Manhattan), and, deducting the deaths from this alien tuberculosis, the death rate from tuberculosis is the lowest of any city of equal size in the world.

The report of this institution, which will be published early in the new year, promises to be instructive in this line of thought. Up to date the results obtained here confirm the therapeutic usefulness of the climate.

I do not believe that the most prejudiced advocate of climatotherapy thinks that there is anything actually specific in high and dry climates. It is simply that the climate of the region known as the arid plateau of the United States furnishes a particularly favorable environment for pulmonary invalids. It requires no argument to substantiate the opinion that dry climates are particularly healthful, and also that high altitudes are invigorating—even to people in good health. As a necessary corollary to dryness there is a maximum amount of sunshine permitting patients to remain comfortably out-of-doors three hundred and forty days out of the year. The characteristics of the climate of the arid zone of this country have been exhaustively described, and it is not necessary to take space to go farther into the subject here. The literature is voluminous and accessible.

Dryness and sunshine are inimical to all bacterial life, the bacillus tuberculosis having been proved particularly vulnerable to their action. To my mind this goes far to explain the relative freedom of the people of the arid zone from pulmonary tuberculosis, and the infrequency of reinfection among our patients.

A very important consideration in phthisiotherapy is the

protection of pulmonary invalids from intercurrent disease. Experience at this hospital bears directly and forcibly upon this point. Up to date two hundred and twenty-four patients have received treatment here, and their freedom from intercurrent disease, from colds to influenza, is proverbial and very striking. With the exception of an occasional cold, in no case has an intercurrent affection been observed, outside of those complications which the patients brought with them from the tropics, such as malaria, dysentery, etc.

The course of both pulmonary tuberculosis and phthisis is undoubtedly much modified by a residence here, and to attribute such modification to the climate seems the only rational thing to do. For instance, a goodly proportion of the two hundred and twenty-four patients mentioned above give a history of hæmoptysis before coming to New Mexico, but hemorrhages are strikingly uncommon here, and except in one or two instances in advanced cases a serious one has never occurred. Fully fifty per cent. of our cases are admitted febrile, but, as a rule, only a short rest is required to bring the temperature down to approximately normal. But fourteen or sixteen per cent. of the patients are permanently febrile, and these, with but few exceptions, were hopelessly advanced on admittance. Even in this class of cases the average daily maximum temperature is, I am sure, lower than that observed in the same class East, viz., 101° F. Night sweats are entirely confined to the febrile or mixed infection type, and even among them are rare and very amenable to treatment. Except in patients presenting a history of dysentery, diarrhœas are infrequent, and the so-called diarrhœa of phthisis is practically unknown.

It strikes me that no further argument is necessary to prove that high, dry climates present ideal conditions for the application of the fresh-air-diet treatment which here, of course, as elsewhere, forms the basis of therapeutic measures. Dr. Brooks, or any man who fails to take the "demonstrated truths" of this subject into consideration, must at least expect to have his motives questioned. For the guidance of the profession of the United States the dictum "send your consumptive patients west as soon as the diagnosis is made" still remains unimpeachable. A ruthless application of this rule, regardless of the patient's financial condition, is necessarily absurd, and for the many to whom a sojourn in the West or like region is impracticable, I, for one, certainly anticipate great results from the fresh-air-diet treatment, even in damp, unstable climates such as that of Boston or Edinburgh; in fact, such results have already been obtained. Nevertheless, the statistics compiled by workers "out West" proved beyond a doubt that better results will always be obtained in climates which present the features emphasized in this paper. The question of the applicability and usefulness of our Western climate in phthisiotherapy would be settled for evermore were it but possible to get the testimony of the thousands in whom the disease has been arrested or cured in this climate, and who constitute so largely the white population of the "arid zone."

With a characteristic touch Dr. Brooks negatives the whole of serum therapy in pulmonary tuberculosis. Some very eminent men still withhold a positive opinion on this subject, and others sincerely believe in the limited usefulness of some of the sera already on the market. Most medical men, I am sure, anticipate a "cure" along biochemical lines, and in a field already so prolific of results it does not pay to be scornful. Dr. Brooks is undoubtedly right in discouraging the use of sera in advanced or mixed-infection cases, as a serum derived from tubercle bacilli is manifestly useless in such cases. The point is, however, that the most enthusiastic advocate of sera does not advise their employment in cases exemplifying this type of the disease. Even the old tuberculin has a fixed, if somewhat uncertain, value in the treatment of lupus, and I myself can testify that, as a sequence of the use of this agent for diagnostic purposes, I have witnessed, in a number of instances, a sudden and striking impetus to recuperative power that is difficult to understand on any other basis than specific action. In the fact of the evidence against this agent in phthisiotherapy it would be absurd to advocate its use. However, the fact remains that the seemingly antagonistic action of tuberculin must be explained before serum therapy in pulmonary tuberculosis is filed with the "back numbers."

While so generally nihilistic toward most special therapeutic measures, Dr. Brooks exhibits a marked bias in favor of inhalation of antiseptic vapors, and quotes Peurose, of Johns Hopkins, to the effect "that the antiseptic action of inhalation is manifested by the rapid disappearance of pus organisms from the sputum." In the examination of thousands of specimens of sputum, and careful comparison of cases, I yet fail to understand the significance of adventitious organisms in the sputum. One point is clear to me: in the majority of cases in which bacilli tuberculosis are found in the sputum other organisms are absent, or few in number; *per contra*, as soon as the bacillus tuberculosis disappears from the sputum the adventitious organisms, including pus organisms appear in enormous numbers. In fact, in our work here the appearance of adventitious organisms is heralded as rather a favorable prognostic sign. Now, wherein lies the significance of the occurrence of these organisms in the sputum, and what is the use of removing them if present?

A number of years ago the futility of medicating the atmosphere of institutions was proven, and I believe it perfectly safe to say that the constant inhalation of pure air is the only inhalation of confirmed value.

I do not say that medicated inhalations are useless, but simply of very limited applicability in certain bronchial cases, and, if I have understandingly studied the literature of the subject, this opinion is now classic.

EARL SPRAGUE BULLOCK, *Surgeon U. S. Army.*

CORNING'S SUBARACHNOID COCAINE ANÆSTHESIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I beg to call attention to a letter by Dr. William J. Robinson, which appeared in the MEDICAL RECORD of November 10, 1900. After an introductory panegyric on my work in neurology the author of this interesting epistle has this to say:

"It is the method of subarachnoid anæsthesia that promises to work a revolution in general surgery and obstetrics, and the credit of the method undoubtedly belongs to two men—to Prof. August Bier and to Professor Tuffier, to the first as the discoverer of the method, and to the second as its popularizer."

Had the author looked into the subject more carefully, he would have found that in my book on "Pain" (J. B. Lippincott Company, Philadelphia, 1894) I have, under the head of "Irrigation of the Cauda Equina with Medicinal Fluids" (pp. 247–254), devoted six pages to the consideration of subarachnoid anæsthesia, which I devised and executed in 1888, and published five years before either Bier or Tuffier entered the field. Bier's paper was published in 1899[1] and Tuffier's in 1899 and 1900.[2]

Again, your correspondent observes, "He [Corning] was certainly one of the first to perceive the possibilities of the method of spinal cocainization." This is highly diverting in view of the fact that not only was I the first to perceive its possibilities, but also the very first actually to anæsthetize the cord—all this in 1885, before such a thing was even dreamt of! Whatever the crudities of my provisional hypotheses, they led me to the establishment of the action of cocaine on the cord; and, as has been pointed out over and over again by others, to the full development of subarachnoid cocaine anæsthesia, years before Bier or Tuffier or any one else entered the field.

Your correspondent intimates that I was "uncertain whether the method would ever find an application in genito-urinary or other branches of surgery." This is not true; I said in my first paper, published in 1885: "Whether the method will ever find an application as a substitute for etherization in genito-urinary or other branches of surgery, further experience alone can show!" This was certainly a correct attitude fifteen years ago; for even at this late day, and despite the many trials made of it, the method as a permanent adjunct to surgery is still *sub judice*.

As a neurologist this was sufficient, and more; but, I may add, as a matter of collateral interest, that I even tried to enlist the co-operation of a prominent surgeon in the matter, but without success. Nor ought we to judge him harshly for this; for at that time penetration of the meninges of the cord seemed as venturesome an undertaking as did mutilation of the peritoneum at a more remote epoch.

Your correspondent states that subarachnoid anæsthesia "promises to work a revolution in general surgery." This, of course, is absurd.

It is not scientific to make a fetish of the cerebro-spinal fluid, whose appearance is by no means an infallible herald of the success of the injection. Inversely, this fluid may, for some reason or other, fail to appear in the needle; and yet, if the preliminary measurements which I recommend for the purpose of insuring the penetration of the membranes be taken, the injection may be a success.

I think I can trust the profession of this country to deal with those who pervert, ignore, or skate blithely over much that I have written; and neither petty casuistry nor mincing cavil can debase the import of recorded and conceded fact.

J. LEONARD CORNING.

53 WEST THIRTY-EIGHTH STREET.

[1] Deutsche Zeitschrift für Chirurgie, vol. li, p. 361.

[2] La Semaine médicale, 1899, p. 363, and May 16, 1900.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 1, 1900.

WILLIAM H. THOMSON, M.D., PRESIDENT.

The Etiology of Cystitis.—DR. WILLIAM K. OTIS read this paper. He said that it was only comparatively recently that it had been generally recognized that the one constant and determining factor in cystitis was some microbic infection. For our knowledge on this subject we were indebted to the researches of Pasteur primarily. At first, it had been supposed that this infection was always the result of the introduction of the micrococcus ureæ, but further research had isolated no less than twenty micro-organisms in the urine of cases of cystitis. The micro-organism that occurred most frequently and of late attracted the most attention was the bacterium coli commune. Because of its varied morphology it had been known by a great many different names. The most important micro-organisms in connection with the study of cystitis were the bacterium coli commune, the staphylococcus aureus, albus, and citreus, the gonococcus, and the tubercle bacillus. Next in frequency to infection through the urethra came infection through the blood as a cause of cystitis. Inflammation of any organ might give rise to a metastasis to the urinary tract, but, as a rule, the microbes were derived from the alimentary tract. This might be the case even without any symptoms pointing to disorder of the bowel. It was not improbable that at times microbes from the intestine circulated in the blood of every one. The kidney was one of the organs in which the blood most frequently deposited microbes. Another mode of infection was by the breaking through of an adjacent abscess. In the condition known as bacteruria the bacterium coli commune was present in enormous numbers for a long time without giving rise to any inflammation. Such a phenomenon was certainly extremely puzzling. The gonococcus and the tubercle bacillus could not be regarded ordinarily as a direct cause of cystitis. In so-called gonorrhœal cystitis the urine taken directly from the bladder without any chance of contamination from the urethra contained very few gonococci. It was generally conceded that tuberculosis of the bladder was always secondary to tuberculosis of the kidney or of the lower uro-genital tract. Infection took place most frequently from the kidney. The resistance of the mucous membrane of the bladder to the tubercle bacillus was very great, the urine sometimes containing tubercle bacilli for years without the bladder becoming infected. In some cases the bladder became involved by rupture into it of a tuberculous prostatic abscess. A previous simple cystitis not infrequently prepared the soil for tuberculous infection. In 1888 Guyon had demonstrated that pure cultures of various micro-organisms might be introduced into the healthy bladder without producing cystitis. It was evident, therefore, that there must be certain predisposing factors. When the resisting-power of the mucous membrane of the bladder was reduced by the presence of a foreign body or of residual urine, micro-organisms rapidly produced inflammation. The presence of residual urine alone without the coexistence of micro-organisms did not give rise to cystitis; hence the great importance of maintaining asepsis when there was residual urine.

Sterilization of Instruments.—Metal instruments could be readily sterilized by boiling for ten minutes in a solution of carbonate of sodium. Silk or gum catheters could not be boiled, hence they must be so constructed as to make mechanical cleansing easy and efficient. It was most important to have no blind end. The mechanical cleaning was best accomplished by the use of warm soapsuds immediately after the use of the instrument, the soapsuds being driven through with a syringe. They should be wiped and exposed to a dry heat of 100° F. for ten minutes. It was essential that they should be dry on the outside, and that the different instruments should not come in contact during this drying process. Sterilization by formaldehyde or paraform was satisfactory, but the instrument should be washed with sterile water before being used again, otherwise when introduced it would cause smarting. Great care should be taken in instructing those who were about to begin self-catheterism as to the precautions they must take to keep the bladder aseptic. The patient should have a medium-sized coudé catheter, and twice as many of these as are needed each day. The urethra should be irrigated before catheterization. A good lubricant for urethral instruments should be aseptic, and easily miscible with water. Vaseline or fat should never be used as a lubricant for catheters, as it adhered to the wall of the bladder and prevented the escape of such micro-organisms as chanced to be in the urethra. The bladder should be filled after instrumentation with formalin solution 1 : 1,000, nitrate of silver in two-per-cent. solution, or potassium-permanganate solution 1 : 1,000. After having been retained in the bladder for three or four minutes it might be permitted to escape. The best internal antiseptic for the bladder was urotropin in doses of gr. viiss.

The Seed and the Soil.—DR. E. L. KEYES said that he could testify to the fact that the bacterium coli commune often existed in the urine in large numbers, and for years, without giving rise to cystitis. A case was cited in which for upward of twenty-five years bacteruria had been present, and had eventually passed away, although during all this time the man had been catheterizing himself and very carelessly at that. In this connection one should not lose sight of the relation between the seed and the soil. When the bladder was atonied, when the circulation was poor, as it usually was in cases of enlarged prostate, when the person had indulged too freely in sexual intercourse, or had refrained therefrom through a long period of sexual excitement, the soil was likely to be rendered favorable for microbic infection. Perhaps the prettiest demonstration of the importance of the soil was the famous experiment of injecting into the ear of a rabbit a micro-organism known to be capable of causing cystitis. The animal being healthy and well, no harm came from this inoculation. Another rabbit was then given a similar injection after one kidney had been bruised by squeezing the loin. The animal developed an abscess of the kidney on that side, but no lesion of the other kidney. Regarding sterilization it seemed to him that all metallic instruments were best sterilized by passing them through the flame of a Bunsen burner, and rubber instruments were best sterilized by boiling. He preferred washing out the bladder with a 1 : 1,000 solution of nitrate of silver after the introduction of instruments. He never used either bichloride or formalin because he had found them irritating, and he would be afraid to use a two-per-cent. solution of nitrate of silver indiscriminately.

Individual Tolerance.—DR. L. BOLTON BANGS said that the vulnerability of the individual varied at different times. He had known one man to carry his catheter in his hat and lubricate it with saliva, and yet he had succeeded in avoiding any serious complications. Another man by careless catheterization had started an attack of cystitis necessitating the use of the self-retaining catheter. While on the commode, this catheter had slipped into the bowl, but the man

had fished it out from the mass of fæces and without any hesitation had slipped it back into the bladder. There had been no alarming consequences of this extraordinary act. The directions for insuring cleanliness should be as simple as possible, and every effort should be made to keep the general health at the highest point.

Dr. Eugene Fuller cited a recent case in proof of the improvement that would take place in a cystitis from relieving the condition of atony and improving the general health. He said that the gonococcus might be present for some time and do no harm in the bladder unless a mixed infection should occur.

Bladder Washing a Great Safeguard.—Dr. A. B. Johnson recommended for self-catheterization particularly the use of a special form of rubber catheter, of the coudé pattern, having a solid end. Because of this feature it was easy to pass the instrument in cases of marked prostatic enlargement. The patient should be directed to boil the instrument for a few minutes before use, and to wash the hands and glans penis before introducing the catheter. It did not seem to him of great importance what antiseptic solution was used for washing out the bladder after instrumentation, but it was of the first importance that this washing be done.

Dr. Ferd. C. Valentine spoke of the utter innocuousness of the gonococcus when thrown into the healthy bladder by intra-vesical irrigations. He had adopted the plan of filling the urethra with a glycerin emulsion of iodoform before introducing an instrument, for the reason that slight injuries were inflicted upon the urethra, and in this way these abrasions were at once cleansed and made aseptic. Several cases had been reported recently in which stones had formed in the bladder around hairs which had been carried in on catheters.

Dr. B. Lapowski said that Wassermann had discovered the gonococcus pure in the tissues of the bladder. Three other investigators had detected the gonococcus in urine drawn from the bladder aseptically. The fact that so many cases of gonorrhœa did not have cystitis was no argument that it could not occur.

Dr. A. Jacobi spoke of soil and vulnerability. He said that, as a rule, micro-organisms would not gain entrance through sound and healthy epithelium, or when the circulation was sufficiently active. Tuberculosis of bone was almost invariably found at first in the ends of the bones, and where the epiphysis was growing—in other words, where there were congestion and slow circulation. It was because of these that the tubercle bacilli gained a foothold. As long as the bladder was fairly healthy he did not believe cystitis would arise simply from the presence of the bacterium coli, unless these bacteria were virulent as a result of certain special changes going on in the intestine. The bacteria found their way into the bladder either directly or through the blood. When there was very little uric acid and much urea, decomposition was readily set up.

Dr. Otis, in closing, said that he had not intended to say that he used a two-per-cent. solution of nitrate of silver, although this was employed by some. He personally favored a strength of 1:1,000. For the first few days of catheter life it was well to give urotropin internally, and insist upon the patient remaining in bed. So-called gonorrhœal cystitis was almost always the result of other organisms than the gonococcus.

Inebriety.—No single remedy is capable of meeting a wider range of conditions than the Turkish hot-air baths, with free massage.—Dr. T. D. Crothers, *Virginia Medical Semi-Monthly*, October 12th.

Clinical Department.

PERFECT RECOVERY FOLLOWING GANGRENE OF THE SCROTUM AND PENIS.[1]

By EVERARD HAMILTON RICHARDSON, M.D.,

ATLANTA, GA.

Because of its being unique—certainly cases of this character do not very frequently come under the observation of the physician and surgeon of the widest experience and having the largest clientele—this case of exceeding interest to myself (and I indulge the hope that it may prove not less so to this august body of practitioners) is reported.

E. H. T——, occupation bank cashier, native of Georgia, now a resident of Sanford, Fla., personal and family history excellent, was treated there by several physicians. He came to me direct from the Plant System Railroad Hospital located at Sanford, Fla. Summoned by wire on June 8, 1900, I met this patient at the Union Depot at Atlanta, Ga., and found him in a Pullman sleeper almost in a state of collapse, with a pulse of 120 beats per minute, temperature 103° F., and bathed in a profuse perspiration from exhaustion.

I immediately administered gr. $\frac{1}{30}$ of strychnine hypodermically, gave him a drink of brandy, and placed him in the Grady Hospital Ambulance, sending him to St. Joseph Infirmary. There from the patient himself and his friends the following clinical history of the case from its inception was obtained. Upon May 16, 1900, the patient observed a small pimple upon the integument a short distance above the os pubis which was slightly red; shortly afterward the surrounding tissues became swollen and somewhat tender to the touch. In twelve hours from the date of the appearance of this apparently insignificant pimple, the inflammation extended to the penis, where in addition to the general swelling and redness then obtaining, there was intense itching with burning in the affected parts. The pain at no time was severe, but the burning and itching were great. At this juncture, forty-eight hours from the appearance of the initial lesion, the penis turned black and simultaneously the scrotum became involved, and a few hours later also turned dark. The physicians in attendance denominated the malady gangrene. The patient was now placed under an anæsthetic, and the necrotic structures were removed by the surgeons in charge of the hospital.

An examination of this patient, after coming into my charge, revealed the fact that the integument of the penis had been entirely destroyed, the destructive process extending down to the corpora cavernosa and the corpus spongiosum. The crura and suspensory ligaments of the root of the penis were intact, and the glans penis had escaped, as the line of invasion did not extend beyond the corona glandis. Three-fourths of the scrotum had been entirely destroyed by the gangrenous process down to the tunica vaginalis. The spermatic cords, the testes with the epididymis were in good condition, but the testes were entirely bare of covering and were supported only by the spermatic cords.

The penis and testes were thoroughly cleansed with a solution of mercuric chloride 1:3,000, enveloped in ten-per-cent. iodoform gauze; rubber tissue, absorbent cotton, and a double spica bandage were applied. Constitutionally he was supported by the regular administration of sweet milk, beef juice, raw eggs, and peptonoids. He was also placed upon tincture of chloride of iron, and strychnine with tonic doses of quinine were continued. Antiseptic dressings with

[1] Read before the Mississippi Valley Medical Association at Asheville, N. C., October 9, 1900.

the addition of solution of hydrogen peroxide in full strength and a twenty-five-per-cent. solution of balsam of Peru in olive oil were continued daily. There was very grave impairment of the patient's nutrition, emaciation was extreme, and the patient was but little more than skin and bones. His general condition was such at this time as to preclude the propriety of considering any operative procedure. From day to day it was difficult to discern any improvement, but under the régime instituted the patient's appetite and strength slowly improved. The gangrenous process ceased its havoc, and the line of demarcation was clearly established. But not until the lapse of twenty-six days from the time he came under my observation, did I believe it safe to risk the shock of operative interference. For good reasons he was removed from St. Joseph Infirmary to a private house.

At my instance, on July 2, 1900, Dr. W. F. Westmoreland was called in to see this case with me. It did not seem possible that there was left a sufficient amount of the scrotum for an adequate covering for the left testicle. We decided, however, to make the attempt to save both testicles. I regret that owing to a hurried call from the city Dr. Westmoreland did not again see the case after his first visit until the completion of the operation, when the patient presented himself at his office only to show a perfect specimen of restored manhood.

On July 4th, assisted by my son, medical student Everard Dugas Richardson, and by Dr. Pierce M. Butler who administered the anæsthetic, I dissected off the scrotum as high up as possible, using strict antiseptic precautions, and succeeded by pushing up the testes and introducing silkworm-gut sutures and pulling down the scrotum in entirely covering both testes with integument. A small piece of gauze for drainage was left in the centre of the wound, and with the exception of this point perfect union by first intention was secured.

The patient was slow in regaining his wonted strength, but by September 1st his recovery was complete, and on October 1st he was a splendid specimen of physical manhood, strong and robust.

Before giving my conclusions concerning this case, I wish to state that from my own long and intimate knowledge of the family history, morals, and habits of this patient, I am able absolutely to exclude the suspicion of any venereal taint as a causative factor in the production of the lesion. The patient's perfect recovery and his present superb health warrant the elimination of arteriosclerosis, atheroma, chronic nephritis, and diabetes mellitus as etiological factors in the production of the case of gangrene under consideration. The history of the case does not justify the assumption that the gangrene was due to any obstruction of the circulation or to the intensity of the inflammation, because at no time did the inflammatory process run high. We are also able to exclude embolism and thrombosis.

It is well known that there are various causes of gangrene, and that there are various micro-organisms that may be concerned in its production, and it is true that no specific germ producing gangrene has yet been discovered, though I believe its discovery will be made by bacteriologists in the future.

Reviewing the history of this case from its inception, and instituting a careful analysis of the symptoms seriatim as they occurred, I conclude that: The initial cause in this case was an abrasion of the skin at the spot where the small pimple first appeared. This was the portal of entrance of the pathogenic bacillus, the streptococcus erysipelatis, from which infection occurred. Later there occurred a second infection by the cocci of gangrene, rather than that this was a terminal phenomenon of erysipelas.

Fehleisen teaches us that the streptococcus erysipelatis presents distinct differences from the streptococcus pyogenes, and that we never have suppuration in erysipelas except from a mixed infection.

Dr. William H. Welch has recently contributed a most admirable article to the transactions of the Massachusetts Medical Society, showing a collection of forty-six cases of emphysematous gangrene, in all of which Bacillus aerogenes capsulatus was demonstrated to have been present. To me it is a matter of profound regret that no bacteriological examinations were made in the case under consideration. I also lament that I did not have photographs taken in order to demonstrate the local destruction of this patient's genito-urinary apparatus, as well as to portray the perfect recovery after the performance of the simple operation which I have narrated.

A CASE OF CARBOLIC-ACID POISONING, WITH A QUESTION CONCERNING ASPHYXIA.

By H. E. KENDALL, M.D.,
SIDNEY, NOVA SCOTIA.

The patient was a child under two years of age. Pure carbolic acid of unknown quantity had been taken about twenty minutes prior to my arrival. The mouth and throat were white, the face was livid, the pupils were dilated and fixed, and the breathing was stertorous. The child was completely unconscious. This unconsciousness, the mother told me, had come on a very few minutes after the acid was swallowed.

I put a rubber catheter into the stomach and forced in a pint and a half of a solution of magnesium sulphate and brandy. This I attempted to siphon out, but unsuccessfully as the child had just previously eaten a substantial meal. All attempts to produce emesis failed. The child was rapidly getting worse. The pulse was scarcely perceptible, and the respirations were beginning to slow down, when it occurred to me to draw forward the tongue, as I observed considerable sinking of the supraclavicular regions with inspiration. On doing so air entered the chest more freely, the face assumed a better color, and in ten or fifteen minutes the pulse had become decidedly better. Then the child began to cry, and from that on recovery seemed to take place. For a time the breathing would again become bad whenever the tongue was let go; in short, it was exactly like a case of poisoning with chloroform in anæsthesia. The child knew its mother in about two hours. After this the breathing became somewhat croupy, and I prepared to intubate with an O'Dwyer tube, but this did not prove to be necessary. Vomiting occurred when consciousness was returning, and I then saw that but little carbolic acid had got as far as the stomach—at least so I judged from the absence of its odor in the material vomited. The next day I found the child with a burnt mouth, but otherwise pretty well.

From this case I will not generalize, but there are some pretty important facts which I will note:

(1) The child after swallowing carbolic acid was apparently dying very rapidly with symptoms that might reasonably be thought to be produced by the systemic effects of the poison.

(2) These symptoms were not the result of systemic influences; otherwise they would not have disappeared so quickly.

(3) The unconsciousness, dilated pupils, lividity, and heart failure were the result of asphyxia, and asphyxia was the result of the local action of the poison upon the structures about the tongue and epiglottis.

CHYLOUS ASCITES.

By J. W. KALES, M.D.,

FRANKLINVILLE, N. Y.

A MAN, thirty-four years of age, died in this village August 19, 1900. During the latter part of December, 1899, he noticed some swelling of the left scrotum and adjoining parts. This swelling invaded the left lower extremity, and gradually extended into the abdominal cavity, and then extended to the right lower extremity. Many able physicians were consulted. The disease continued uninfluenced by treatment until relief came by death. Several diagnoses were made. About a month before death, the enlarging abdomen interfered with respiration, and tapping was employed to secure temporary relief. On the first occasion about one gallon of fluid was removed. This fluid appeared like rich Jersey milk. When allowed to stand, a thin layer resembling cream collected at the surface. The fluid accumulated quite rapidly, and was removed every four or five days. The writer removed about three quarts the day before death. This was a case of chylous ascites. The most curious part of the case is that no one even suggested chylous ascites until the fluid flowed through the trocar. No autopsy was held, because the writer was suffering from a fractured elbow.

No adequate cause has been assigned. The patient was born and reared near this place. He has lived near here all his life, except a year in Tennessee and a year (1897 and 1898) in the Klondyke. He was somewhat intemperate in the use of alcoholic liquors. It is regretted that an autopsy could not be held, as it would probably have revealed the connection between the lymphatics and the abdominal cavity.

UNIVERSAL ANKYLOSIS.

By H. A. ELLIOTT, M.D.,

BARNET, VT.

DURING my summer vacation my attention was called to a peculiar case in an adjoining town, and for the purpose of investigating it I drove over to see it, thinking its report might be of some interest. It is an extreme case of rheumatoid arthritis, and as I have never seen or heard of such a case before, I should like to have it published.

B. A——, aged forty-four years; white, married, residing in New Hampshire. Parents are both living. The mother is sixty-eight years old, and has slight rheumatic tendencies, but no disablement. The father is seventy years old, and has no rheumatism.

Previous to 1887 the patient had attacks of rheumatism which disabled him partially from the time he was twenty-one years old, and thirteen years ago he was obliged to take to his bed, and ankylosis set in very soon in almost every joint in the body, the process being accompanied by great pain.

I saw the patient in August, 1900, after the thirteen years of helplessness. The right arm and hand were across the chest, the left was on the abdomen, the legs were semiflexed at knees, the hips were partially flexed at the pelvis; the cervical vertebræ were all in their anatomical position, and the jaw was set. All of the above joints were immovable except for a very slight motion of the right hip and of some of the phalanges. There was not enough motion to enable the patient to help himself in the least.

Some of his teeth were removed to permit of the introduction of food for which he has a good appetite. He is now without pain as a rule. The heart's action is nearly normal, the bowels act with some regularity, as does the bladder, and his skin is of good color, acting well. There is no muscular atrophy.

P.S. I might add the strangest symptom of all, namely, that although the patient had been utterly helpless for so many years, about one and one-half years ago his wife gave birth to a good, big, healthy boy. Perhaps some of the brethren may attempt to explain it.

PTOMAIN POISONING FROM EATING CHEESE.

By G. LEO HAGEN BURGER, M.Sc., M.D., PH.D.,

HELENA, MONT.

BEING called by a father about 11:30 P.M. to see his family, especially two boys, three and six years old respectively, I found them prostrated, vomiting about thirty times during the interval of two hours, with a flushed head and face, cold extremities, rapid pulse, anxious countenance, cramped muscles of the legs, rigid and hard abdominal walls. The temperature was normal in one, 104° F. in the other. The vomit presented the appearance of finely divided particles of food, cheese, and portions of an apple eaten in the afternoon, several hours before supper-time, when the cheese was eaten by the whole family, including the two boys mentioned. The vomiting set in several hours after ingestion and rapidly increased, being accompanied by the above-related symptoms. A stimulant hypodermic of strychnine, morphine, and camphor was given, and the stomach washed out with a warm antiseptic solution, repeated several times in two hours. Hot sheets were wrapped about them, and over the epigastric region mustard pads were applied. Hot broths only were given for several days. During this time the little fellows had sufficiently recovered to be up and about the room. Now having learned of the eating of the cheese previous to the vomiting, and reasoning from the symptoms presented, I made a diagnosis of ptomain poisoning due to toxalbumins. Therefore specimens of the vomit, cheese, and diarrhœal discharge were collected, and an examination was made of each. Remembering the experiments of Husemann and Fleishmann I proceeded to examine the vomit for copper and zinc sulphate which is sometimes added in the centrifugal machines, to prevent heaving, as the dairymen call it. The result proved negative. No poison could be found except an amount of fatty acid which gave the cheese a strongly acid reaction, identical with the so-called German sausage poison, of which I had examined a number of specimens while in the health department in New York.

I have previously examined cheese, both with the microscope and chemically, without finding any cause whatever for the physiological effects and disturbances produced when eaten. The sample was rich in fats and proteids; its taste had nothing unusual about it, yet when eaten it caused vomiting and purging and made the consumer ill. Some was given to several kittens and to several dogs, with the result that two of the kittens were very ill, one in spasms the first time, from which she recovered; the second time, about a week afterward, the cheese had absolutely no effect on the same animal, but made the other one vomit and seem quite ill and depressed for four or five hours; it refused all food for several days. To one dog large draughts of water were given to see whether the water and the excessive amount of gastric juice and the acidity characteristic in the canine would have a modifying effect upon the poisonous substance or bacteria. The dog seemed to enjoy being fed with cheese until our supply was exhausted, and remained well. The second dog, which had no water, presented vomiting and retching for hours, abdominal pain, purging for

several days, and paralysis of the posterior extremities, leading me to think that perhaps lead or tinfoil used in packing the cheese had permeated the crust and that lead poisoning was present; but my mistake was soon apparent after testing the specimen. A small quantity of substance given off was precipitated by an alkali, soluble in a few drops of ether, and on adding platinum chloride a yellowish flocculent precipitate resulted, indicating an alkaloid similar to that which is found in ripened cheese undergoing putrefying process. Of the chemical nature of this pyrotoxin we know very little as yet, although intense symptoms of toxæmia ensue if it is ingested. It is frequently found in oysters, milk, and cheese. The urine was dark and high-colored; the fæces contained nothing abnormal save undigested fat, the diet of the boys being largely milk, and the bacterium coli commune and bacterium lactis aerogenes.

Surgical Suggestions.

Contraindications to the Use of the Decinormal Salt Solution may be summed up as follows: Atheroma, arteriosclerosis, cardiac degeneration, bad valvular disease, and recent cerebral apoplexy.—Dr. Ed. Smith, *American Practitioner and News*, October.

Conservative Operations on Ovaries and Tubes.—It is advisable to do conservative operations in all cases in which the ovaries and the tubes are not hopelessly diseased in all parts of their structure, except on patients who are near the menopause, on patients who have pronounced gonorrhœa of long standing, and on the rare cases of malignant disase.—Burroge.

Ingrowing Toe-Nail.—Remove all pressure from the nail by cutting away a piece of the shoe. Disinfect with hydrogen dioxide until no more "foam" appears. Apply a drop of strong solution of cocaine to the base of the ulcer. Apply a drop of Monsell's solution to the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released by the retraction of the hypertrophied tissue.—Kinsman.

Prognosis of Dislocations at the Shoulder.—Don't be too quick to promise a perfect result after dislocation at the shoulder. The circumflex nerve passes closely around the surgical neck of the humerus, and often takes serious and lasting offence at the traumatism. Paralysis of the deltoid prevents abduction of the arm, permits gradual elongation of the capsular ligament, and recovery from it is usually slow and incomplete; hence the wisdom of a lagging prognosis.—William V. Morgan.

Cancer of the Uterus.—Total extirpation of the uterus should be practised in all cases of cancerous lesions of the uterus of whatsoever part, for this procedure gives the maximum guarantee against the return. Total extirpation of the uterus through the vagina deserves the preference over the other methods.—Demitri De Ott, of St. Petersburg.

Wounds of Veins are of importance both on account of the immediate and the remote effects they produce. The immediate troubles which have to be dealt with are (*a*) dangerous hemorrhage and (*b*) entry of air into the vein. The remote troubles are chiefly thrombosis, embolism, pyæmia, and œdema of the part corresponding to the distribution of the vein. The immediate troubles are more common in connection with operation wounds, the remote troubles in accidental wounds.—Cheyne and Burghard.

Cervical Metritis.—It is necessary neither to consider nor to treat cervical metritis as an isolated affection, since the greater number of cases are complicated by a similar affection of the fundus. The term "cervical metritis" should in the majority of cases be replaced by that of cervical endometritis, since the inflammation of the mucosa is only rarely accompanied by a lesion of the deeper tissues.—Mendes de Leon, of Amsterdam.

Mouth and Pharynx Wash.—

℞ Acid. benzoic..... 3.
Tinct. eucalypt..... 15.
Alcoholis..... 100.
Ol. menth. pip 0.75
M. S. Add enough to half a wineglassful of water to produce distinct clouding. Hold in mouth for one minute.

—Warren.

Tuberculosis of the Testis.—Early castration has returned to favor and is justified on the following grounds: 1. It is the most speedy form of treatment for this local tuberculosis. 2. It is a rapid treatment, which avoids pulmonary and meningeal complications. 3. It prevents the spread of tuberculosis to the genital tract of the opposite side. 4. It causes a recession of the concomitant vesiculo-prostatic lesions.—R. Baudet.

A New Injection Treatment for Bone Tuberculosis.—

℞ Sodii sulphuret..... 1.46
Sodii chloratis..... 16.40
Sodii phosphat..... 0.50
Sodii carbonat..... 0.70
Potass. sulphuret 0 94
Aq. destill 80.0
M.

This fluid is injected into the sinuses by means of a cannula attached to a Pravaz syringe. The sinuses are distended with the fluid, which is injected until a reflow occurs. After all the sinuses are thus cauterized a ten-per-cent. iodoform-ether injection is made, and a moist Priessnitz applied.—C. Trunecek.

Vasectomy for Enlarged Prostate.—Reginald Harrison, F.R.C.S., in the *Medical Fortnightly*, May, deduces the following conclusions: (1) That vasectomy has been shown to be specially effectual in the earlier stages of prostatic enlargement in effecting shrinkage of the gland and the restoration of the natural process of micturition. (2) That in cases in which there is evidence to show that the gland has in the course of degeneration assumed the form and structure of a fibrous growth the conditions are such, provided the symptoms of obstruction warrant the adoption of other measures than catheterism, as to render some form of prostatectomy preferable to either vasectomy or castration. (3) That when, as a consequence of sudden or protracted prostatic obstruction, secondary changes have taken place in the bladder itself, in the form of sacs, pouches, or trabeculation, the possibility of restoring its natural function by any means is extremely unlikely. Under such circumstances the induction of shrinkage of the enlarged gland will do good in affording a readier access for the catheter and in removing spasm, pain, or hemorrhage connected with this or other similar process.

Indications for Operation in Hernia.—Not every case of hernia requires operation. In reducible hernia, when the patient can wear a truss with comfort and without inconvenience to him, in the performance of his necessary duties, operation for hernia is superfluous. In irreducible hernia, an operation is usually indicated. The fact that the hernia is almost sure to increase in size, the pain and dragging, and weakness, associated with the presence of the hernia,

diminish the patient's ability for work, and become indications for operation. In obstructed and strangulated hernia operation is indicated and should be performed as soon as the diagnosis has been made. In children under four years of age, unless the hernia is strangulated, incarcerated, or irreducible, operation is to be avoided, for it has been found that a large proportion of these patients recover within the first three or four years by the application of a suitable truss.—CHARLES B. PARKER.

Stitch Abscesses.—Don't always blame your suture material whenever you get a so-called stitch abscess. The great majority of these are not at all due to the sutures, but to the fact that there has been an infection due to the existence of noxious organisms in the deeper cutaneous layers, which cannot always be removed by the most thorough and most conscientious scrubbing. Careful washing with green soap and alcohol, followed by a large wet dressing of bichloride applied the day before an operation, will greatly diminish the number of these generally miscalled stitch abscesses.—HOWARD LILIENTHAL.

Therapeutic Hints.

Flatulent Dyspepsia.—

℞ Magnesia,
Phosphate of lime,
Powd. charcoal,
Sulphur sublim.....āā 10
M. S. Teaspoonful in water as required.

Or—

℞ Olei creosoti..... ♏ xij.
Spir. tenuioris..... ʒ ss.
Ammonii benzoatis..... ʒ ij.
Glycerini..... ʒ vi.
Infusi caryophylli.....q.s. ad ʒ vi.
M. S. Teaspoonful in water.

—RICHARDSON.

Hemorrhoids.—

℞ Vaseline..... ʒ i.
Muriate of cocaine..... gr. xij.
Morphine..... gr. vi.
Calomel..... gr. xl.
M. S. Apply locally night and morning. If itching is severe apply menthol, one drachm to an ounce of vaseline.

—JOSEPH M. MATTHEWS.

Prostatic Disease.—

℞ Tr. aconite..... ʒ i.
Tr. gelsemium..... ʒ ij.
Antipyrin..... ʒ ij.
Ergotol..... ʒ i.
Water.....q.s. ad ʒ iv.
M. S. Give a dessertspoonful in a wineglass of water every one, two, or three hours.

—EUGENE R. CORSON.

Spray for a Room Occupied by a Consumptive.—Free ventilation should be used in addition.

℞ Guaiacol..... ʒ ij.
Eucalyptol..... ʒ ij.
Menthol..... ʒ i.
Thymol..... ʒ ss.
Ol. gaulther..... ʒ vij.
Ol. menthæ pip.....q. s. ad fl. ʒ i.

—DR. O. F. BAERENS, *Regular Medical Visitor*, October 15th.

Cerebro-Spinal Fever.—In the treatment of cerebro-spinal fever, as in so many other diseases, various remedial agents are lauded, but until the value of something new has been more clearly demonstrated, good nursing, easily assimilable nutriment in plenty, a quiet and darkened room for the patient, intelligent hydrotherapy, and the bromide of potassium will be, it seems to me, our mainstays.—DR. F. B. MAYNARD, *Albany Medical Annals*, November.

Dysentery.—

℞ Potass. et sod. tart., sat. sol..... ʒ ij.
Tinct. opii. camph..... ʒ ss.
Syr. rhei aromat.....q.s. ad ʒ iv.
M. S. Two teaspoonfuls every hour.

This should be given until two or three evacuations are produced. In later stages, when there is much blood and tenesmus, a suppository is recommended of

℞ Ext. opii..... gr. i.
Ext. hyoscyami..... gr. ij.
Ext. belladonnæ..... gr. ½

to be repeated if necessary.—R. B. HOPKINS.

Nutritive Enemata after Abdominal Section.—

℞ Peptonized milk..... 30 c.c.
Whiskey..... 30 "
The whites of two eggs.
Common table salt..... gr. xxiv.

The rectum should be thoroughly irrigated every morning with warm physiological salt solution, which will keep it clean so that the nutritive enemata will be better absorbed.—HUNTER ROBB.

Indications for the Use of Lavage.—(1) To remove undigested food and foreign matters; (2) to cleanse the mucous membrane for the action of medicines; (3) to check hemorrhage; (4) to give antiseptic douchings; (5) for sedative purposes; (6) for general tonic effects upon the gastric mucous membrane and parietes.—DR. J. M. G. CARTER, *Medical Fortnightly*, October 10th.

Reflex Vomiting in Children.—

℞ Olei absinthii..... gtt. ½
Sodii bicarb..... gr. ij.
Aq. menthæ piperitæ..... ʒ i.
S. Every half-hour until relieved.

—DILLON BROWN.

Dysentery.—

℞ Olei ricini..... ʒ i.
Tincturæ ipecacuanhuæ comp..... ʒ ij.
Sacchar. albæ..... ʒ ij.
Pulveris acaciæ..... ʒ iij.
Aquæ menth.....q.s. ad ʒ iv.
M. S. A teaspoonful every two to three hours when the case is first seen.

This tends to relieve the irritability of the inflamed bowel and carries away the concretions of fæces.—E. H. BAYLEY, *Medical Dial*, October 10th.

Condylomata.—

℞ Calomel..... 30 parts.
Boric acid..... 18 "
Salicylic acid..... 5 "
S. Apply three times a day.

—*Gazette Hebdomadaire de Médecine et de Chirurgie*, July 22d.

Lobar Pneumonia.—Pain is the most prominent symptom, and the relief of it is important. The most rational thing to do is to immobilize that side of the chest and apply warm, soothing poultices. If necessary, a small amount of morphine may be allowed. The treatment is practically expectant, but the following may be allowed in some cases:

℞ Tincturæ aconiti..... ♏ i.
Tincturæ digitalis..... ♏ iij.
Spiritus frumenti..... ʒ iij.
S. This is to be taken every three hours.

—LOUIS F. BISHOP, *The Medical Times*, October.

Hiccup.—Even in cases of the gravest organic lesion, it is sometimes possible to relieve the symptom by some of the following methods: (1) Holding the breath for fifteen or more seconds; (2) administration of quick-acting emetics (though too great depression from these must be thought of), or peristaltic stimulants; (3) hot applications over the cervical

spine and diaphragmatic area; (4) firm pressure upon the phrenic nerve over the scalenus anticus muscle; (5) rapid swallowing of small pieces of ice; (6) the use of such antispasmodic drugs as morphine, or chloroform, in full dosage (the bromides, camphor, belladonna, valerianates, antacids, and musk have been advocated, but are commonly too slow in action for severe cases); (7) traction on the tongue, intermittently applied, as in chloroform poisoning; (8) galvanization of the phrenic nerve; (9) faradization of the epigastric region (Erb); (10) forcible elevation of the hyoid bone by the attendant's fingers (Nothnagel); (11) the method described by Kingscote, in his work on asthma, 1899.—*The Medical World*, November.

Carbonic Acid.—In an article on the "Carbonic Acid Aerostat" (*Journal of Surgical Technology*, August) Dr. A. Rose sums up as follows: Carbonic-acid gas exerts a feeble antiseptic action and also an anæsthetic action, especially upon mucous membranes. It exercises a stimulant action on the enfeebled heart. By the operation of the law of the diffusion of gases it increases the amount of oxygen in the pulmonary alveoli. It relieves dyspnœa and cough, and disembarrasses the respiration. It stimulates ulcerated surfaces to healthy processes of repair; while for diagnostic purposes it forms an easily available method of inflating the cavities of the body.

Variola.—The treatment of variola is based upon the same scientific principles that dictate the rational treatment of all other pathological processes going on in the human system. It consists in sterilizing, so far as possible, the invading microbe, sustaining the vital force with all the necessary food, and in keeping all of the secretions and excretions as near normal as possible.—E. E. Gilmore, *Kansas City Medical Record*, September.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 10, 1900:

	Cases.	Deaths.
Tuberculosis	250	159
Typhoid fever	90	27
Scarlet fever	93	4
Measles	45	0
Diphtheria	212	27
Laryngeal diphtheria (croup)	11	7
Cerebro-spinal meningitis	0	6
Varicella	15	0
Smallpox	1	0

Meningitis Complicating Pneumonia, with Recovery.—Dr. T. C. Ely (Pennsylvania *Medical Journal*, October) reports a case of meningitis complicating pneumonia, with recovery; the points of more than usual interest he summarized as follows: (1) The recovery from pneumonia complicated by meningitis, a rare issue. (2) The striking clinical resemblance to cerebro-spinal fever in its late phenomena, which calls forth the query whether lumbar puncture is absolutely essential to differentiate such cases or whether the clinical history is not sufficient. (3) The mixed form of pneumonia, of croupous type, becoming lobular; a pneumonia which might have terminated by crisis as a croupous form had not pyogenic organisms co-operated in a soil likely tuberculous. (4) The family history, personal history, and some aspects of the clinical course point to tuberculous meningitis, which, contrary to the general belief, ended in recovery. This leads to the question, May not some local cases of tuberculous meningitis terminate favorably, just as local tuberculosis in other parts of the body may heal? (5) In any case on account of the uncertainty of diagnosis of tuberculous meningitis, the scientific inaccuracy of calling a case tuberculous meningitis because it terminates fatally, or some other form of meningitis because there is recovery, is open to criticism. (6) No case of meningitis should be despaired of simply because there is a suspicion of tuberculous infection.

Fracture of the Spine.—Dr. Walter Lathrop, in the Pennsylvania *Medical Journal*, October, summarizes an article on this subject as follows: (1) In partial lesions we should operate. (2) When the lumbar region is involved, with lesions of the cauda equina, operation offers the best chance for recovery. (3) In fracture of the spinous process, lamina, or entire neural arch, operation is demanded. (4) Should immediate operation not be done, and we wait six to eight weeks, with the result that paralysis of the bladder and bowels continues, with cystitis and severe bed sores present, we may be sure that nature cannot relieve the case, and an operation is not only indicated, but demanded.

Gingivo-Stomatitis with Albuminuria.—Dr. Charles Lee, in the *British Dental Journal*, September, concludes an interesting article on this subject as follows: (1) Ulcerative membranous stomatitis in patients suffering from Bright's disease is a polymicrobic septic stomatitis which may be classed with the variety of septic stomatitis described by Dr. Lebedinsky; (2) such a stomatitis may pass through various conditions; it may be erythematous, then ulcero-membranous, or even gangrenous; (3) the stomatitis of albuminuria commences almost always on a level with carious teeth or infected stumps; (4) those who are suffering from albuminuria may safely avoid stomatitis if their mouths are kept in a hygienic condition.

Physical Training—its Range of Usefulness in Therapeutics.—Dr. B. E. McKenzie, in the *Canadian Journal of Medicine and Surgery*, November, summarizes briefly as follows: (1) Special physical training is rendered necessary for the young by the conditions of modern life. (2) The work is made special and scientific, having for its object the development and strengthening of every organ and faculty of the patient. (3) As we conduct this work it is mainly educative. Force from without the patient, however, is largely employed with such as cannot of their own volition correct the deformity. To name the affections benefited in the order in which good results have been observed I would place them thus: Hysteria, roto-lateral curvature, flat foot, round shoulders, pigeon-breast, flat chest, anæmia, paretic weakness, chorea, imbecility. In this list I have placed hysteria first, because I have not known any method by which this condition, generally so unsatisfactory to deal with, has been brought so successfully under control.

The Operative Treatment of Complete Prolapse of the Uterus in Elderly Women.—Dr. A. Lapthorn Smith, in the *Maritime Medical News*, October, comes to the following conclusions: (1) That a woman suffering from procidentia or prolapse of the uterus out of the body, though not in much pain, is yet very miserable. (2) She is in some danger, owing to the cervix becoming ulcerated and the ulceration frequently becoming cancerous. (3) It is a mistake to think

that she is too old to undergo an operation because she is forty-five, or fifty, or even seventy-five years of age. (4) Elderly women support the operations remarkably well; the operations require only from twenty to thirty minutes for performance; and even if we knew that the patients were going to live only a year afterward, it would be well worth while operating for the sake of the comfort it affords them. (5) The operation of vaginal hysterectomy is especially easy and safe in these cases, having not more than one per cent. of mortality and probably not even that. (6) Ventrofixation gives good results when the uterus is short, but fails when it is long. In some cases the vagina and bladder pull down and elongate the cervix after the fundus has been firmly attached to the abdominal wall. (7) In either case, whether hysterectomy or ventrofixation be employed, it should always be followed by an anterior and posterior colporrhaphy. (8) These patients should remain in bed for six weeks after their operation, in order to give time for the new tissue to become strong.

Tertian Æstivo-Autumnal Parasite and the Quotidian Parasite.—The tertian æstivo-autumnal parasite differs from the quotidian parasite in the following particulars: (1) During the hyaline stage—the rings are larger, being from one-eighth to one-fourth the size of the infected corpuscle; the signet-ring shape; the sluggish amœboid motion; the clear-cut and refractive outline; the less wrinkled and lighter green infected corpuscle; the occurrence of only one parasite in the infected corpuscle. (2) During the pigmented stage—the larger size, one-half of the corpuscle; the pigment ring forms; the continuance of amœboid motion; more sharply defined and refractive, and the granular protoplasm; the finely granular pigment, which is motile; the occurrence of only one parasite in a corpuscle, and the lighter-colored, seldom crenated infected corpuscle. (3) During the segmenting stage—the occurrence of segmentation outside the corpuscle; the number of segments, ten to fifteen. (4) The larger, more narrow, more deeply pigmented crescents seldom showing a double outline. (5) The cycle of development, forty-eight hours.—Dr. Charles F. Craig, in *Journal of the Amer. Med. Ass'n*, November 3, 1900.

Spinal Anæsthesia.—I would limit the indications for its applications at the present moment: (1) To adults, and to reasonable persons who have good self-control, thereby excluding children, hysterical patients, and the insane; (2) to patients in whom the methods of local or regional anæsthesia are inapplicable; (3) to patients suffering from emphysema, advanced asthma, chronic bronchitis, and other respiratory affections in whom a general inhalation anæsthetic is absolutely contraindicated; in advanced cardiac cases with degenerative lesions, I would fear the possible depressing effects of the injection and excitement on the circulation. (4) In the majority of cases in which the painful part of the operation is not likely to be prolonged beyond one hour and a half, as I would be averse, in the present state of our knowledge, to repeat a second cocainization or to increase the total dose of the cocaine to more than 2 c.c., especially in exhausted subjects. — Dr. Rudolph Matas, in the *Phila. Med. Journal*, November 3, 1900.

Interstitial Keratitis.—The points that require emphasizing are: (1) That treatment supports the belief, now almost universal, that interstitial keratitis in childhood is a manifestation of hereditary syphilis; (2) that it may be the only recognizable manifestation of the hereditary taint, though other well-known manifestations are often present as well; (3) that prolonged constitutional treatment is necessary to obtain a satisfactory result—the result being nearly, if not always, satisfactory if constitutional treatment is thorough and prolonged; (4) that constitutional treatment by mercury is not only very well borne but the general health is improved under it; (5) that the second eye may begin to have an attack, and even proceed to have a severe one in spite of the fact that the system has been for months under the influence of mercury, which has, indeed, been the cause of the recovery of the eye first attacked as well as of increased bodily health, and which will, if persevered in, cause the recovery of the second eye also.—Dr. J. Lockhart Gibson, in *The Australasian Med. Gazette*, September 20, 1900.

Papilloma of the Larynx in Children.—Dr. Edward T. Dickerman, in the *Journal of the American Medical Association*, October 27, 1900, offers the following conclusions in an article on this subject: (1) That papilloma of the larynx is, especially in this country, a rare disease; (2) in a number of cases papillomata undergo spontaneous cure; (3) intralaryngeal methods should always be tried first, unless dyspnœa is pronounced, when tracheotomy should be done at once; (4) after tracheotomy, intralaryngeal methods should be tried; (5) patients should wear a tube six months after the growth has disappeared; (6) thyrotomy should be considered only as a last resort.

A Few Points on Appendicitis.—Dr. J. Henry Barbat, in the *Journal of the American Medical Association*, October 27, 1900, concludes as follows: (1) That over ninety per cent. of cases of true appendicitis which are not operated on have recurrences; (2) that we should operate on all cases of chronic recurrent appendicitis, if possible between attacks; (3) that in practically all cases which end fatally after operation we find at least forty-eight hours between the onset of the attack and the time of operation, therefore it is reasonable to assume that if these cases had been operated upon inside of the forty-eight hours the patients would have been cured; (4) that as soon as a diagnosis of acute appendicitis is made, we should operate immediately; (5) pulse and temperature are not to be taken into consideration in making a diagnosis of appendicitis; (6) in acute cases the diagnosis must be based on the symptoms which were manifested during the first three or four hours.

Cancer of the Uterus and its Treatment.—Dr. Stansbury Sutton, in the *International Journal of Surgery*, November, states his views from the standpoint of a mathematical problem as follows: Given one hundred cases of uterine cancer treated by vaginal hysterectomy; result, four deaths, ninety-six recoveries. Credit the latter with an average of two years of life after the operation; thus we have the result: gain in human life, one hundred and ninety-two years. Given the same one hundred cases subjected to vaginal hysterectomy from two to three years earlier, prior to the advent of cancer; result, deaths, four: recoveries, ninety-six. Credit the latter with an average of ten years of life after the operation; thus we have the result: a gain of nine hundred and sixty years of human life. Take the difference in these results, viz., seven hundred and sixty-eight years of human life, in favor of prophylactic operating, viz., operating before cancer has become installed.

Gall-Bladder Surgery.—Dr. A. Vander Veer in the *International Journal of Surgery*, November, makes the following final conclusions: (1) An early diagnosis of cases. (2) In suppuration of the bladder, with adhesions, a most thorough examination should be made from within by digital exploration, and the use of the probe for any possible deep-seated calculi. (3)

In prolonged operations upon the common duct or hepatic ducts, when adhesions are present and it is difficult to close the incision after removal of the calculus, drainage through the peritoneal pouch, by means of the lumbar stab, is advisable. (4) When the patient is suffering seriously from cholæmia, with marked ecchymotic spots over the body, intense itching, and an examination of the blood discloses a septic condition, an operation is not to be encouraged. It is too late, in the vast majority of cases, for the patient to recover. (5) General practitioners, as well as the surgeon, should place more earnestly before the patient and friends the dangers of repeated attacks of gall-stone irritation resulting in cancer of the ducts, stomach, or liver.

Tuberculous Lesions from a Clinical Point of View.—Edmund Owen, M.B., F.R.C.S., in the *Canada Medical Record*, September, makes the following statements: "(1) Chronic inflammation of a joint in a child or young person is always tuberculous—except in those very rare cases in which it is due to hereditary syphilis or osteo-arthritis. (2) Tuberculous inflammation may completely destroy a joint, and then leave it solidly and soundly synostosed, without the surrounding tissues or the skin having been implicated. (3) If tuberculous granulation tissue breaks down into a fluid, that fluid is not pus, and the collection is not, properly speaking, an abscess—unless, by bad fortune or by worse surgery, it has become infected by septic micro-organisms. (4) The fluid collection is not to be treated as an abscess—by incision and drainage, that is—but is to be opened and emptied and scraped and cleansed of its unhealthy lining of granulation tissue. Then the wound in the skin is to be completely closed by sutures; firm pressure is to be evenly applied and the part is to be kept absolutely at rest. It is no news to most of you to be told that the success attending this line of treatment leaves, as a rule, little to be desired, or that for this important advance in practical surgery we are chiefly indebted to the patient researches of our friends with the smock-frocks and the guinea-pigs. (5) I have failed to discover that iodoform is of any peculiar value in the treatment of tuberculous lesions. At any rate I have long since discarded it, and I have not noticed any falling off in the results of my practice in consequence. Iodoform is an irritant and a poison; it is apt to be septic, as germs can grow upon it, but I have no knowledge of the truth of the statement that mushrooms have actually been cultivated on it."

Field Hospitals in War.—Mr. Frederick Treves, who we understand will shortly publish a book upon ambulances, the subject-matter of which will have been gathered from his experiences in South Africa, read a paper at the late meeting of the British Medical Association treating of army medical matters in general. He said that the South African campaign had shown the value of a large mobile field hospital (taking three hundred to six hundred patients), which should immediately follow the colors; such a hospital to have its own transport. The campaign had also demonstrated the fact that the field hospital was no place for the female nurse, but that in the base hospitals they might be increased with advantage. When nurses were lacking, the orderly had to take their places, and he is an almost impossible person. He had to do manual labor as pitching tents, digging trenches, and then nurse complicated cases. Mr. Treves also urged the formation of an army medical reserve, by inducing recently qualified medical men to agree to serve for three years, one with the colors and two with the reserve. This reserve would be called upon only in time of war, and would enable the army medical department to avail itself of a body of specially trained medical men, who, from its point of view, would have the advantage of an army training. He was of the opinion that the services of men thus trained would be more valuable than those of a number of civilian surgeons chosen more or less irrespective of their qualifications. Mr. Treves' plan might commend itself to the adoption of our military authorities.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 9, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Colorado, Arapahoe Co.	October 13th to 25th	5	
Elber Co.	October 19th	1	
Saguache Co.	October 14th	1	
District of Columbia, Washington	November 3d	1	
Kansas, Wichita	October 27th to November 3d	3	
Kentucky, Lexington	October 27th to November 3d	2	
Louisiana, New Orleans	October 27th to November 3d	2	
Massachusetts, Taunton	October 27th to November 3d	1	
Michigan, Detroit	October 27th to November 3d	1	
Ohio, Cleveland	October 28th to November 3d	1	
Oregon, Portland	October 31st	1	
South Dakota, Sioux Falls	Six months ended October 31st	1	
Utah, Salt Lake City	October 27th to November 3d	5	
Tennessee, Memphis	October 27th to November 3d	1	
Smallpox—Foreign.			
Bohemia, Prague	October 13th to 20th	2	
England, Liverpool	October 13th to 20th	2	
West Hartlepool	October 13th to 20th	1	
France, Paris	October 13th to 20th	..	11
Greece, Athens	October 6th to 13th	1	
Italy, Resina	October 24th	*	
Mexico, Mexico	October 14th to 21st	1	
Vera Cruz	October 20th to 27th	3	1
Russia, Moscow	October 6th to 13th	1	2
Odessa	October 13th to 20th	4	4
Warsaw	October 6th to 13th	..	18
Scotland, Glasgow	October 19th to 26th	29	2
Spain	October 13th to 20th	..	1
* Black smallpox reported present.			
Yellow Fever—United States.			
Mississippi, Natchez	November 6th	1	
Yellow Fever—Foreign and Insular.			
Colombia, Barranquilla	October 13th to 21st	2	2
Bocas del Toro	October 24th	1	
Cuba, Gibara	October 16th	..	1
Havana	November 2d	16	1
Sagua	November 2d	1	
Mexico, Mexico	October 14th to 21st	..	1
Tampico	Oetober 21st to 28th	3	1
Vera Cruz	October 20th to 27th	12	7
Cholera.			
India, Bombay	October 9th	..	30
Karachi	October 7th	3	2
Plague—United States.			
California, San Francisco	October 13th to November 6th	..	4
Plague—Foreign and Insular.			
Germany, Bremen	November 6th	*	
India, Bombay	October 2d to 9th	..	87
Japan, Kobe	November 2d	†	
Osaka	September 11th to October 7th	25	20
Mauritius, Port Louis	September 7th	7	4
Scotland, Glasgow	October 19th to 26th	10	
* One death from plague, a seaman on a vessel from Buenos Ayres. † Reported present.			

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS FOR STUDENT AND PHYSICIANS. By John H. Musser, M.D. 8vo, 1,105 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

MALARIA. By Prof. Angelo Celli. 8vo, 275 pages. Illustrated. Longmans, Green & Co., London, England.

TERAPIA DELLE MALATTIE DELL' INFANZIA. By Prof. Cesare Cattaneo. 16mo, 507 pages. Ulrico Hoepli, Milano, Italy.

F. BERGER'S FRENCH METHOD. 16mo, 190 pages. Paris, France.

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Original Articles.

ON APPARENT TUMORS OF THE ABDOMEN.*

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ABOUT two years ago I had the opportunity to present to the Society of Physicians of the German Hospital and Dispensary of New York a patient with a tumor in the epigastric region, that could be distinctly and plainly palpated. I remarked at the time that, in spite of the resistance which could be easily felt, we did not have to deal with a possible neoplasm, but that a somewhat abnormal position of the abdominal viscera was the cause of this deceptive tumor.

Now, gentlemen, these cases of apparent tumors as they may be called—*i.e.*, tumors easily palpated, not caused by real neoplasms, however, but by an abnormal position of the abdominal viscera or an abnormal condition of parts of the abdominal muscles—are not so very rare, and it would perhaps be of interest to investigate them a little more closely. We do not find much in medical literature upon this subject.

Da Costa[1] says in his book on "Medical Diagnosis," p. 653: "The muscular contractions are not always confined to one muscle, or to the whole of one muscle, and when irregular, and particularly when associated with tympanitic distention of the intestine, give rise to most of the so-called 'phantom tumors' of the abdomen. These swellings are perplexing and are constantly mistaken for serious abdominal tumors. The history of the case, the absence of grave constitutional symptoms, the most frequent occurrence of the tumefaction in females, especially in hysterical females, and the usually coexisting constipation, furnish us with valuable signs of distinction."

Potain[2] has accurately described a case of phantom tumor caused by an anomaly of the abdominal muscles. In connection with this subject he has called attention to the faulty conclusions that may be arrived at as the result of palpation of the abdomen. He expresses himself as follows: "The abdominal wall seems to be specially adapted for examination by palpation, but auscultation, which in the study of thoracic affections renders us such great services, fails us altogether in the recognition of diseases of the abdominal organs, whose functions are performed silently. Moreover, palpation, which usually teaches us so much, may at times give rise to singular illusions; and among all the errors, liable to be thus made, none are perhaps more frequent than those caused by phantom tumors (fausses tumeurs) of the abdomen."

Santovecchi[3] describes the case of a young, nervous girl, who was suffering from a swelling in the right hypochondrium that was looked upon as a tumor of the liver, or the gall bladder, or the pylorus, or the omentum. Since the tumefaction caused a good deal of pain to the patient, and as she readily consented to an operation, an exploratory incision under anæsthesia was made. No tumor was, however, found, all the organs being in normal condition. As far as the subjective symptoms were concerned, the result of the operation was a very good one. Santovecchi explains this apparent tumor by a spasmodic contraction of the abdominal muscles.

Whereas in the cases just cited the apparent tumors were caused by the abdominal muscles, the tumefaction in a case described by Brault and Rouger[4] was caused by a prolapsed liver. The diagnosis was, however, made only after a laparotomy.

Bertrand,[5] cited by Brault and Rouger, in the year 1896 collected from literature twenty cases of phantom tumors.

Glénard[6] frequently mentions in his well-known work, "Ptoses Viscérales," that the impression of the presence of a tumor, caused either by an anomaly of the abdominal muscles or by the "corde colique transverse," may be gained in some cases of enteroptosis. He says: "There are patients in whom the exaggerated sensitiveness of an underlying organ provokes, at the approach of the hand, a contracture of the abdominal muscles; this is especially observed in the right rectus muscle near its costal attachment. One would suspect with such patients that the left lobe of the liver is the seat of some inflammation or congestion; the muscle contracts to protect the organ from the pain which pressure would produce. This is another variety of what have been called 'phantom tumors' of the abdomen." He does not, however, enter further upon a differential diagnosis.

The apparent tumors which form the subject of this paper do not include cases of swellings caused by a prolapse of the whole liver, kidneys, or spleen. Kidneys and spleen, owing to their characteristic shape, are nowadays hardly ever confounded with tumors. A prolapsed liver might more easily give rise to an erroneous diagnosis. This, nevertheless, may also be avoided if the occurrence of movable liver is kept in mind. The apparent tumors which I will speak of here relate to swellings found either directly in the epigastrium or the left or right hypochondrium, and have nothing to do with a neoplasm of whatever kind. (I have purposely avoided the expression "phantom tumor," as the latter is usually applied to tumefactions occurring principally in the lower part of the abdomen in hysterical subjects, and caused by a high degree of meteorism. With these our cases have nothing in common.)

In most cases of this kind a resistance may be detected by palpation, sometimes even by inspection, lying between the ensiform process and the umbilicus, presenting a rather smooth surface and frequently pulsating. The size of these tumefactions varies between that of a hen's egg and a man's fist. Light percussion always elicits a dull sound over the area of resistance.

These apparent tumors are not exactly of frequent occurrence. I have collected the cases ob-

*Read before the German Medical Society of New York, October 1, 1900.

served by me since 1897, and have tabulated them as follows:

TABLE OF THE TOTAL NUMBER OF CASES OF APPARENT TUMOR, OBSERVED BY ME FROM 1897 TO SEPTEMBER, 1900.

Year.	Total Number of Patients.	Males	Females	Total Number of Apparent Tumors.	Apparent Tumors.	
					Males	Females
1897.....	1,430	835	604	8	3	5
1898.....	1,447	872	575	12	3	9
1899.....	1,741	1,006	735	11	2	9
1900 (till Sept. 11th)	1,418	809	609	11	..	11
Totals...	6,045	3,522	2,523	42	8	34

Out of 6,045 patients, therefore, there were 42 cases of apparent tumor, 8 occurring in men and 34 in women. Expressed in percentages the total number of cases of apparent tumors was 0.69 per cent. of persons suffering from digestive disturbances. Of these the men constitute 0.23 per cent. and the women 1.35 per cent. of all cases. As an example I will now relate the histories of a few characteristic cases of this kind, tabulating the rest of the cases.

CASE I.—July 14, 1899. Mrs. R. W——, thirty-five years of age, has for the last three years been a great sufferer from digestive disturbances. She complained principally of slight pains in the epigastrium, occurring about one-half hour after eating and lasting two to three hours. In the beginning the appetite was good. The patient was much troubled with eructations. The bowels were generally sluggish. About two years ago she became worse. The pains increased in severity and used to occur immediately after eating. She now began to vomit, but never threw up blood. Her physician at that time made the diagnosis of ulcer of the stomach, and the patient was put on a strict diet, extending over six weeks. She recuperated very slowly, but never was altogether free from pain in the region of the stomach. About two months after her treatment for ulcer she was able to take light food and to attend to her domestic duties. Her appetite at this time was capricious, her bowels were constipated, her sleep was restless, and her digestion was accompanied by disagreeable sensations in the abdomen. The patient remained in this condition until about May, 1899, when a turn for the worse took place. Again vomiting occurred immediately after meals, associated with rather intense pains in the region of the stomach. She could not take sufficient food and began to lose in weight. A chemical examination of the stomach, undertaken by her physician, showed a high degree of hyperchlorhydria. The usual method of treatment for this condition (alkalies) remained, however, without appreciable results, and the patient had to take considerable doses of morphine daily. In this condition she remained until she consulted me in July, 1899. She then told me that during her last illness she lost twenty pounds. Her physician, who was kind enough to direct the patient to me, sent her to me with the diagnosis of a probable carcinoma of the stomach on the basis of an ulcer.

Status præsens: The patient is of slender stature, looks somewhat emaciated and anæmic. Her tongue is slightly coated. The thoracic organs are intact. Inspection of the abdomen reveals a slight protrusion of the size of a hen's egg lying in the linea alba at the beginning of the second third, between the ensiform process and umbilicus (Fig. 1). On palpation the epigastrium is rather sensitive to pressure. At the place described a resistance may be felt which has quite a smooth surface and is slightly dull on percussion. The position of the stomach can easily be made out by the splashing sound. The stomach reaches about a hand's width below the umbilicus. Transillumination also shows a high degree of gastroptosis. The area of transillumination of the stomach extends from about two fingers above the navel to about a hand's width below it. The protrusion (resistance) described above, lies about 4–5 cm. above the small curvature of the stomach. The patellar reflexes are present. The urine is free from albumin or sugar. The examination of the stomach one hour after Ewald's test breakfast shows HCl + = 48; T. Ac. = 68. In the fasting condition the stomach is empty.

A diagnosis of gastroptosis, hyperchlorhydria, and probably old ulcer of the stomach was made. A carcinoma was excluded with great probability, as the protrusion lay above the stomach and presented quite a smooth surface.

As I was unable to confirm the probable diagnosis of carcinoma made by the physician in charge, the latter was very much dissatisfied with my opinion, and wrote me a letter to that effect. A year later, however, the patient was in a much better condition than when she first came to me. It is therefore safe to assume that carcinoma was not present.

CASE II.—April 8, 1898. Dr. F. D. A——, physician, forty years of age, has been suffering for a year from rather severe digestive disturbances. At first he used to complain of slight pains in the stomach one and a half hours after eating, together with frequent eructations of gas and at times regurgitation of a strongly acid fluid. Constipation was present in a high degree. Later a material loss of appetite developed and the pains in his stomach began to appear earlier (about one-half hour after eating). He began to lose steadily in weight, became weaker, and was unable to attend to his professional duties. The patient consulted several physicians, who all declared his trouble to be a very serious one. Carcinoma was universally suspected. A noted surgeon discovered a tumor in the gastric region and advised immediate operation. Before the patient followed this advice he concluded to get also my opinion. I found the following condition: A very much emaciated and cachectic-looking man with pale lips. Examination of the thoracic organs revealed nothing abnormal. On palpating the abdomen an oval resistance, of the size of a small hen's egg, was felt above the umbilicus, lying more to the right side (Fig. 2). It had a smooth surface, moved a little with respiration, and gave on slight percussion a dull sound. The stomach was quite large, the lower curvature reaching three fingers below the navel; a splashing sound could easily be elicited. The epigastrium was somewhat tender on pressure. The patellar reflexes were present. The urine contained neither albumin nor sugar.

The examination of the stomach one hour after Ewald's test breakfast gave the following results: The stomach contents consisted of a watery liquid containing only fine particles of roll. Other food remnants were not resent. HCl + Ac = 72.

Although the small tumor described above could be plainly felt I still remained in doubt about its nature, whether I had to deal with a real neoplasm, or an apparent tumor caused in this case principally by the abdominal muscles. I advised treatment suitable for a case of atony of the stomach with hyperchlorhydria. The patient received alkalies and was put upon a liberal diet. He improved visibly. Seven months later, on November 16th, he came to me again. He then looked strong and healthy, and told me that he had gained thirty-five pounds and had not been suffering lately from any digestive disturbances whatsoever. On examination of the abdomen, I found that the resistance which formerly could be easily felt had disappeared.

CASE III.—January 4, 1898. Mrs. J. P. B——,

about fifty-four years old, has suffered for about ten years from dyspeptic symptoms. Her appetite was at times capricious, her sleep was restless and disturbed by dreams, the bowels were inclined to be constipated, a slight feeling of oppression in the region of the stomach was felt at times shortly after eating, but none of these difficulties was of a serious nature. In 1897, however, the patient began to suffer from more pronounced symptoms. There was nearly total anorexia, and soon after every meal intense pains in the epigastrium developed. Associated with this was vomiting; the latter, however, occurred only occasionally (once in eight to fourteen days). The patient was treated by several able colleagues, and was put on a strict diet. At first she lived on an exclusive meat diet for several weeks. As this mode of treatment was not crowned with success, she was put upon a strict milk diet. But even this does not seem to have exerted any favorable influence. The patient lost constantly in weight. During the last five to six months she had been on the following diet: Breakfast: Two pieces (30 gm.) of toast and a cup of clear, weak tea. Lunch: Extract of one pound of meat, three pieces (45 gm.) of toast, clear tea; only one of the pieces of toast buttered (5 gm.). Dinner: Same as lunch. I purposely give the amount and kind of food according to the patient's statement. The amount of food taken in twenty-four hours contained six hundred and nineteen calories. No wonder that considerable subnutrition resulted. When the patient came to me she stated that she had lost fifty pounds during the last year. She complained of a feeling of extreme weakness, dryness of the mouth, vertigo, intense pains after the slightest amount of food taken, and obstinate constipation.

Status præsens: A tall, stately woman; is emaciated in the highest degree. The skin over the arms can be lifted in large folds. The color of the lips and cheeks is pale. The tongue is much coated. Except for a slight presystolic murmur at the apex of the heart the thoracic organs are normal. Examination of the abdomen reveals considerable pain on pressure over the epigastrium. The large curvature of the stomach reaches nearly to the os pubis, whereas the smaller curvature lies somewhat above the umbilicus. A splashing sound can easily be produced in the stomach. The right kidney can be palpated in its entirety and is movable in the fourth degree. Two fingers below the ensiform process, in the epigastric region, a prominence of the size of an apple can be demonstrated (Fig. 3). It has a smooth surface. The generative organs show nothing abnormal. The patellar reflexes are present, and the urine contains neither albumin nor sugar. Examination of the stomach one hour after Ewald's test breakfast shows the presence of free HCl and the absence of food particles from the day previous. A diagnosis of enteroptosis and apparent tumor, caused in this case probably by the left lobe of the liver, was made. The patient was put upon an ample diet and received bromide of strontium. She was told to wear an abdominal bandage and to eat punctually, whether she had appetite or not, and without regard to pains. The patient recuperated quickly and began steadily to gain in weight. She has been well since.

Case IV.—September 14, 1900. Mrs. F——, fifty-two years old, complains since Christmas, 1899, of a feeling of distress in the stomach, occurring about one-half hour after meals and lasting just as long. Her appetite has always been good except during the last three to four weeks. She never vomited and never complained of eructations. The bowels were always more or less constipated. She says that some time ago she partly lost her sense of taste, so that she could not taste salt or vinegar. She also complains about a good deal of salivation, which troubles her very much. Since November, 1899, she has lost thirty pounds.

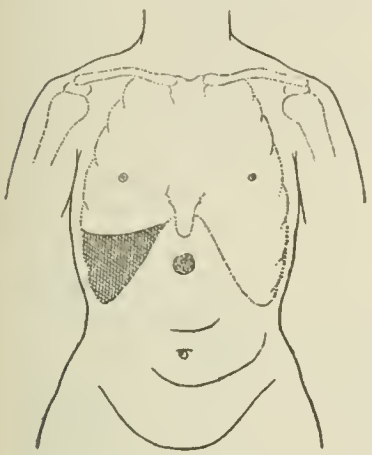

Fig. 1. Mrs. R. W——.

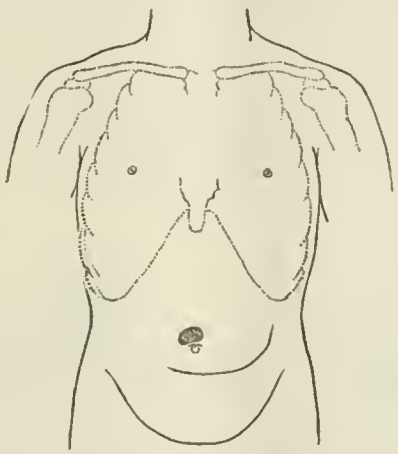

Fig. 2. Dr. F. D. A——.

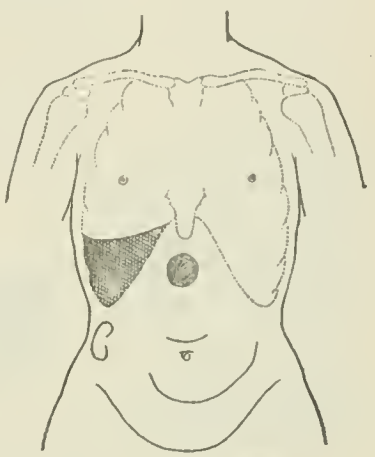

Fig. 3. Mrs. J. P. F——

The patient looks pale and anæmic. The skin of the arm can be lifted in large folds. The thoracic organs are intact. The tongue is only slightly coated. Palpation of the abdomen shows a resistance beginning about one finger to the left of the linea alba and extending three inches to the right, reaching from a little above the lower third between the processus ensiformis and navel to one finger below the umbilicus (Fig. 4). The stomach extends to more than a hand's width below the navel. The right kidney is movable in the third degree, the left in the second. The liver appears to be in a normal position. The glands are not swollen. The patellar reflexes are present. The urine contains neither albumin nor sugar.

Examination of the stomach one hour after Ewald's test breakfast shows the presence of HCl and the absence of lactic acid and of food particles from the previous day.

The high degree of enteroptosis and the fact that the resistance showed a smooth surface caused me to make a diagnosis of apparent tumor. The patient was told to take light food in sufficient quantity, and received condurango with cascara sagrada. About a week later she reported that she had followed the prescribed diet, that she had suffered less pain during this time, and that she had not lost in weight.

The time of observation is too short to exclude absolutely carcinoma, but it seems to me as if we had to deal only with an apparent tumor.

Case V.—September 8, 1900. Mrs. P——, about thirty-three years old, began to suffer from digestive disturbances about eight years ago, soon after marriage. She then lost her appetite, became pale, and

complained of pains in the stomach. She has suffered from constipation since childhood. About five years ago she was operated on for cysts of the ovaries, and both ovaries were removed. She now has a fair appetite, but complains of a good deal of gas and a heavy feeling after eating. Her bowels are slightly constipated. She sleeps fairly well, but has to urinate rather frequently.

Status præsens: The patient looks somewhat pale. The examination of the thoracic organs reveals nothing abnormal. On palpating the abdomen a resistance is felt beginning half-way between the ensiform process and the umbilicus and reaching down to two fingers above the navel (Fig. 5). It extends across the linea alba on both sides for a width of three and a half inches. The stomach extends to a hand's breadth below the umbilicus; the transverse colon can be palpated as a horizontal cord beneath the navel. The right kidney is movable in the fourth degree, the left in the third. The liver dulness does not reach beyond the right lower margin of the ribs. The patellar reflexes are present. The urine is free from albumin and sugar.

The examination of the stomach one hour after Ewald's test breakfast reveals the presence of HCl and a total acidity of 20. A diagnosis of enteroptosis and apparent tumor is made, and the patient is treated according to the usual methods for enteroptosis (bandage, ample food, iron).

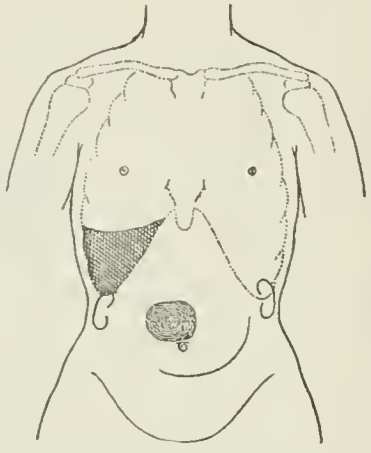

Fig. 4.—Mrs. A. F——.

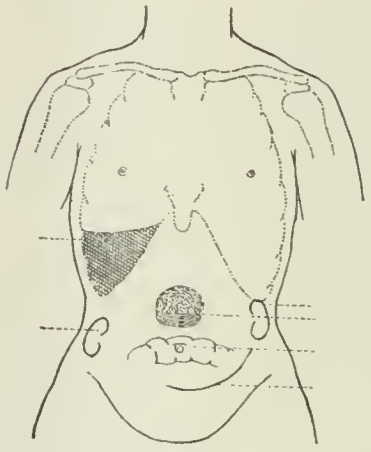

Fig. 5.—Mrs. P——.

Epicrisis. — In considering the cases described we see that in all there was apparently a tumor in the upper half of the abdomen, which could easily have been mistaken for a neoplasm. We now naturally ask ourselves how this apparent tumor is produced. The apparent tumor may be produced: (1) By a prolapse of the left lobe of the liver; (2) by exposure and thickening of the abdominal aorta; (3) by a hypertrophic condition of parts of the abdominal muscles; (4) by adhesions (?) around the small curvature of the stomach.

As I have not had occasion to make an autopsy in any of these cases (since as a rule most of them do well under rational treatment) it is natural that the points enumerated are of a purely theoretical nature, founded, however, upon the results of clinical examinations.

The left lobe of the liver may be the cause of the apparent tumor when it is situated in the median line directly under the ensiform process. Frequently we will get above the resistance, especially at the ensiform process, instead of liver dulness, a more tympanitic sound on percussion. The swelling in these cases is of considerable dimensions (size of a fist).

If the apparent tumor is caused by the aorta, it usually lies deep in the abdominal cavity, close to the spinal column, has an elongated shape, and pulsates strongly. The resistance is usually one to two thumbs in diameter and about two inches in length. Such a tumor is often mistaken for an aneurism.

The abdominal muscles are probably the cause of the tumor if it lies superficially and can be palpated to one side, either right or left, of the linea alba. The resistance usually runs horizontally and measures about one to one and a half inches in breadth by two to three inches in length; its surface is not globular like in tumors caused by the liver, but more flat, although it may be slightly rounded at the sides.

Adhesion of the stomach is hard to determine with certainty. The resistance felt is rather insignificant, small, lying generally in the smaller curvature of the stomach toward the pylorus, and does not show the characteristic distinctions of the three other groups. Whether the tumor belongs to one or other of the four groups is of less importance than the decision of the question, whether in a given case we have to deal with a real tumor (neoplasm) or only with an apparent tumor.

In apparent tumors the swelling presents a more or less smooth surface; at all events there are no distinct nodules. The tumor is not always felt with the same degree of distinctness and sometimes may escape palpation altogether. The tumor occupies the position described above, and a high degree of enteroptosis is usually associated with it. As further aids to diagnosis we have the course of the disease, which usually extends over years; the age (it may occur from the time of adolescence to old age), and the malnutrition, which generally is not of recent date but has lasted for a long time. If all these points are present together, the distinction from a real, malignant neoplasm is easy. Cases, however, occur in which the differential diagnosis is not so easy. In the first place, real neoplasms may at times present some of the characteristics of apparent tumors (*i.e.*, a smooth surface or an elongated shape, etc.); on the other hand, apparent tumors may simulate the characteristic appearance of carcinoma. Thus there may be a rapidly progressing emaciation as in the case of J. P. B—— and other facts pointing more to carcinoma may be present, and yet we have to deal with only an apparent tumor.

The cases detailed above are therefore of greater value because many of them have been observed for several years, and consequently the diagnosis of apparent tumor has been confirmed. If I be permitted to draw conclusions from my experience on this subject, I should say that in general the diagnosis of apparent tumor is easy, but that there are exceptional cases in which the decision, whether we have a real neoplasm before us or not, is exceedingly difficult. In these latter cases there is nothing left for us to do but to wait some time. Observation extending over a few weeks or months will then decide this question. In a neoplasm changes will occur (the swelling grows, the symptoms become worse), whereas an apparent tumor remains unchanged, or its symptoms rapidly diminish under suitable treatment.

Concerning the etiology of apparent tumors, it is evident from an examination of the above cases that they occur principally with pronounced enteroptosis. Great emaciation and the removal of certain abdominal organs (uterus, ovaries, etc.), which are of such great importance in the development and increase of enteroptosis, are also important factors in the development of the picture of apparent tumor.

As to treatment it is hardly necessary to remark that the apparent tumor itself does not need any curative measures. The original disease must be determined

and treated according to rational methods. Two points, however, are to be observed in the treatment of all these cases: First, the attention of the patient must be diverted from the existence of the tumor, or the patient's mind must be assured; secondly, sufficient nourishment must be prescribed and must be persisted in. In a great number of these patients sitophobia is present, and this must be overcome according to the

TABLE OF THE REST OF THE CASES OF APPARENT TUMOR, OBSERVED BY ME DURING 1897–1900.

No.	Name.	Age.	Disease.	Time of Observation.	Situation of tumor.	Remarks.
1.	Mrs. Rosa D.	40	Achylia gast., insuff. mitr., gastroptosis.	April 25, 1897.	Tumor lies 2 fingers below right margin of ribs, extends somewhat horizontally, and is of size of hen's egg.	
2.	Mr. F. W. A.	45	Hyperchlorhydria	June 26, 1897	Tumor lies horizontally in second third of line drawn from ensiform process to umbilicus, is size of small egg, and pulsates strongly.	
3.	Miss Mary S.	50	Gastroptosis.....	Oct. 22, 1897.	Tumor lies in middle between ensiform process and navel, extends horizontally, is about as large as a hen's egg.	Patient was operated on about one year before she saw me. A double nephrorrhaphy was done.
4.	Miss Anna H.	29	Enteroptosis, gastroptosis, ren mob. dext.	July 27, 1897.	Tumor lies under ensiform process, is of a smooth surface, and the size of a fist.	
5.	Mr. Otto S.	42	Gastroptosis, gastralgia.	Aug. 2, 1897.	Tumor lies 3 fingers below ensiform process, extends more to the right, and is about the size of a small apple.	Patient had lost considerably in weight, and I myself made a probable diagnosis of carcinoma of stomach. A year later I had the opportunity of seeing him again, and was astonished at his healthy appearance. Palpation of abdomen revealed at that time no tumor.
6.	Mrs. C. A.	60	Gastroptosis, hepatoptosis.	Aug. 26, 1897.	Tumor lies directly under ensiform process, has a smooth surface, and is of the size of a fist.	
7.	Mr. S. A. G.	48	Gastroptosis, hyperchlorhydria, neurasthenia.	Sept. 16, 1897.	Tumor lies somewhat to the right of the linea alba, 3 fingers under the right margin of ribs, is about the size of a hen's egg.	
8.	Miss Mary W.	23	Enteroptosis, ren mob. dext. (3d degree), gastralg. nervosa.	Nov. 3, 1897.	Tumor lies in median line, halfway between ensiform process and navel, is of elongated shape, pulsates strongly, and is of size of small egg.	
9	Mrs. H. F.	40	Gastroptosis, hepatoptosis, anæmia.	Jan. 15, 1898.	Tumor lies directly under the ensiform process, has a smooth surface, and is of the size of a fist.	
10.	Mrs. J. S. J.	32	Enteroptosis, achylia gastrica.	Feb. 17, 1898.	Tumor lies 3 fingers above umbilicus, runs horizontally, and is the size of a hen's egg.	
11.	Miss Lillie C.	25	Enteroptosis, hyperchlorhydria.	Nov. 22, 1898.	Tumor begins 2 fingers below ensiform process, lies in the median line, has a smooth surface, and is the size of a fist.	The patient was demonstrated in the winter of 1898, in one of the meetings of the Physicians of the German Hosp. and Disp. She had lost then over 30 lbs. She was suffering from vomiting and violent gastralgia. Patient was put on a nourishing diet and received alkalies and bromides. She rapidly gained over 30 lbs. in 3 to 4 months, and has remained free from distress ever since.
12.	Mr. W. J. W.	56	Enteroptosis, neurasthenia.	June 9, 1898.	Tumor lies in the middle between navel and symphysis, runs somewhat horizontally, and is of the size of a small egg.	
13.	Mrs. D. D.	57	Enteroptosis, hyperchlorhydria.	Aug. 9, 1898.	The tumor lies 2 fingers below ensiform process, has a smooth surface, and is of the size of a fist.	Patient had lost considerably in weight. Carcinoma of stomach had been diagnosed by several colleagues. One year later patient had gained 33 lbs. and felt well.
14.	Mrs. A. McG.	60	Dilatatio ventriculi.....	Dec. 3, 1898.	Tumor lies under ensiform process, has a smooth surface, and is of the size of a fist.	
15.	Mrs. Mary S.	43	Gastroptosis	Dec. 7, 1898.	Tumor lies more to the left of linea alba, somewhat above umbilicus, pulsates strongly, and is of the size of a hen's egg	
16	Mrs. W. E. M.	36	Enteroptosis, ren mob. dext.	Dec. 16, 1898.	Tumor begins about 1 to 2 fingers under the ensiform process, extends to just above the umbilicus, and has a smooth surface.	
17.	Mr. John G.	43	Atonia ventric., tuberc. pulm.	Dec. 19, 1898.	Tumor lies almost directly under ensiform process, has a smooth surface, and is about the size of a fist.	
18.	Mrs. McC	40	Enteroptosis, gastritis chron.	Dec. 20, 1898.	Tumor lies close under ensiform process, has a smooth round surface, and is the size of an apple	
19.	Rev. A. B.	57	Achylia gastrica.	Mar. 17, 1899.	Tumor lies under right margin of ribs, has a smooth surface, and is of the size of a small hen's egg.	
20.	Mrs. W. S. L.	56	Enteroptosis, anæmia.	April 25, 1899.	Tumor lies 3 fingers above the navel, extends more to the left, is somewhat elongated, of about the size of a goose egg, and pulsates strongly.	
21.	Mr. Marvin W.	27	Enteroptosis, ren mob. dext., hyperchlorhydria.	April 29, 1899.	Tumor lies to the right of the linea alba, under the margin of the ribs, is oval, and of the size of a hen's egg.	
22.	Miss L. P.	37	Enteroptosis, ren mob. dext., gastralgia.	May 8, 1899.	The tumor starts in the beginning of the second third of a line drawn from the ensiform process to the umbilicus, extends on both sides of linea alba, and is about the size of an apple.	
23.	Miss L....	33	Enteroptosis, ren mob. dext.	July 2, 1899	Tumor lies in left epigastrium close below margin of ribs, and is of the size of a goose egg.	
24.	Mrs. Gertrud S.	34	Ren mob. ut. (r. 3d, l. 2d degree).	Nov. 21, 1899.	Tumor lies beneath umbilicus in the region of the abdominal aorta, has an elongated shape, is of the size of a large hen's egg, and pulsates strongly.	
25.	Miss Ida U.	30	Enteroptosis, atonia ventr.	Nov. 27, 1899.	Tumor lies between ensiform process and navel, is of the size of an egg.	
26.	Mrs. J. R. B.	44	Enteroptosis, ren mob. ut. (r. 4th, l. 3d degree).	Nov. 29, 1899.	Tumor lies about in the middle between ensiform process and navel, and has the size of an egg.	
27.	Mrs. Josefine L.	29	Neurasthenia.....	Nov. 29, 1899.	Tumor lies 2 to 3 fingers above navel, extends more to the right of the linea alba, and is of the size of a large fist.	Double nephrorrhaphy, extirpation of uterus and both ovaries.
28.	Mrs. Lizzie H.	40	Enteroptosis, ren mob. dext.	Dec. 20, 1899.	Tumor extends to the right of the linea alba, lies 2 fingers above navel, and is nearly the size of a fist.	
29.	Mrs. Nora H.	30	Enteroptosis, ren mob. dext. (3d degree).	Mar. 21, 1900.	Tumor lies in the second third of a line drawn from the ensiform process to the navel, extends more to the left, and is about the size of an apple.	
30.	Miss Hattie C.	33	Enteroptosis, hepatoptosis, ren mob. dext. (4th degree).	April 1, 1900.	Tumor lies in median line, occupying second third of line drawn from ensiform process to navel, and is about the size of an apple.	
31.	Miss Alice M. B.	36	Enteroptosis.....	April 17, 1900.	Tumor lies somewhat to the right of the linea alba in the middle between ensiform process and navel, and is of the size of a large hen's egg.	
32.	Miss Olga L.	27	Enteroptosis, hepatoptosis (slight), ren mob. dext. (3d degree).	May 2, 1900.	Tumor lies 1 to 2 fingers above navel, extends more to the left than the right of the linea alba, and is of the size of a goose egg.	
33.	Mrs. E. W.	34	Enteroptosis, ren mob. ut. (r. 4th, l. 3d degree).	May 12, 1900.	The tumor lies 2 to 3 fingers below left margin of ribs, and is about the size of a goose egg.	
34.	Miss S....	24	Enteroptosis, hepatoptosis, ren mob. dext. (3d degree).	May 23, 1900.	Tumor lies to the left of linea alba in the middle between ensiform process and navel, and reaches to within 1 to 2 fingers above the latter.	
35.	Miss Mary G.	25	Enteroptosis, ren mob. ut. (r. 3d, l. 1st degree).	June 1, 1900.	The apparent tumor lies in the median line, 2 fingers above the navel, and is about the size of a goose egg.	
36.	Miss (Dr.) Florence W.	33	Enteroptosis, ren mob. dext. (2d degree).	Aug. 18, 1900.	Tumor lies on right side of linea alba, a little above umbilicus, and is about the size of a hen's egg.	
37.	Mrs. Rosie B.	40	Enteroptosis, ren mob. dext (4th degree), gastralgia	Sept 11, 1900.	Tumor lies in lower third, between ensiform process and navel, and extends to both sides of linea alba.	

principles laid down in my article on the diet of dyspeptics.

If both these indications are thoroughly met the main object has been accomplished, and a favorable result will soon follow.

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MYASTHENIA GRAVIS WITH CLINICAL REPORT OF CASE.

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CLINICAL Report of Case: The patient whose history follows came to me September 27th of this year through the courtesy of Dr. W. T. Montgomery, whom she had consulted for ocular disorder.

Miss A. B——, aged twenty-nine years, teacher, family history good, regular habits, happy in family and social relations, work congenial; always enjoyed good general health prior to present illness. She is of nervous temperament, but not an extreme example of that constitutional state, and has average endurance in both bodily and mental exercise. The skin is naturally clear, the body plump, and the tissues are firm.

About sixteen months ago, after having attended social functions rather freely during several months preceding, involving considerable loss of sleep, the patient was quite rapidly overtaken with a feeling of profound muscular exhaustion upon comparatively slight exertion; she could only with the greatest difficulty use her arms and legs, and could scarcely walk across the room or keep her arms raised in combing or doing up her hair. Diplopia and ptosis speedily became quite troublesome, the former being aggravated when the patient was in strong sunlight. Her voice soon became very distinctly nasal and her articulation thick and imperfect. She felt that the voice and speech changes resulted mainly from excessive weakness and fatigue in the tongue. When commencing to talk, if not tired, her voice and articulation would sound natural and no sense of exhaustion or effort would be felt; but soon the distressing symptoms would make their appearance and develop quite rapidly, till she could go on no longer. The muscles of mastication became so weak and tired while eating that she was often unable to finish a meal, though still quite hungry. There was occasional and not very severe palpitation, never globus or dyspnœa. There was sometimes slight humming in the ears. Occasionally there were slight frontal headache and pains shooting through the whole left side of the body; but all these latter symptoms were very infrequent and comparatively trivial. The mucous membranes of the mouth and nose became very uncomfortably dry at times. The hair and scalp have also been very dry and the hair has fallen out quite badly, but the skin generally has remained in good condition. Appetite, digestion, sleep, and menses are satisfactory. She suffers from habitual constipation, which is now somewhat aggravated.

There had been no mental depression further than what might naturally be expected as a result of discouragement incident to such an illness; no unnatural irritability, disturbance of the intellectual faculties or feelings at any time; no difficulty in holding the attention upon a given subject, nor amnesia, confusion of ideas, etc., as are so often seen in neurasthenics. The patient denied the possession of any irregular and unnatural appetites, propensities, or impulses.

Within a week or two after the symptoms appeared she became unable longer to continue her work, and then spent several months resting, much of the time in the open air and surrounded by favorable hygienic influences. A marked improvement took place, so that after a rest of four months she resumed her school work; but in a few weeks her former symptoms returned and have persisted with some variations, or perhaps more properly, partial remissions, down to the present time. She has not been able to do her hair for six months and usually after a short walk has not strength enough to cross her legs when sitting. The symptoms referable to the tongue and muscles of mastication—the difficulty of speech, nasal voice, and indistinct utterance—remain as above described; and so, indeed, do all of the other symptoms, except the diplopia and ptosis, which are less frequently observed and less severe than at first. She has lost about fifteen pounds in weight since her illness began.

Examination: The patient is highly intelligent, cheerful, well developed, well formed, well nourished, and of medium size; the skin is soft, elastic, and of good color; the hair is rather thin and dry, but I could discover no obvious defect in the condition of the scalp; the reflexes are all normal but lively; voluntary motion is possible in every direction and there is no inco-ordination; the strength is greatly reduced, the patient scarcely being able to raise the indicator of a dynamometer to 5°, when 50 to 60° would be about the average for a healthy woman of her age and development. I did not make an electric test nor did I try to exhaust the knee jerks by repetition, for reasons personal to the patient. There was no suspicion of muscular atrophy or deformity anywhere; neither was there any disorder of sensation of any kind; no pain or tenderness upon pressure was discoverable, and indeed I sought in vain for any evidences of hysteria.

The eyes were tested by Dr. W. T. Montgomery, of this city, the same day that I made my examination, and according to his notes which he kindly gave me, after some slight astigmatism was corrected vision was normal. The pupils, which were quite large, reacted well to both light and accommodation, though rather slowly. The fundus was normal. There was diplopia when the eyes were strongly turned either to the right or to the left, due evidently to weakness of the abducens. There was slight but distinct ptosis, equal on both sides, and the movements of the lids were notably slow. The visual fields were not tested. I regret that this was not done and also that an attempt was not made to exhaust the faradic excitability of the muscles. To my mind, however, the diagnosis is entirely clear in the absence of these tests.

Historically I will only say that the names of Wilks and Erb are connected with the earliest reported cases of this disease, which were recorded in the late seventies. Since then the subject has attracted considerable attention on the part of European neurologists; at least I judge so from the numerous references to it in the "German Year-Book of Nervous Diseases."

In this country, Dr. Archibald Church has for several years past given abstracts of cases in the "American Year-Book." He has also given a concise description of the disease in his text-book. Dana likewise describes it in his work, as also does Joseph Collins

quite elaborately in the "Twentieth Century Practice." These authors, in common with many others, designate it by the term "asthenic bulbar paralysis." Cases have likewise been reported as "bulbar paralysis without any discoverable anatomical change." In the light of extended experience and observation these names appear misleading and possibly they have not yet taken so firm a position in literature that they may not be replaced. So far no anatomical changes have been discovered; hence the propriety of adopting a name which shall embrace the most salient clinical features, while it does not convey any unwarranted intimations as to the seat of the disease and its pathology. For these reasons I prefer the term I have used.

The name myasthenia gravis has been employed by Campbell and Bramwell in a recent article in *Brain* (summer number, 1900), in which they present a critical digest of the disorder, with an appendix containing notes of sixty cases, many completed by autopsy. I have drawn freely upon their article in the preparation of this paper. So far as I am aware, it is the most complete presentation of the subject at present available. They say that hitherto only four cases have been published in America; so that either the disease must be comparatively rare or its salient features have not been widely and clearly understood.

Etiology: Thirty-five and twenty-four are the customary ages for men and women respectively, while their liability is about equal. Some prostrating disease, as influenza, typhoid fever, etc., quite frequently precedes the affection, and anæmia is often met with in women. Alcohol and syphilis are not of especial significance; neither are hereditary influences.

Onset: This is usually gradual, but occasionally the disease develops very rapidly, almost suddenly. Most frequently the first symptom is the characteristic weakness of some of the muscles supplied by the cranial nerves, the external ocular muscles, the muscles of mastication and the tongue; but it may begin in the extremities, the muscles that support the head, or, indeed, any of the functionally grouped voluntary muscles.

Symptoms: One of the most prominent characteristics of the disease is the profound exhaustion, amounting in many cases to temporary but almost complete paralysis of the functionally grouped voluntary muscles upon comparatively slight exercise. The muscular symptoms are essentially bilateral, though there may be considerable variation between the two sides. Ptosis and diplopia are very common in the earlier stages. Irregular nystagmoid movements may be induced by lateral conjugate deviation of the eyes, and as might be expected, the eyes tire easily. The pupils are usually unaffected. The muscles of mastication are very constantly implicated and often among the first to be complained of. The patient often fails to finish his meal, especially the evening meal, on account of fatigue in these muscles, and the jaw is not infrequently supported by the hand during mastication and while the patient is at rest. The muscles of the upper face are likely to be as much affected as those of the lower, while these latter suffer much less than in developed cases of true bulbar paralysis, so that the facial expression differs very much from that observed in the latter disease. The muscles of deglutition are often weak, and liquids regurgitate through the nose on account of weakness of the palate. The pharyngeal reflex is often diminished or absent, hence the liability to choke while eating. I did not examine the larynx nor the pharynx in the case above reported, but the patient did not complain of choking or difficulty in swallowing. Paralysis of the laryngeal muscles is rare, but a feeling of aching and stiffness in the tongue, especially after eating and speaking, is common. Characteristic alterations in speech are almost invariable. It becomes nasal shortly after the patient begins to speak, and the words grow more and more indistinct until he is finally forced to desist from sheer exhaustion. Inability to support the head is common, because the muscles concerned are in constant action when the patient assumes an erect posture, and are therefore constantly the seat of the peculiar exhaustion. When the respiratory muscles become involved, they cannot recuperate by rest, and thus a fatal result may ensue. In like manner any of the voluntary muscles may suffer, giving rise to symptoms as various as their normal functions. The symptoms may almost wholly and unexpectedly remit for several days together.

Emotional excitement, cold weather, and menstruation have each been known to aggravate the complaint.

The muscles react normally to electricity, but are speedily exhausted by the faradic current in many cases. After rest they respond again. This is known as the myasthenic reaction. Atrophy is never present in pure cases and the various skin reflexes and muscle jerks are not materially disordered. The sphincters are never disturbed and there are no trophic or sensory changes. Muscular inco-ordination has never been observed.

Morbid Anatomy and Pathology: Though in the sixty cases above referred to seventeen came to autopsy, some of which were examined by highly skilled investigators, who employed the most modern microscopical technique, in only six cases was anything found which could possibly account for the symptoms.

Many plausible and ingenious hypotheses have been advanced in explanation of the symptoms, but they cannot profitably be discussed within the limits of this paper. I will say in this place only that the fact that in severe cases the symptoms sometimes vanish quite rapidly and for an indefinite period, and that even in fatal cases no anatomical lesion can be demonstrated, suggests a toxic influence powerful enough to inhibit function, but of such a nature as to produce no demonstrable changes in the organic elements concerned. Also the nature and distribution of the symptoms point to the bodies of the peripheral motor neurons as the main seat of the attack of this toxin. The test recently made by Dr. Farquhar Buzzard,[1] of London, upon a typical case appears to demonstrate conclusively that the paralysis is wholly due to a failure of nervous energy. In this test he simply exhausted the muscles to faradism and found that they still reacted perfectly well to galvanism; that is to say, temporary degeneration reaction was present, which of course always implies functional integrity of the muscles and at the same time suspension of the functional activity of their peripheral motor neurons.

Diagnosis: This is very important, because, unless the physician happen to have the salient features of the disease in mind, the frequently satisfactory condition of the general health of the patient, together with the nature of the symptoms, is not likely to suggest any immediate or even remote danger to life.

The diagnosis is easy when the peculiar exhaustion appears in the external ocular muscles, the tongue, and the muscles of mastication, and when the peculiarities in speech are manifest.

But, especially in the early stages of slowly developing cases of myasthenia gravis, the frequent and almost infinite variety of combinations between general neurasthenia and hysteria have to be reckoned with, because in some of these affiliations profound muscular exhaustion after comparatively slight exercise is not uncommon. Neither is a peculiar loss of power (stiffness) in the tongue and even other muscles supplied by the cranial nerves uncommon, while ptosis

[1] Foot note in Campbell and Bramwell's article previously referred to.

and diplopia are frequently met with. In these conditions, however, the underlying state is usually apparent, and besides, while there is some slight similarity in the symptoms themselves, the differences are quite conspicuous. There is more of a general and lasting prostration and less of a temporary paralysis. The ptosis, diplopia, and stiffness of the tongue and indeed of various other muscles supplied by the cranial nerves are, for the most part, independent of exercise.

An association between myasthenia gravis and hysteria may present very great difficulties of diagnosis in which, if the former disease were not detected, an apparent simple hysteria might prove fatal.

When the disease is far enough advanced to suggest bulbar palsy or polioencephalitis, the course, the distribution of the weakness, and the presence of muscular atrophy in these latter instances are significant.

Prognosis: Of the sixty cases above referred to, twenty-three ended fatally, the average duration of the disease being one and a half years. Paralysis of the respiratory muscles resulting in asphyxia is usually the essential cause of death—a fact which greatly increases the gravity of any sort of pulmonary disorder in these patients. Some patients improve and all symptoms disappear for months or even years, while others recover permanently. The proportion of these latter will, I believe, be much increased when the disease comes to receive general recognition.

Dr. Hall reports a typical case in *Brain* (summer number, 1900) in which a woman of forty-four died quite suddenly of this disease from failure of the respiratory muscles four months from the rather rapid onset. The post-mortem findings were negative, though a thorough microscopical examination was made. This case improved very much for a few weeks, after the disease had lasted two months, under isolation, overfeeding, electricity, and massage, but grew worse again while these measures were still being employed.

Treatment: I cannot speak of the treatment from personal experience. Many drugs have been tried, but so far none has been found with any specific influence over the disease. Buzzard tried in two cases strychnine hypodermically in gr. $\frac{1}{6}$ doses daily without benefit; but I should like to see nitrate of strychnine tried hypodermically in gr. $\frac{1}{15}$ doses daily, as has been done with considerable success in certain cases of progressive degeneration of the peripheral neurons (progressive muscular atrophy of the spinal form). Of course all general measures calculated to maintain a high standard of the general health, consistent with the symptoms, should be employed. If, finally, the stomach tube has to be used, the paralysis of the muscles used in swallowing demands the exercise of special caution.

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The Relationship between Cancer and Tuberculosis.—I. D. Nagle gives a list of investigators who have studied the relationship of these two diseases. Burdel declares that the appearance of cancer and tuberculosis in the same family cannot be due solely to accident, but must be the result of an intimate relation between the two diseases. Croizet reports twenty-four cases and A. Gouin forty-two cases of coincidence of cancer and tuberculosis. The author has in the past ten years studied the family history of more than seven hundred tuberculous patients, and found that in eighty cases the pre-existence of cancer in one or more parents was discovered. He firmly adheres to the belief expressed by Carmichael in 1809, that "carcinoma and tuberculosis belong to the same family of diseases."—*The Medical Examiner and Practitioner*, October, 1900.

NOTES ON TYPHOID FEVER, WITH A REPORT OF FIFTEEN CASES.

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The necessary limitations of a paper for the Medical Record, as well as the great extent and interest of the subject, to say nothing of its familiarity, preclude my attempting an exhaustive discussion of typhoid fever or of giving a complete résumé of its literature. I shall content myself, therefore, with a very cursory report of fifteen cases that came under my care during my present term of service at the Mercy Hospital, making observations upon them and upon the subject in general.

Etiology.—The causative factors in this fever are undoubtedly the Eberth bacillus, a susceptibility or predisposition, or a want of resistance on the part of the patient, or a combination of all these circumstances. True, this bacillus conforms to but two of the three conditions laid down in Koch's law, namely, it is always present in the disease, it grows outside of the body, but inoculations of its cultures have, so far, failed to produce the disease. Nevertheless, the experiments of Dr. L. Remey seem to have disposed of the claims of the colon bacillus as a causative factor and established Eberth's as the only true cause.

Incubation.—Until very recently the incubation period of typhoid fever was not definitely known, but the experiments of Vaughn and others have established it as from two to eight days, and the infection may be carried on the person or clothing for eight weeks.

Diagnosis.—The prime difficulties in the prompt diagnosis of typhoid fever in private practice are its insidious onset, and the time permitted to elapse before a physician is summoned. We thus lose the great advantage of observing the typical range of temperature in its development. These circumstances are aggravated by the atypical form and the remittent character in which it sometimes presents itself. This atypical form is due either to a difference in the dosage of the infecting germs, to mixed infection, a difference in the resisting-power of the patient, or to all these combined. Finally, the extent of the bronchitis or other initial complication may be a factor in its causation. Be this as it may, in hospital practice we are nearly always deprived of the benefit of the observation of its early symptoms, and frequently have but a very incomplete history, and that often entirely untrustworthy. There is scarcely one of the acute infectious diseases so protean in form or so difficult of diagnosis in the early stage as typhoid fever. If it is distinguished for one thing more than another, it is for its atypical rather than regular classical form. In the words of a great author, "Clinically the disease is marked by fever, a rose-colored eruption, diarrhœa, abdominal tenderness, tympanites, and enlargement of the spleen; but these are extremely inconstant, and even the fever varies in its character." In pneumonia we have always the dulness on percussion, and the increased fremitus; in scarlet fever, the angina, rash, and fever. But in typhoid fever there is not a single symptom invariably present, not one of the classical or pathognomonic symptoms but may be absent in a given case, even the fever itself, and we may have an afebrile typhoid. In addition to the symptoms before referred to, we have those of lesser importance, as epistaxis, cephalalgia, prominent and sensitive abdomen, typhoid tongue, gurgling, and others that will readily occur to the reader. Since I refer to most of them in another place, I need not waste space here with their further enumeration.

Widal Reaction.—Thanks to the labors of Pfeiffer,

Elsner, Widal, and their co-workers, the last few years have witnessed a great advance in our ability to diagnose typhoid fever. This is due to what is known as Widal's test, or reaction, and depends upon the known behavior of the Eberth bacilli in the presence of an immunized or specific blood or blood serum; namely, they lose their motility, clump together, and sink to the bottom of the liquid, the supernatant fluid becoming comparatively clear. Pfeiffer was the first to notice these phenomena taking place in the human body. It remained for Widal to apply it to typhoid fever outside of the body, to simplify it and make its application practicable. I am aware that there are those who question both the utility and the constancy of this reaction, who assert that it is neither confined to typhoid fever, nor conclusive of it, nor is it invariably present; and finally, that it is present in many other diseased conditions. It is true that many circumstances may exist in an organism affected with typhoid, such as mixed infection and other conditions not yet well understood. These conditions may affect the reaction two or three times in a hundred, but, making all due allowance for such cases, its importance cannot be overestimated. The fact that Widal, by its use alone, diagnosed five hundred cases without an error, should be a sufficient answer to such objections. Let me here quote the words of Widal in his last paper on this subject: "A positive reaction should be considered a sign of certitude of typhoid fever. A negative one furnishes a probability against it, but only a probability." Furthermore, Pick found the reaction only in typhoid fever. In the "American Year Book for 1898," pages 31 and 32, is presented one table of 174 cases of typhoid fever with all positive, and 164 cases of non-typhoid with 151 negative, reactions; another table contains 2,283 cases of typhoid with ninety-five per cent. of positive, and 1,350 non-typhoid with 98.4 per cent. of negative, reactions. Such statistics, supplemented as they are by the firm support of Fränkel, W. H. Welch, Stewart, Wilson, Liebermeister, Pfuhl, and Johnson and McTaggart, should be enough to establish the Widal test as the great, I might say the almost certain, test for typhoid infection. This list could be multiplied indefinitely with names of the most eminent men in the medical profession, especially in the department of bacteriology.

Let me now advert briefly to another tes that has been used somewhat at the Mercy Hospital. I refer to Ehrlich's diazo reaction. This is a urinary test, and consists in a reaction taking place between a solution of fifty parts sulphanilic acid and one thousand parts hydrochloric on the one hand, and a two-per-cent. solution of sodium nitrate and ammonia, with which the suspected urine is allowed to come slowly in contact in a test tube, just as it is in the nitric-acid test for albumin. (A deep brownish-red ring is a proof of infection.) This reaction may be present before the appearance of the rash and persist until the twenty-second day. Its value is lessened, however, by its occurrence in miliary tuberculosis, and occasionally in cases associated with high fever. Osler found it in twenty-two out of twenty-six cases of typhoid fever.

Mixed Infection. There are still those who question the coexistence of the typhoid bacillus and the plasmodium of malaria. They insist that typho-malarial fever is nothing more nor less than a remittent or continued malarial fever with typhoidal symptoms. True, the blood of our typhoid cases at the hospital was frequently tested for plasmodia with negative results in all but one case, and this was undoubtedly one of mixed infection; still there are symptoms in many cases of typhoid fever that cannot be accounted for on any other hypothesis than that of mixed infection. There are the recurring chills, the atypical form, and the remittent character, to say nothing of the double quotidian curve. There is also the great swing of the fever wave, its height and depth. As bacteriology increases both in the number and enthusiasm of its workers, I firmly believe that mixed infection will, in the near future, be established as a certainty. Indeed, we may say the light is already beginning to shine, when a man of such attainments as V. C. Vaughn declares in its favor and furnishes proof of its existence. A. J. Lartigau reports the diplococcus lanceolatus and the streptococcus pyogenes present in company with the bacillus typhosus. Osler acknowledges a qualified belief in the idea of mixed infection, and cases are reported by J. M. DaCosta, C. F. Craig, A. Stengal, M. Goltman, and T. F. Raven; while Dr. Woodard is a most ardent advocate of the doctrine.

Prognosis.—The heart in typhoid is normally relatively slow, not maintaining its relation with the fever. So a weak heart, inaudible first sound, a change in the heart's rhythm are most unfavorable, as are obesity, alcoholism, profuse hemorrhage, nervous tremors, and serious involvement of the nervous system, active delirium, too profuse diarrhœa.

Mortality Rate.—The mortality rate varies with different epidemics, and with the different treatments. Osler gives it as ten to thirty per cent.; J. C. Wilson reports one series of selected cases at the German Hospital with 3.4 per cent., and another series of two hundred and seventeen cases with 7.8 per cent.; A. V. Meigs reports two hundred and fourteen cases in the Pennsylvania Hospital with a mortality rate of 8.88 per cent.; three hundred and eighty-nine cases were treated at the Johns Hopkins Hospital in six years, with a rate of twenty-four per cent. The mortality rate at the Montreal General Hospital for twenty years was 11.2 per cent.; and Murchison, in summing up an immense number of cases, made the death rate nineteen per cent. There were one hundred and twenty-six cases treated at the Mercy Hospital with twelve deaths, making a rate of 9.08 per cent. The fifteen cases here reported all resulted in recovery. There can be no question that the Brand treatment has reduced the mortality rate to between four and seven per cent. Although the mortality of children is generally thought to be small in typhoid fever, Dr. Abraham Jacobi reports a series of cases in the children's pavilion of Bellevue Hospital, having a death rate of twenty per cent., and he refers to the series of Oesterlin with twenty-two per cent. and Friederich with twenty-three per cent.

Symptoms and Treatment.—Of my cases the ages ranged from seven to forty-five years. The attacks were quite severe in one-third, the remaining two-thirds being mild. Two of the mild ones proved abortive. Widal's test gave a positive reaction in all but one, and in this one the plasmodium of malaria was found. The disease, however, failed to respond to cinchonization and continued on its course, and a long course it proved. This was apparently a case of mixed infection. The diazo reaction was used in one-third of the cases, with all positive reactions. Many were tested for the presence of plasmodium, especially when any deviation from the normal was observed. Limited though this number of cases is, it embraced some without diarrhœa, some without rose spots, and as for the typical range of temperature, that was more noticed in the breach than in the observance. Epistaxis was present in but one case, and as to the prominent sensitive abdomen, it was no more in evidence than the scaphoid or boat-shaped one. Tympanites was frequently present, but not invariably. The pale olive, leaden look was no more constant than the suffused, flushed countenance, especially until the latter part of a long run of the fever. The enlargement of the spleen was not

a very constant symptom. I may say parenthetically that making out the spleen, especially in the presence of a tympanitic abdomen, and unless the enlargement is very considerable, is a task not always satisfactorily accomplished. Nervous symptoms, as delirium, carphology, and subsultus tendinum, were not present to any unpleasant degree except in one case; constipation was present more frequently than diarrhœa; indeed, the latter was not prevalent to any such extent as to call for interference except in one case. Abdominal pain was never a subject of complaint. The tongue generally conformed to what one would expect a well-developed typhoid tongue to do, namely, to be first covered with a white coat, which gradually cleaned from the edges toward the centre; to be replaced by a brown coat, or to remain clean, red, beefy, and become fissured. There were, however, many cases in which the tongue retained its first white coat throughout the disease. True, the coat grew a little yellow with time, but was not exfoliated and remained moist. After all, the cephalalgia was the most constant symptom, though the pain was not of an excruciating character. Bronchitis was an almost universally present initial symptom. Albuminuria was present in a majority of the cases, as were hyaline and frequently fine granular casts, and they persisted in some of the cases long after defervescence. One of the cases was complicated by true nephritis with three to six per cent. of albumin and fine and coarse granular, epithelial, and hyaline casts, notwithstanding which the patient is convalescing. I may add that this patient had repeated hemorrhages. An interesting complication was a suppurative appendicitis, and an appendectomy was done by Dr. Weiser; the patient made a good recovery, except that he had an unusually long run of the fever. I have seen two such cases elsewhere reported. One little girl was sent in for operation for a supposed appendicitis; she had the most sensitive abdomen of the series, but made a good recovery without operation.

The treatment that in my judgment offers the greatest promise, both as prophylactic and curative, is orrhotherapy. I could report many favorable cases treated in this manner, but shall content myself with reporting one instance of its use for prophylaxis or immunization. Professor Wright, of Netley, inoculated about three thousand soldiers for service in India, where typhoid is very prevalent. He subsequently observed the disease rate and the death rate in the inoculated as compared with those not inoculated. The result was that the disease rate in the uninoculated was treble and the death rate nearly double that of the inoculated.

There have been many kinds of treatment proposed, as the abortive, the antiseptic, the normal salt, and the cathartic. A careful study of the literature convinces me that, with our present knowledge, we have no medicinal agents able to abort or cure typhoid fever, or, indeed, any of the acute infectious diseases. I do not say that there may never be a combination of circumstances when the proper dose given at just the proper moment would not exert an influence for good, and perchance prove curative. Still, I believe this is an exceptional combination. Such treatment may, however, promote the comfort of the patient and so enable him more easily and successfully to bear the burden of his sickness. In consequence of this belief it will be readily appreciated that my treatment was substantially *nil*, and so indeed it was. Some medicines were employed, but only tentatively, one medicine in this case and another in that, because each bore some relation to the prevailing symptom, but principally as placebos. The medicines employed consisted of gr. v. salol in one, and the same with gr. xv. subnitrate of bismuth in another; gtt. x. tincture of nux vomica, or gr. $\frac{1}{30}$ strychnine in another; gtt. vi. dilute hydrochloric acid, or a teaspoonful of compound tincture of cinchona, in the next—all given usually three times daily. For the intestinal hemorrhages, lead and opium pills, one every four hours, and a mixture containing to each dose gtt. xv. fluid extract of ergot and gtt. x. each of tincture digitalis and colorless fluid extract hydrastis canadensis. For my severest cases I gave a few doses of gr. x. phenacetin in the afternoon, accompanied by gtt. xx. tincture of digitalis, and on one occasion gr. xxx. of quinine, cautioning the nurse to administer whiskey and digitalis should too much depression follow. The constipation was controlled by calomel, citrate of magnesia, cascara, or salts, the latter generally having the preference. On one or two occasions an hypnotic was required, when gr. xv. of trional was given. As before stated, I consider the medicinal treatment of secondary importance. That of paramount importance is the non-medicinal. The treatment by cold was first proposed by Currie, of Liverpool, at the end of the last century, but there being at that time no clinical thermometers to measure either its immediate or ultimate effects, it became neglected and finally disused. It remained for Brand, of Stettin, to bring it again to the notice of the profession and to formulate rules for its employment. Although it was condemned by so close an observer as the late Prof. Alfred Loomis, and adopted only in a modified manner by Professor Osler, I consider it rational, safe, and the most effective treatment for hyperpyrexia.

I did not attempt to carry out the Brand treatment in my cases by reason of lack of facilities on the one hand, and on the other of an indisposition to resort to such radical treatment, especially since my cases, with one exception, were not sufficiently grave. Moreover, the measures resorted to seemed to accomplish all that was desired. The application of cold was effected by ice in rubber bags, applied around the head and on the abdomen. These bags were wrapped in towels to prevent wetting the patient and bedding by precipitation of watery vapor from the atmosphere, caused by its contact with the cold rubber. In addition to this in my most severe case a cold coil was constantly applied to the abdomen, sponging was done every two hours, and late in the afternoon a sheet wet in cold water was wrapped round the patient. This, and a little attention to the mouth and the changing of bed and body linen, composed the most important part of the treatment. It goes without saying that the linen was removed and disinfected as often as soiled, that the excrements were received into a 1:20 carbolic-acid solution, covered with a like solution stirred up to mix thoroughly, and immediately disposed of. The only tangible effect of the digitalis was to produce a great increase in the excretion of urine, and of strychnine that it accentuated the effect of the digitalis. I was not able to realize any useful effect from whiskey, a few one-ounce doses of which were given experimentally.

Diet.—The diet consisted for the most part of milk, a glass of which was usually given every two hours. This was varied or supplemented by beef tea, thin broths, thin gruels, and egg-water, as demanded by different indications.

The Diet in the Acute Stage of Pneumonia.—Andrew H. Smith prefers egg-water and peptonized milk. The former is prepared by squeezing the albumen of one or two eggs through a cloth and adding half a pint of water and a pinch of salt. This, or beef tea, may be given alternately with milk at the rate of three ounces of either every three hours. If flatulency occurs koumyss or matzoon may be substituted for the milk.—*International Medical Magazine*, October, 1900.

THE VALUE OF THERMAL CARBONATED SALINE BATHS IN GYNÆCOLOGY.

By S. W. BANDLER, M.D.,

NEW YORK.

We find in gynæcological practice a very large number of cases which, though the symptoms may be severe, deserve conservative treatment for the following reasons: (1) Because after a long treatment they may be considerably improved; (2) because their symptoms, as local affections, do not justify the risk of operative interference; (3) because the desire for future pregnancy is a justification for conservatism; (4) because the cases after acute inflammations are suited to conservative methods only; (5) because such methods are a valuable preliminary to subsequent operation; and finally (6), because the local affection is only a part of a generally weakened physical state.

Among these conditions are included certain forms of metritis, parametritis, pelveo-peritonitis, salpingitis, hydrosalpinx, pyosalpinx, etc. A large proportion of cases have these affections to a slight degree, but combined with them are displacements of the uterus and adnexa with chronic congestion or venous stasis in the pelvis, with reflex and constitutional symptoms. Not infrequently ren mobilis, gastroptosis, and enteroptosis are found coexisting. These patients often possess a flabbiness and lack of elasticity, which is by no means the result of the gynæcological condition, so that we are compelled to consider the latter as part of a general state.

From the gynæcological standpoint we name this condition hysteroptosis. These various conditions are through local treatment, and especially through rest, open to improvement. Especially is rest an important and often astonishingly valuable means in aiding resorption and relieving congestion. If, combined with local treatment, attention is given to existing weakness, anæmia, and circulatory disturbances, then we obtain decidedly better results. Conditions such as rheumatism, gout, and auto-intoxication must be taken into consideration. The important element in the treatment of exudates and congestions consists in restoring a normal pelvic and general circulation, and in toning up the muscular structures of the pelvis and the body generally.

It was the frequency with which the cases of hysteroptosis came under my observation that influenced me to look to constitutional treatment for their relief in place of continued local applications for these symptoms, among which leucorrhœa, pelvic looseness, and especially backache may be mentioned. The method which has the greatest and most rapid effect, and which in certain cases seems almost specific, is hydrotherapy, under which we understand both thermal and chemical stimuli. A study of the general action of thermal carbonated saline baths confirms me in the belief that we have in them an excellent method of treatment for such cases, especially to promote the resorption of exudates and inflammations, and for the relief of congestions. The results obtained in the treatment under my own direction in the clinic Abel, Berlin, of twenty-one selected cases with various gynæcological ailments amply justify the acceptance of this method, and future experience will suffice to fix the limitations and indications. Among the most gratifying results were those obtained in the treatment of pyosalpinx. This paper deals, therefore, with the treatment of (1) exudates, infiltrates, and inflammations; (2) pelvic congestions; (3) hysteroptoses.

Winternitz and his school have taught us the effect of baths of different temperatures, and we have in hydrotherapy a powerful oxidation therapy, whereby through thermal and mechanical influences, activity and function, hunger and revulsion can be produced in the cell. Hydrotherapy is a powerful curative method, since thermal and mechanical processes are the normal stimuli which arouse, strengthen, and regulate our organic functions in a physiological way. An important effect of hydrotherapy results through its influence in changing and altering the blood distribution through the withdrawal of blood from congested and overloaded organs, whereby circulatory disturbances may be corrected. The value of such a change, and its influence upon congestions in the pelvis, may be recognized when we consider that, next to the peripheral, the region of the pelvic vessels with their large venous plexuses is one of the most important elements in regulating blood division and blood pressure. Since the blood and lymph channels furnish the material for the organic functions and for the nutrition of the organs, the circulation of any part is one of the most important factors in preserving its tone.

The use of cold water influences also a change in the morphological character of the blood. It causes not alone an increase in the number of leucocytes, but likewise a decided increase in the number of red blood corpuscles. A necessary factor in obtaining this result is the production of a decided hyperæmia of the skin. If the skin remains cool for a considerable time, and if a complete reaction is not excited, this change does not result; for then these cells, probably preformed blood cells, do not enter the general circulation. Since after warm baths the increase in the number of erythrocytes is much less, this increase rests clearly upon changes in the circulation, in the heart's action, and in vessel tonus and tissue tonus. The blood richer in cells, richer in oxygen, makes the entire tissue change more complete, and causes an increased consumption of oxygen, and an increased giving off of CO_2. The resulting increased production of heat is reflexly regulated, and not by the degree or amount of heat withdrawn, but by the degree of the thermal nerve stimulus. The increased tissue metamorphosis brought about reflexly through the influence of cold causes no increased consumption of albumin, but concerns chiefly the elements.

The combination of cold with a mechanical stimulus increases the reaction. Cold baths cause a contraction of the peripheral vessels and bring about, through thermal stimulation of the vagus, a slowing of the pulse, increase the oxidation processes in the body, and exert a stimulating effect on the central nervous system. An important result of the contracting influence of cold is the increase in the venous tonus. Since cold temperatures oppose the dilatation of the peripheral vessels, mechanical stimuli are necessary to bring about a dilatation, so that in hydrotherapy the mechanical stimulation, frottement, must be combined with a thermal procedure to bring about peripheral relaxation; for only with the resulting sinking of the tension and of the blood pressure (reaction) comes a feeling of well-being, and only those thermal processes which influence the heat balance of the body can be considered trophic, and only those which lead to reaction tonic.

A warm full bath causes an increase in the rapidity of the pulse, which persists after the bath. This occurs through its influence on the peripheral nerve supply, which reflexly acts upon the vagus centre, and which stimulates the accelerantes of the vagus. Such a bath can through weakening of the venous tonus cause an increased resistance in the minor circulation, whereby, in spite of increased work on the part of the heart, no bettering of the circulation results. This is a weakening influence, since the heart is sufficient only when it is able to force the blood to the most distant organs, in whose capillaries alone tissue metabolism takes place. A warm full bath causes usually no increased

demand for nutrition and exerts no stimulating effect on the central nervous system. The following objections may be raised also against cold fresh-water baths:

1. A mechanical frottement of the skin during and after the bath is necessary to bring about a complete reaction.

2. Many patients cannot stand the first shock of the cold water.

3. The effect of the bath lasts but a short time.

4. The increased tissue metabolism is not so great as in other baths.

We can substitute for the thermal and mechanical stimuli chemical stimuli, and can likewise overcome the shock of the cold water, if the bath contain chemical ingredients which exert a frottement of the entire periphery. Through varying proportions of the chemical ingredients we can regulate the strength of the stimulus. We can in a bath of indifferent temperature without shock in this way obtain the same and more lasting stimuli than by thermal means, and can cause by chemical combinations a more decided increase in the processes of oxidation. We are able by such baths to bring about a lasting protection and rest to the heart, and an improved state of the circulation. An important element is the ability to bring about a decided and increased resorption of broken-down tissue products.

Salt added to baths increases the effect of cold. Zunts found that in a three-per-cent. saline bath there was an increase of oxidation, as compared with a fresh-water bath, so that fifteen per cent. more oxygen was used and twenty-five per cent. more CO_2 was given off. This effect could not be obtained if the nerve ends were paralyzed with curare. Agents which, like the saline bath, bring about increased metabolism are:

1. Sea air, which, however, diminishes the amount of phosphoric acid excreted and stimulates the nervous system constantly without a decided or permanent effect upon the circulation. 2. The drinking of cold water, which increases tissue change by depriving the body of heat, but is not well borne by the digestive tract. 3. Physical exercise, which, however, demands the increased use of energy, increases the amount of phosphoric acid excreted, and is decidedly contraindicated in inflammatory pelvic conditions.

Simple rest causes no increased tissue change, has constitutionally no effect on the general tone, rests the nervous system, but is accompanied by no stimulating action on the same. A bath containing, in addition to salt, calcium chloride, which exerts reflexly a decided action on the breaking down of old tissue, and CO_2 brings about most valuable results. Its action follows the law of normal body stimuli and causes a relief and rest for the heart, since the chemical elements and the CO_2 dilate the peripheral vessels, carry the blood into the vessels of the muscles, relieve the interior of the body of congestions, and cool it on the return of the blood. The effect upon metabolism and tissue change is here not brought about through exertion or through the giving off of reserve energy, but through the channels of protection and tissue substitution. This regulated and altered tissue change goes on within a certain physiological limit, which does not endanger or overtax the functional energies of the body. However low the temperature of the bath may gradually be reduced, a frottement is always brought about through the action of the chlorides and the free CO_2.

Beneke, in 1859, minutely studied the action of such baths and gave them a decided scientific basis. The advances in later years have proven that the neurotherapeutic value of such baths is an important factor, since reflexly the entire nervous system and the trophic centres are greatly stimulated, especially by the CO_2.

A fifty-gallon bath containing among other ingredients five pounds of sodium chloride and ten ounces of calcium chloride with some CO_2, that is, a Nauheim bath of a temperature of 27° R., was found to cause a slight daily increase of tissue metabolism. The degree or intensity of this change varies, however, considerably at certain periods of the day. The increase of tissue change causes an increased demand for nutrition and is accompanied by an increase in the amount of kidney secretion. The excretion of urea is slightly increased, the excretion of phosphoric acid is diminished. The immediate effect of such a bath is a diminution in the frequency of the pulse and in the number of respirations. Tissue metabolism is immediately stimulated, for during the hours directly following a bath most of the solid constituents are excreted in the urine. In the later hours metabolism possesses a slighter intensity than during the same hours and days when no baths are taken. The diminution in the amount of phosphoric acid excreted is one of the important effects, and stands in relation to the benefits which later result to the body nutrition. The increased amount of this substance in the body stimulates the further production of new tissue and is of the greatest importance in determining the quality of the structures which replace the broken-down tissues. If the broken-down tissues are substances of an abnormal character, and if the substituted nutrition is of a character suited to the building up of normal structures, then this element in combination with the phosphoric acid offers valuable restoration to the body. The amount of carbonic-acid gas excreted through the skin, and especially through the lungs, is shown through the frequent occurrence of fetid expiration after a bath, a process which can be attributed to an oxidation, among other things, of organic acids. A retarded metamorphosis of the organic acids is often found in persons with a weak nervous system, in large eaters, and in many cases of anæmia. If the amount of the saline ingredients of the bath is increased, there results a slight increase of the various effects. There may be a still further demand for nutrition, the secretion of the kidney is increased, but the amount of phosphoric acid excreted may be greater than normally; therefore the subjective feeling varies, and there occurs easily a feeling of weariness and lassitude. The effect depends greatly upon individual qualities. If there is, with stronger baths, no over-stimulation, then the good results persist. If there is, on the contrary, an over-stimulation, then comes a weakening effect with evidences of nervousness, sleeplessness, loss of appetite, etc.

There is, therefore, for every individual a certain limit beyond which an increase of tissue change and nerve stimulation must not be carried, and the above-mentioned symptoms, together with the increased excretion of phosphoric acid, are evidences of too strong baths.

The power of these baths in aiding resorption is evidenced by the results obtained by Beneke in the treatment of rheumatism and gout. Almost without exception the rheumatic symptoms in the joints disappeared after a course of baths. Recurrences rarely developed. The heart action was always quieted, and anæmic and run-down patients improved rapidly. If the inflammation centre was changed to real connective tissue, or was retracted and sclerosed, it was then difficult to obtain improvement. If this centre, on the contrary, was fresh, then it was, as a rule, capable of resorption. The baths were well borne after the acute symptoms were overcome. These two- to four-per-cent. saline baths, slightly carbonated, of a temperature between 27°–25° R., were well borne by the severest

heart cases. The resorption of serous transudates and joint exudates was truly astonishing. A partial or complete resorption of the endocardial growth was found to be more certain, the nearer to the acute attack the baths were begun, and the improvement in the condition of delicate persons was so rapid that Beneke deemed it dependent upon other influences than increased tissue metamorphosis. It is this element, namely, the stimulation of the trophic centres through the salts, and most especially through the CO_2 upon which Graupner lays stress, using as an example the vast and decided improvement in cases of locomotor ataxia.

The action of CO_2 is to produce a feeling of warmth, and a dilatation of the capillaries of the skin and of the peripheral vessels. After a bath the CO_2 causes a feeling of exhilaration, provided the amount of CO_2 and the duration of the bath be not too great.

The action of these thermal carbonated saline baths brings about the following results: (1) Slowing of the pulse and respiration; (2) increased oxidation; (3) increased diuresis; (4) a saving of phosphoric acid; (5) rest and protection for the heart; (6) regulation of the circulation and a subsequent strengthening of the heart through increased tonus of the entire circulatory system, and through the removal of congestions; (7) an increase in the number of red blood cells; (8) a building up of healthy tissue; (9) an increased demand for nutrition; (10) a stimulation of the entire nervous system, especially the trophic centres; (11) the removal of congestion; (12) the resorption of exudates.

The value of these baths has been proven in amenorrhœa, in insufficient development of the genitalia, and in insufficient muscular condition of the uterus, with or without chlorotic symptoms. Uterine catarrh, depending upon a lack of elasticity of the pelvic organs, disturbances in the blood supply, and atony of the vessels, is greatly benefited by this treatment. The immediate effect can be recognized by the fact that often after a bath large amounts of mucus are discharged, caused by increased secretion and a stimulation of the con traction of the uterus. This latter action explains their value in cases of subinvolution. In chronic metritis the bath causes a diminution of hyperæmia, removes the collateral circulatory disturbances, and improves the general condition. This effect may be obtained so long as no interstitial hypertrophy exists. The older the affection, the more energetic must be the treatment. Cases of chronic metritis after repeated abortions, or during the climacterium, should not be treated with strong saline baths, since through a continued blood supply they are liable to exacerbations. Nervous individuals must be given graded treatment, and in these, as in anæmic cases, progress must be made slowly, for, as Graupner says, these are cases in which the entire energy of the body is consumed in preserving a balance between nutrition and the force used in the performance of the most necessary body functions, so that the slightest degree of overstimulation is of decided injury.

The first severe test to which I put the baths was in a case of pelvic cellulitis of gonorrhœal origin, with the most complete infiltration of the pelvic and parametric and perimetric tissue I have ever seen. Local treatment and rest in bed for two weeks having no effect, I sent her as a test case to Nauheim. On leaving, the uterus was so embedded that it could scarcely be made out from the surrounding perimetrium. It was as if the whole bottom of the pelvis were filled with plaster of Paris. The patient was pale, anæmic, without appetite, and completely despondent. After four weeks, during which she received twenty-two baths, beginning with the simple and finishing with the "Sprudel" bath, a marvellous improvement was found. The uterus was movable, and normally situated. The ligamenta lata were still somewhat infiltrated. Although a double-sided pyosalpinx existed, the tubes and ovaries could be distinctly made out, and the local condition was relatively painless. The general condition of the patient was astonishing, her color pink, her appetite good, and her subjective condition splendid. Six weeks later her condition remained absolutely unchanged. I then began the treatment of twenty patients, all selected cases. No patient was treated without rest in bed for a week previous to the baths, to determine what influence rest alone exerted. The baths were begun at a temperature of 27° R., lasting eight minutes, and contained half the strength of CO_2 contained in a Sprudel bath. The temperature of the water was lowered on succeeding days, no bath being given lower than 22° R., the amount of CO_2 being increased with the lower temperatures. Baths were given on three successive days, with a rest of one day before the next three baths. During menstruation no treatment was given, so that in four weeks the patients had on an average eighteen baths each. All remained in the clinic, and no change was made in the way of diet. In all cases an effect was noted in the first few days, first in the condition of exhilaration after the bath, in the increase in diuresis and the increase in appetite, and then decidedly in a feeling of well-being and confidence in the method. Locally examination showed a fulness of the parts, and a distention of the ligaments and cellular structures with a decided element of elasticity. The cases examined every other day disclosed a most rapid resorption of exudates and infiltrations, and a decided diminution in the size of the adnex tumors. As it is my purpose later on to discuss these and future cases more in detail, I will say that the majority were cases of pyosalpinx with severe symptoms. With the exception of one case diagnosed as hydrosalpinx, the remainder belonged to the class I have termed hysteroptosis. In the first-mentioned class it was difficult to define distinctly at first the tubes and the ovaries on account of the accompanying inflammation and congestion of the parametrium. It was astonishing how gradually this element disappeared, so that at the completion of a treatment the tubes in nearly every case were made out to be scarcely of the thickness of the thumb, and the ovary could usually be well defined. One case of a very chronic character was decidedly bettered so far as resorption was concerned, but on account of the pain the patient insisted on operation, although only nine baths had been given. Double salpingectomy was performed, and I found the adhesions so congested, œdematous, so soft and so easily loosened, and the infiltration of the parametrium so slight, that I consider this improvement, a result of the baths, to have been a valuable preliminary to operation. The amount of pus was not large, and I gained the impression that bath treatment longer continued would have freed the patient from her annoyances. I feel certain that, within an interval of three or four weeks between a course of baths, in a series of three treatments she would have been practically cured. We know that salpingitis and pyosalpinx are not incurable affections. It is necessary to distinguish those cases due to gonococci, in which the inflammation follows usually the course of the mucous membrane of the uterus and tube, and those cases due to streptococci and staphylococci, in which the inflammation follows the course of the blood and lymph channels. In the first class, the peritoneal affection is a result of the pus accumulation in the tubes. In the second, the pyogenic affection of the tubes is usually the result of the peritoneal exudation. Since these so-called septic cases rarely give the large pus tubes found as a result of gonorrhœal infections, we may say that in the septic cases the peri-

toneal affection is the primary, while in gonorrhœal cases we are dealing with an affection of the adnexa. And yet in all probability the important factor in the causation of the severe symptoms associated with both these classes of inflammations of the adnexa is to be found in the resulting peritoneal adhesions, and the involvement in the adhesions of the omentum and the intestine. That already formed adhesions can be resorbed, and further adhesions prevented and the organization of the adhesions avoided by these baths, I believe to be well grounded theoretically, and to be proven practically.

Since in the early stages of pelvic inflammations and pus formations in women the involvement of the parametrium is an important factor, and since these baths exert such a decided influence on parametric and perimetric inflammations, I consider the use of these baths after acute inflammations decidedly indicated. Two cases of febrile purulent parametritis were relieved by vaginal incision, and subsequent treatment by the baths proved their resorptive powers beyond question. One case of double-sided pyosalpinx was treated with a bath two days after a return to normal temperature. After the first bath the patient suffered an acute exacerbation, with posterior purulent parametritis, subsequently treated by vaginal incision. I doubt that the bath was a factor in the causation of this attack, yet I believe it to be unwise to begin this treatment until the temperature has remained normal several days. The case of hydrosalpinx showed a return to normal size after ten baths, and seen four weeks later showed no sign of distention.

In the later stages of these pelvic inflammations, the seat of the trouble is localized mainly in the adnexa, and I believe that these conditions, even though chronic, may be cured by this method of hydrotherapy. Though the prospects in gonorrhœal cases are not so good as in the septic, Kustner favoring conservative treatment says: "Gonorrhœal processes, even when they have caused decided distention of the tubes or large palpable exudations, are often open to cure. Such a cure is often followed by sterility as a result of permanent changes of the mucous lining of the tubes. At times, however, their function is restored." Schauta finds in the presence of pus, even without severe symptoms, an indication for radical operation. His view is shared by many, although evidence is furnished of many cases in which under such conditions after conservative treatment pregnancy occurred. Küstner's opinion is expressed by Herrmann, who says: "(1) A certain per cent. of adnex tumors can be cured without operation to such an extent that the function of the tubes is not impaired; (2) even when accumulations of pus in the tubes is proved by puncture recovery with possession of function is possible; (3) in adnex affections which demand operative interference the retained healthy or only slightly diseased adnexa of the one side can later functionate normally." Since Kiefer, Wertheim, and others have shown that within a year after infection the pus is sterile, Herrmann pleads for the conservative treatment of these cases on these grounds: "(1) These cases not infrequently are restored to a normal condition; (2) in this limit of one year, within which conservative treatment should be tried, the pus becomes sterile; (3) if operation must later be performed, it can then be done abdominally without danger of infection, a method which permits of the retention of the uterus and probably of an ovary or ovarian rests; (4) such retention of these parts spares the patient the annoying symptoms following radical operation." Without at this time dilating upon the indications for and against radical operation, or for or against the abdominal method, it is sufficient to say that such reasons are decidedly legitimate and demand at least a trial of conservative methods. Since at least one-half of the cases of pyosalpinx operated upon are found to contain sterile pus, these cases as well as the others, if not operated at once after infection, furnish us practically with smaller or larger encapsulated sterile abscesses, and the problem which confronts us is the possibility of their resorption, and the resorption of the infiltrated inflammation of the tube walls. Since in none of my cases was there a failure of resorption of the exudations about the tubes, and since in no case did examinations show the tube finally to be more than finger thick, and since in most of these cases the ovary could, on examination, be distinctly felt and separated from the tube, I consider that a resorption of the tube contents and a decided influence upon its mucous lining are possible. It is certain that the diminution in the pain, both subjective and that experienced on examination, was diminished to such an extent that a resorption and a loosening of adhesions must likewise be taken for granted.

Those cases called hysteroptosis were decidedly benefited. All the patient gained in weight and strength, and the number of red blood cells was constantly increased. Appetite improved, and a feeling of strength and exhilaration resulted, such as no other treatment in my opinion could have accomplished in the same time. At the same time the local symptoms, and, what is more important, the idea that a diseased local state existed, disappeared. One case of oöphoritis was in no wise locally or generally improved. It belonged to the class of ovarian affections presenting anatomical changes, probably cystic, with a tense tunica fibrosa, in which no beneficial local improvement was expected by me.

I believe that the results obtained justify me in claiming for the carbonated saline baths a power of resorption too valuable to be underestimated, a method which at the same time benefits the general state to a decided degree, and which acts by increasing the natural and effective functions of the body, and in toning up those pelvic structures which depend so decidedly for their elasticity and blood supply on the condition of the body generally.

A SIMPLE METHOD FOR WRITING PRESCRIPTIONS FOR CHILDREN.

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As is well known, the method of calculating the dose for a child is, according to Cowling's Rule: age at next birthday, divided by twenty-four. A simple method for writing the prescription, in order to avoid much calculation, is to make it contain exactly twenty-four doses, whence it necessarily follows that the entire amount of any drug in the prescription will be the adult dose multiplied by the age at next birthday. Let us for example take three drugs *x*, *y*, and *z*, of which the adult dose of *x* is ℥ v., of *y* ℥ viii., and of *z* ℥ x. We write our prescription as follows:

℞ *x* .....
y .....
z .....
Aq. .....q.s. ad etc.

Now if we make the entire quantity ℥ iii. and the amount taken at each dose ℈ i., our prescription will contain twenty-four doses, thus:

℞ *x* .....
y .....
z .....
Aq. .....q.s. ad ℥ iij.
M. S. ℈ i. t.i.d.

If the child at its next birthday is one year old, our

prescription is completed by simply putting the adult dose after each item, thus:

For baby F——, aged one year.

℞ *x* ..... ℥ v.
y ..... ℥ viij.
z ..... ℥ x.
Aq ..... q.s. ad ℥ iij.
M. S. ℥ i. t.i.d.

If three years old, simply put down three times the adult dose, thus:

For Baby F——, aged three years.

℞ *x* ..... ℥ xv
y ..... ℥ xxiv.
z ..... ℥ xxx.
Aq ..... q s. ad ℥ iij.
M. S. ℥ i. t.i.d.

If ten years old, put down ten times the adult dose, thus:

For Baby F——, aged ten years.

℞ *x* ..... ℥ l.
y ..... ℥ lxxx.
z ..... ℥ c
Aq ..... q s ad ℥ iij.
M. S. ℥ i. t.i.d.

To exemplify with an ordinary cough mixture:

℞ Syr. ipecac .....
Ammon mur .....
Ex. scillæ fl .....
Aq ..... q.s. ad ℥ iij.
M. S. ℥ i. every three hours.

If the child is one year old (at next birthday) we put down the adult dose after each item, as follows:

℞ Syr ipecac ..... ℥ x
Ammon. mur ..... gr. v.
Ex. scillæ fl ..... ℥ ij.
Aq ..... q.s. ad ℥ iij.
M. S. ℥ i. every three hours.

If six years old, put down six times the adult dose, thus:

For Baby F——, aged six years.

℞ Syr. ipecac ..... ℥ lx.
Ammon. mur ..... gr. xxx
Ex. scillæ fl ..... ℥ xij.
Aq ..... q.s. ad ℥ iij.
M. S. ℥ i. every three hours.

And so forth. The advantage of this method will perhaps be more fully appreciated by giving drugs with fractional doses. Let us for sake of example give a child some pills containing strychnine sulphate and digitalin. We write our prescription as follows:

℞ Strychninæ sulph. .....
Digitalin .....
M. et fiant pil. No. xxiv. S. One pill t.i.d.

If the child is four years old we put down four times the adult dose after each item, thus:

For Baby F——, aged four years.

℞ Strychninæ sulph. ..... gr. $\frac{4}{60}$ = gr. $\frac{1}{15}$
Digitalin ..... gr. $\frac{4}{100}$ = gr. $\frac{1}{25}$
M et fiant pil. No. xxiv. S. One pill t.i.d.

There is absolutely no calculation necessary, as long as we make our prescription contain twenty-four doses. All we need to know is the adult dose of each item, and multiply it by the age of the child, and that will give us the entire amount to be placed after each item. If we do not wish to give as many as twenty-four pills, we may give twelve, and divide each amount by two.

The method may, of course, be used in the metric system, as follows:

For Baby F——.

	For one year.	For four years.
℞ Strychninæ sulph.	0.001	0.004
Digitalin.	0.0006	0.0024

M. et fiant pil. No. xxiv. S. One pill t.i.d.

Another slight advantage is, that we may give the same drugs to several children of a family without writing different prescriptions. Thus in the first example (the cough mixture) we may give the same prescription for three children, aged respectively one, three, and five years (at next birthday), by telling the mother to give one child ℥ i., another ℥ iii., and the oldest ℥ v. at each dose.

As this method depends upon Cowling's Rule, it is applicable only where Cowling's Rule is applicable. In giving opiates, etc., where less than $\frac{1}{24}$ of adult dose is given, we cannot, of course, make use of this method.

The fact that the dose for a child should be regulated not by its age, but by its physical development does not militate against the use of this method; for if a child of three years has the development of a child of five years, it may, for purposes of dosage, be considered a five-year-old child, and the prescription calculated accordingly.

358 East One Hundred and Twenty-first Street.

A METHOD FOR THE DETERMINATION OF EYE DEFECTS IN SCHOOL CHILDREN, WITH A REPORT OF SEVENTEEN HUNDRED AND FORTY-SEVEN EXAMINATIONS.

By LOUIS C. DEANE, M.D.,
San Francisco,
Surgeon to the California Eye and Ear Hospital, etc.

The object of this class of work is to determine the ocular defects existing among school children. The public can be divided practically into two classes, those who have good and useful eyesight and those whose sight or condition of the eyes is so poor as to incapacitate them for their daily pursuits. The large number of examinations that have to be made, and the rapidity with which the oculist is compelled to complete them, so as not materially to interfere with the school work, compel him to overlook a considerable number of minor eye defects, which he can only suspect but not investigate; for instance, to discriminate between a low grade of myopia and astigmatism, whether there exists a small amount of plus or minus astigmatism, or even higher grades of astigmatism at irregular angles.

Time does not admit of an ophthalmoscopic examination, hence many pathological changes in the fundus of the eye must be overlooked. If the sight is poor and the patient refuses to show symptoms of any of the refractive defects, a more thorough examination is necessary at a later period.

The method used I believe to be the most complete and thorough within the bounds of practice, and by it one is enabled to examine between twenty and thirty pupils hourly, or between fifty and sixty eyes.

Another point to be considered is the age and advancement of the pupil. As children progress in their studies and are compelled to concentrate their eyes more closely, they develop defects which do not trouble younger ones.

As age increases, the range and flexibility of accommodation decreases, and refractive ocular defects, which tax the accommodative powers, are more difficult to overcome. This incapacity is manifested by headaches, blurring of print, inflamed lids, watery eyes, etc. The statistics with regard to the younger ones of between six and ten years cannot be accurate, since the judgment of the scholar in regard to what he sees and how he sees it has to be relied on. The careful observer will always detect any marked error of refraction, with defective eyesight, heterophoria, strabismus, or diseases of the lids. Any objective method, as retinoscopy, is impracticable.

The teacher of each class is directed to arrange in a column alphabetically the names of her pupils, their age and sex, leaving a space after each one for the result of the examination. A copy of this is returned to the teacher with an explanation, so that she is cognizant of the visual acuity and condition of the eyes of each of her pupils. This is of twofold importance: first, it allows the teacher to seat the pupils with relation to distance from the blackboard for those with poor vision, and the intensity of light for those with weak eyes, also to favor those who are suffering with an unconquerable eye-strain. Secondly, these reports should be kept on file so as to be of future value to the oculist in his examination, and allow him to elucidate many important facts which can be accomplished only by reference to numerous personal records extending over some years. The bulk of such a work would fall on the first year, as in the succeeding years, by reference to previous records, most pupils could be excused from a repetition of the examination, and the suspected ones re-examined as to the progressiveness of their condition. It is unnecessary to repeat here the value of such records, not only to regulate and correct eye defects during the school term, but to advise the parents as to the care and future pursuits of their children.

During the school hours the children are allowed to leave the class five at a time and adjourn to a separate room, twenty feet long, with good light, provided for the purpose.

It would be well to stop here and note the appliances necessary to continue this examination: Five ordinary test charts with radiating lines for astigmatism. Spectacle fronts containing pairs of the following spheres: + .75 D., + 1. D., + 1.50 D., — .50 D., — 1.50 D., — 2.50, and cylinders + .75 D. ax. 90°, + .75 D. ax. 180°, — .75 D. ax. 90° and — .75 D. ax. 180°; also prisms 6° base in each eye, 2° prism base down on one eye and 3° base up on the other eye. A red glass.

The children are directed to stand in line and cover their left eyes with their left hands, using the palm not the fingers, and keeping both eyes open. The first is directed to read the $\frac{20}{50}$ line on chart 1; if he reads the line, the next is directed to read a similar line on chart 2, and so on through the five. If the vision is $\frac{20}{60}$ no record is made; if not it is recorded thus: R. V. $\frac{20}{40}$, or whatever the sight may be, following the name. Those who have V. $\frac{20}{30}$ both are tested with + .75 D. sph., and so on to + 1.50 D. sph., noting which one blurs the $\frac{20}{30}$ line. If + .75 D. sph. reduces the visual acuity, I make no note of it, but consider the case emmetropic. If + 1.50 D. sph. is the first glass which blurs the print I consider the case as hypermetropic + 1. D., etc. It is well to note that the maximum amount of relaxation of the ciliary muscles is not obtained thus, so that the manifest amount only is shown, which simply serves as a clew to almost any amount of the absolute condition. One thing is certain (providing the judgment of the scholar can be depended on)—that there is a hypermetropia present, and more than is manifested at the time. Minus lenses can be used for those who show a defective vision, and the strength of the weakest noted, as also the cylinders.

The screen test is used to determine the muscular balance of the eyes, and is most practical. By it as little as 2° of an esophoria is easily noted. If a further investigation is desired the prisms in the spectacle fronts are provided for that purpose, producing a horizontal or vertical diplopia, which are used here to show more the kind than the amount of heterophoria; though the latter can be easily estimated, if desired, by a chart at a distance of twenty feet, divided off to show the deviation produced by certain prisms and consequently the approximate amount of a heterophoria. If a state of orthophoria exists no note is made, and the examination is continued, taking note of corneal opacities, blepharitis, conjunctivitis, etc.

The majority of those examined are immediately returned to the class room, those who manifest some marked defect being detained for a further examination, possibly of each eye separately with the test glasses for an anisometropia, etc. It is well to examine the less fortunate ones alone, as children in schools are very sensitive as to imperfect eyesight, and, with others present, their answers are often misleading.

In the foregoing one is impressed with the fact that the examination is merely qualitative and not quantitative. Records are made only of conditions with but approximate measurements.

What are we to find in this examination, and what are the value of such findings?

1. Elimination of those with normal eyesight without apparent ciliary strain or muscular imbalance of the two eyes.

2. Hypermetropia with or without asthenopic symptoms.

3. Myopia, percentage in the different grades of school, its progressiveness with and without the use of glasses.

4. Astigmatism: this is difficult to determine by these tests, but if the vision remains poor, and the error cannot be accredited to a myopia, a further examination is necessary also.

5. Poor vision which cannot be accounted for by a refractive error.

6. The relation of ametropia to heterophoria or heterotropia, showing the relation of hypermetropia to esophoria, and esotropia and myopia to exophoria and exotropia.

7. Relation of marginal blepharitis, chronic conjunctivitis with styes, phlyctenular conjunctivitis, etc., to ametropic conditions, especially to hypermetropia.

Following is a report of the examination of 1,747 school children, of which 421 were boys and girls in the high school, where I was able to carry out the examination with considerable accuracy. The remaining 1,326 were taken from the higher grammar grades, where the results were also fairly satisfactory. The appended table was made up at a later period from the reports given the teachers. On account of inadequate space, I have somewhat condensed it, having omitted acuity of vision, which was arranged in four columns as follows: V. $\frac{20}{30}$ to $\frac{20}{40}$, $\frac{20}{50}$ to $\frac{20}{70}$, $\frac{20}{80}$ to $\frac{20}{100}$, and worse than $\frac{20}{100}$ for the fourth column. If the vision was normal on record was made, if both eyes were defective the vision of the best was recorded, which shows the practical vision of the child with both eyes open. Two columns for anisometropia were also omitted, the vision of the worst eye being recorded thus, $\frac{20}{40}$ to $\frac{20}{60}$, and the other column for vision worse than $\frac{20}{60}$. The vision of the best eye had already been recorded under acuity of vision.

	Number of Examinations.	Average Age.	Marginal Blepharitis	Heterophoria.		Heterotropia.		Vision $\frac{20}{30}$.	Anisometropia.	Hypermetropia.	Myopia.	Poor Vision Undetermined.
				Eso-	Exo-	Eso-	Exo-					
Grammar school												
Girls	82	14$\frac{6}{12}$	3.3	2.	4.6	.85	0.6	83.7	7.3	20.3	7.7	1.7
Boys	506	13$\frac{8}{12}$	3.3	1.5	4.1	1.18	1.5	86.4	8.7	20.3	11.06	1.3
High school.												
Girls	145	16$\frac{6}{12}$	1.3	2.7	11.	1.3	0.	73 1	16.5	22.7	2.	2.
Boys	270	16$\frac{6}{12}$	1.8	0.4	5 7	1.5	0. .6	85.8	7.6	13.7	14.	1.4
Total number of examinations..	1,747											

It will be noted that marginal blepharitis is less

frequent in the older pupils; this may be due to two causes: first, the percentage wearing correcting lenses for hypermetropia is much greater; second, they are more likely to have been treated. Certainly many mild cases were overlooked, only the marked and noticable ones being recorded.

The increase of heterophoria as the scholar progresses is due, I believe, to the fact that more is manifest, *i.e.*, he is less able to overcome such defects.

Hypermetropia remained about the same, but many more were wearing correcting lenses in the high school than in the grammar, especially among the boys.

The table shows a large percentage of myopia in the high school, especially among the girls; many of the latter were without glasses on account of prejudice against them, while most of the boys were wearing their proper corrections. This may account in a way for a greater frequency of myopia among the girls. I noted that in the classical courses, especially in the Greek senior classes, the percentage of myopia was alarming. In one class of 38 pupils, 16 had over 1.50 D. of myopia, or 42 per cent.

In the column of poor vision undetermined were cases in which an ophthalmoscopic examination would be likely to have revealed the cause in a possible very high myopia, astigmatism, fundus disease, or opacity of some of the transparent refractive media.

Of the 6 cases of strabismus observed in the high school, 5 were divergent and 1 convergent. Of the divergent, 4 were myopic and 1 hypermetropic; 2 were anisometropic and 3 isometropic. The one case of convergent strabismus was hypermetropic and anisometropic.

Of the 7 cases of marginal blepharitis observed in the high school, 4 were hypermetropic, two myopic, and 1 emmetropic.

The relations between heterophoria and ametropia were particularly interesting. Of the 37 cases of heterophoria over 3° found in 421 pupils examined in the high school, 5 had esophoria and 32 exophoria. Of the 5 cases of esophoria all were hypermetropic. Of the 32 cases of exophoria, 15 were myopic, 2 hypermetropic, and 15 emmetropic.

606 Sutter Street.

The Operative Treatment of Procidentia Uteri in Elderly Women.—A. Lapthorn Smith says that in the majority of these cases we find a lacerated cervix, and that this together with a lacerated perineum forms the initial lesions, which brings about the prolapse. The laceration prevents involution of the uterus, and the latter organ, instead of becoming small and light, remains large and heavy. Owing to the too general practice of keeping women lying on their backs after confinement, the subinvoluted uterus becomes a retroverted one by gravity, and when the woman gets up the bowels fall in front of the womb, and the round ligaments are unable to pull the fundus forward again, so that the uterus is forced on to a lower plane in the pelvis. There being no perineal support to oppose both gravity and intra-abdominal pressure, the cervix appears at the vulva, bringing the bladder and rectum with it, causing a chronic cystitis and a dragging pain in the back. In regard to operative measures we may follow one of two plans, according to the degree of the prolapse and the size of the uterus. If the latter is small and not far enough out of the body to become ulcerated, the safest operation is to make a small incision in the abdomen, and catching the fundus with the bullet forceps, draw it up to the incision and scarify the whole anterior surface of the fundus, and then to sew it to the abdominal wall with buried chromicized catgut; after which the vaginal outlet is narrowed by a large anterior and posterior colporrhaphy. If, however, the uterus is very long, sometimes the sound measures seven or eight inches deep, and especially if it is badly ulcerated, it is better to amputate all but the upper two inches of it, and then to narrow the outlet.—*Canadian Practitioner and Review*, October, 1900.

The Psychical Influences Acting on Patients in Sanatoria.—These have been found by P. Wiedeburg to be both favorable and unfavorable, and to be of great importance in facilitating or impeding the work of successful treatment. Most of them depend directly or indirectly on the tact and general attitude of the physician in charge, who, by attention to apparently minor details, can to a remarkable degree enhance the value of the primary therapeutic measures employed. The work of psychical influence or suggestion begins even before admission, for the idea of treatment in an institution is usually of itself enough in some cases to put the patient in a more hopeful frame of mind, while in others it has precisely the opposite effect. It is highly important that the patients should be inmates of the establishment itself, and not board outside and come there merely for treatment; for the disciplined life under the personal supervision of the physician, who should make it a point to meet his charges frequently outside the consulting-room as well as in it, removes the risk of many indiscretions in the way of diet, exertion, etc., to which they would otherwise be exposed. The social life among the patients must be subjected to careful supervision; while the encouragement of association with a cheerful and hopeful fellow-invalid can be of inestimable service, depressing companionship may do untold mischief. The providing of interesting amusements, attention to the table, strict management of the employees attending to the service and performing the functions of masseurs, orderlies, etc., and the control of visits, correspondence, and reading-matter are all of great import in determining the psychical state of the patient, and his consequent susceptibility to the remedial measures employed.—*Zeitschrift f. diätetische und physikalische Therapie*, vol. iv., No. 5, 1900.

Syphilitic Sciatica.—In a general article on this subject, J. K. Baudy enumerates the following rules concerning diagnosis. 1. In making the diagnosis of syphilitic sciatica, it is necessary in the first place to establish the fact that, in addition to having neuralgic pain of the sciatic nerve, the patient has previously had syphilis. It should not be forgotten that the fact of sciatica occurring in a syphilitic patient does not warrant the assumption that the nervous complaint is necessarily due to constitutional syphilis. 2. If the patient has been free from sciatica previous to syphilitic affection, this fact will weigh in favor of the supposition that the neuralgia is of syphilitic origin. 3. While syphilitic sciatica may occur at an early period of infection, it is more likely to occur later. 4. The occurrence coincidently with the sciatica of other neurotic troubles, clearly traceable to syphilis as a cause, constitutes a presumption in favor of the syphilitic origin of the sciatica, and this presumption will be strengthened if the patient had previous to constitutional infection been free from both sciatica and the other neurotic infections. 5. The pains of sciatic neuritis are dull, continuous or nearly so, and persistent; also are felt equally throughout the whole course of the sciatic nerve, thus offering a marked contrast to the lancinating pains of a pure sciatica, which are chiefly felt at the extremities of the nerve. 6. In sciatic neuritis, again, the nerve is tender to touch, and can often be felt as a thickened cord beneath the skin.—*St. Louis Medical Review*, September 29, 1900.

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PROGNOSIS IN TYPHOID.

THE importance of making an accurate prognosis in any given case of typhoid fever is very effectually offset by the absolute uncertainty of foretelling the time and nature of always threatening complications. The question from this point of view has an added interest in connection with the sickness of the Czar of Russia, on the ultimate issue of which so much political significance depends. From all accounts the fever is in its second week, with a comparatively easy temperature grade, a reasonably quiet pulse, and no marked feeling of prostration. Apparently then the patient is making a good start, with mild symptoms. Every one knows, however, that such signs are not always trustworthy as guaranteeing against future dangers. While very high temperatures in the beginning of the attack generally indicate the degree and gravity of the poison, it by no means follows that a contrary condition can insure the patient against complications which have nothing directly to do with the degree of infection. The "walking cases," for instance, are particularly prolific with accidents of intestinal hemorrhage and perforation, are peculiarly liable to auto-infection and relapse, and in a general way balance the chances of a good beginning with a bad ending on the usual compensatory level.

We must admit of course that the vital resistance of individuals is a very powerful determining element as to the impression of the poison, and also its early elimination. It is a matter, so to speak, of dead reckoning how much poison is absorbed in a given case and how quickly and effectually it can be thrown off with a minimum amount of harm to the patient. Apparent robustness has seemingly nothing special to do with this phase of the calculation, inasmuch as thin and apparently weakly subjects astonish us by their endurance, prompt responsiveness to remedies, and by their staying-powers during convalescence.

A favorable indication of satisfactory progress is the steady and regular course of the temperature curve: the morning and evening alternations, the gradual rise to the top wave, and then the decline to the level of convalescence. In the same way the pulse must match its quickened throb with the increased heat of the tissue fire and mark its own rise and fall on parallel lines. Thus the consistency of satisfactory progress is made possible, and the fever takes its course through all the usual presentments of accident. We trust everything in prognostication to the integrity of the machinery and its ability to bear the necessary strain. The careful physician is content to say that under the circumstances the patient is doing well for the time being. If he attempts to look too far ahead he must needs only guess and qualify.

What holds good as to positiveness in regard to the exact duration of fever, and its possible complications, applies with equal force to the behavior of the convalescence stage. Often the latter is more trying to patient and physician than the original ailment. Here also there is no law that can govern opinion as to the precise day when the temperature shall become normal and remain so. Often during a calm of symptoms there is an ominous and threatening afterclap of high temperature and increased pulse rate. Indeed, after such profound systemic disturbances as have existed for weeks it takes time and adjustment to get to the even and quiet level of established health. But how to mark the exact time limits along the line must always be the puzzle so long as one patient differs from another in receptivity, reaction, and vital power.

THE PREVENTION OF INSANITY.

ONE who follows current medical literature cannot but be struck by the frequency—the increasing frequency—with which questions of prophylaxis are discussed. This is rather in striking contrast with the criticism that has been made, more especially in connection with diseases of the nervous system, that only a small minority of papers written deal with questions of treatment—and it is worthy of note that not a few of the discussions in preventive medicine relate more particularly to diseases of the nervous system. The circumstance in question is obviously referable to increased knowledge of the etiology of disease, and it is to be anticipated that further advances in prophylactic measures must follow upon the same lines. The truth, with regard to matters of health and disease, is viewed with much less sentimentality now than it was formerly, and the importance of hereditary influences in the transmission of morbid tendencies is receiving increasing recognition. More especially is it being appreciated that mental and nervous diseases are not in themselves to be considered causes for shame that call for concealment; but rather that they should be early and unreservedly brought to the attention of the physician, in order that such steps as are available may be taken in the cure, as well as in the prevention of hereditary transmission, while, as already indicated, a full knowledge of the etiological factors will permit of the recommendation of measures of primary prophylaxis. This is the spirit that pervades the introductory address of the president of the section of psychology at the recent meeting of the British Medical Association.[1]

It is pointed out in this communication that there has been not only an absolute, but also a relative, increase in insanity in England and Wales in recent

[1] "The Prevention of Insanity," by R. Percy Smith, M.D., F.R.C.P. Lond. Lancet, August 11, 1900, p. 388.

years, so that there is ample justification for efforts "to diminish, if possible, at the source the numbers of those who thus become incapacitated either temporarily or permanently, who, if not possessing private means, become either a burden to their relatives or to the tax-payer, and who in some cases become criminals as the result of their mental disorder." Attention is devoted to three subjects: (1) The propagation of the race by those of insane inheritance or those who have suffered from insanity; (2) the influence of alcohol in the production of insanity, and the need for preventive legislation; and (3) the causation of general paralysis by syphilis.

Heredity is found to be an etiological factor of insanity in not less than from twenty to twenty-five per cent. of cases—a larger proportion than is associated with any other single cause. For the future welfare of the race and the maintenance of its stock in as healthy a condition as possible, reproduction from defective individuals should not be permitted. It is true that great and practical advances have been made in the care and treatment of the insane, but there is urgent need for the imposition of restraint in the marriage of members of families in which insanity exists or has existed. The danger is, of course, greater when the taint affects both contracting parties and also when consanguinity exists. Remedial or restrictive legislation can scarcely be expected, and, even if enacted, it would be more commonly honored in the breach than in the observance, so that upon the medical man will devolve the responsibility of effectuating so much of the reform in this direction as can be brought about. His, also, will be the duty of educating the community as to the dangers that reside in marriages among the progeny of insane parents or those that themselves are or have been insane. Such unions must be looked upon as nothing less than social crime. So common has become the proposition that defectives should be deprived of the power of propagating their kind, that there is increasing reason to hope that the day is not distant when the suggestion shall be put into practical effect.

Next to heredity, alcohol is the most potent single cause of insanity, from nine to twenty-two per cent. of cases being attributed to its influence directly, apart from any effect it may have on the progeny, and not including cases of acute alcoholism. In addition, it has been found that there is an intimate relationship between alcoholism and suicide. The remedy consists in arrest for simple drunkenness, punishment for serving habitual drunkards with alcohol, and affording protection to the family of the victim.

It is almost universally admitted that syphilis is the most prolific, if not the sole, etiological factor of paretic dementia, which in hospitals for the insane is one of the most common causes of death, especially among men in the prime of life. Paretic dementia is most common where syphilis, alcoholic influences, and dissipated methods of living are most prevalent, and in addition to training individuals in habits of self-control, and teaching them to observe physiological laws, legislation might be enacted to check the spread of such a potent poison to the nervous system as syphilis. It is suggested that the disease should be made notifiable. In Finland, where physicians are required to notify the medical officer of health of the existence of any case of venereal disease, without giving the name of the patient, where opportunities for hospital treatment are afforded, and the authorities have the power to compel the examination of any suspected individual, the prevalence of syphilis has been greatly diminished in the past twenty years, congenital syphilis has become less frequent, and the type of both the hereditary and acquired forms has become much milder. Punishment has been proposed for those who, knowing themselves to be infected, put themselves in the way of infecting others.

THE HEALTH OF NEW YORK.

Dr. Henry Dwight Chapin, chairman of the committee on hygiene of the Medical Society of the County of New York, has lately published his annual report regarding the health of New York City. It is gratifying to gather from Dr. Chapin's investigations—the data of which were gleaned from the exhaustive study of the question made by the Merchants' Association of New York—that the health of New York compares favorably with that of the six largest capital cities of the world. Berlin has the lowest death rate and St. Petersburg the highest, while the mortality per one thousand of New York and London are the same. However, the fact must be taken into account that the death rates for New York are estimated for the boroughs of Manhattan and the Bronx only. Nevertheless it is a matter for congratulation that there has been a steady decrease in the death rate of New York as a whole during the past few years. Dr. Chapin attributes this to a lessening of the virulency of influenza brought about by the better paving of streets and a more careful oversight of water and milk supply. Further improvement in the quality of the milk supply is anticipated, and with this end in view a committee of the Medical Society of the County of New York has been making a careful study of the question and suggesting practical measures. The greater portion of the report is wisely devoted to a consideration of the water supply, which has of late been attracting the attention of sanitarians and citizens of all classes. It is notorious that the water supply of New York is insufficient for the growing needs of the population, and it is also manifest that steps must be quickly taken to remedy the present state of affairs. Dr. Chapin points out that all of the supply of Manhattan, as well as all of the Bronx, is furnished by the city with the exception of about one million gallons daily, which is furnished by a private company. Brooklyn depends mainly upon ponds and driven wells on Long Island, of which the city owns all but about seven per cent. Queens is supplied by wells, about thirty per cent. owned by the city and the remainder by private corporations. Richmond is supplied by wells on Staten Island, constructed and managed by private enterprise. The average daily consumption of all the boroughs in the city of New York was in 1899, 371,778,-

000 gallons, an estimated average daily consumption per capita of 103 gallons. The Croton watershed when completed is expected to yield from 278,000,000 to 280,000,000 gallons per day. From other sources available for the boroughs of the Manhattan and the Bronx from 1,5000,000 to 17,000,000 gallons are obtainable, making in all for these boroughs about 290,000,000 gallons per day. The investigation by the engineering committee of the Merchants' Association shows that in Brooklyn, Queens, and Richmond the present consumption nearly equals the present supply; that in Manhattan and the Bronx the consumption in 1903 will nearly equal the supply at that time available under present methods. Therefore it is perfectly evident that vigorous measures should be initiated at once to enlarge the present water supply, and to introduce reforms into the existing mode of managing the same. As Dr. Chapin ably presents the situation, "From six to seven and one-half years will be necessary from the inception of the work to the delivery of additional water, and immediate steps should be taken to furnish an adequate supply of water, to be available at the latest in 1910." The space at our disposal is too limited to discuss at length the result of the investigations carried out by the engineers of the Merchants' Association. They believe that the Hudson River above Poughkeepsie should be utilized as the main source of water supply for New York, and contend that by an efficient system of filtration such water can be rendered excellent for all domestic purposes. This is undoubtedly the case, and has been conclusively proved in London and in many large American and European cities, where since the adoption of like methods the death rate from zymotic diseases, notably diarrhœa and typhoid, has been immensely decreased. Dr. Chapin concludes his report by entering a strong plea for public ownership of water supplies in New York, in which we heartily concur. The plan has been found to answer admirably in Glasgow, Scotland, and in other centres of population in which it has been given a trial. The cost is much less, and there is not the opportunity—or, at least, there should not be—of making large profits at the expense of the general public as in private ownership. The sanitarians and medical men of New York should use their best efforts to procure a plentiful, pure, and cheap water supply.

THE ETIOLOGY OF YELLOW FEVER.

An amusing illustration of the odium medicum is furnished by the controversy on the subject of the yellow-fever germ now occupying the thoughts and governing the words of certain surgeons of the Marine-Hospital service on one side and of the Army Medical Corps on the other. The former have warmly espoused the hypothesis of the Sanarelli bacillus because they think they have found that germ in the bodies of yellow-fever patients. The latter with some emphasis reject that theory because they have not found the bacillus icteroides in cases of yellow fever, and think they have found it in the cadavers of persons dead of some other disease. We have read with more or less interest the now somewhat voluminous literature put forth by both parties to the dispute, as well as some of that produced by volunteer partisans of one side or the other, and we are obliged to say that we have as yet come across no very convincing testimony advanced by Sanarelli's disciples in support of their leader's assumption.

The dispute has now entered upon a new and to the onlooker a more interesting phase with the adoption by the army and the rejection by the Marine-Hospital service of Finlay's mosquito theory of the spread of yellow fever. The army board, whose inconclusive findings we noted a couple of weeks ago, suggests that the mosquito is the intermediate host of the yellow-fever germ, but Dr. Wasdin, of the Marine-Hospital service, scouts this suggestion, holding that any inoculation of the disease in that way is purely accidental, and he denies that Culex fasciatus or any other mosquito is essential to the spread of yellow fever. Of course the facts adduced by the members of the army board in support of their adopted theory are utterly inadequate, and it is strange that scientific men, such as they undoubtedly are, could bring themselves to put forth seriously any such flimsy evidence. They could have made out a much stronger case by simply republishing Finlay's papers on the same subject. In spite of the lack of proof, however, this fascinating theory may be the correct one, and if it should prove so to be it is not improbable that it will direct us, following out the analogy of the malaria germ, to the discovery of the true cause of yellow fever.

Some time ago Klebs published a paper in which he described certain oval or egg-shaped bodies which he had found in the liver and the mucous membrane of the stomach and duodenum of a man dead of yellow fever. These bodies, which were somewhat larger than a human red blood corpuscle and were found in the tissues surrounded by leucocytes, Klebs believed to be amœbæ, and he suggested that they might prove to be the true parasite of yellow fever. The paper attracted little attention beyond a letter of disapproval from Surgeon-General Sternberg, who said that Councilman had long before observed similar bodies in advanced cases of cirrhosis, in phosphorus poisoning and other cases of rapid fatty degeneration, and especially in acute yellow atrophy. Klebs replied that these appearances were quite different from those seen by him in the organs from a case of yellow fever, but he admitted that the question was one calling for more extensive investigations both in the cadaver and in the living yellow-fever patient. There the matter rested, and the alleged discovery of the Chicago pathologist seemed to have gone to the limbo of unsupported and unpopular medical hypotheses. If Finlay's theory becomes established, however, we may find that the germ which the insect harbors is an amœba, and that it has a separate life cycle in the body of Culex just as the plasmodium of malaria has in that of Anopheles. And then, may be, the warring surgeons will bury the hatchet at the feet of Klebs.

Grippe is reported to be quite prevalent in London.

News of the Week.

A Reception to Dr. William Osler, of the Johns Hopkins University and Hospital, was tendered on November 15th by the Faculty Club of the University of Pennsylvania.

The Plague is raging on the island of Mauritius, where fifty new cases occurred during the first week in November. The deaths were thirty-five. In Alexandria, Egypt, two new cases were reported on November 13th. The disease has also broken out among the natives near King William's Town, twenty-eight miles northwest of East London, Cape Colony. Three deaths have already occurred.

Dr. Angelo Bellinzaghi, who is reported in the papers to have received from the Mexican government an award of $50,000 for the production of a really curative serum for yellow fever, is said to be on his way to New York and Washington. He announces that he is about to organize a company, with a farm near San Antonio, Texas, for the production of his serum on a large scale. Dr. Bellinzaghi seems not to have published his method of preparing the serum, nor have we seen in any medical journal any account of his bacteriological studies of yellow fever, if he has made any such.

A Typhoid-Stricken Town.—It is stated in *The Sun* that typhoid fever has become epidemic in Cementon, a town on the Lehigh River, not far from Allentown, Pa. Out of two hundred families composing the population, there are one or more cases in one hundred and eighteen families. Of twenty-two families, all members from the father down to the youngest child are prostrated by the disease, which has now been raging two weeks. There have been several deaths. The water used by the inhabitants of the town is drawn from the Lehigh River, which is very low, owing to the prolonged drought, and is contaminated with the sewage and cess-pool leakage of the towns above Cementon.

Philadelphia Pediatric Society.—At a stated meeting held November 13th Dr. David Riesman presented "A Case of Complete Motor Aphasia in a Child of Eleven Years, the Result of Infantile Cerebral Palsy." There had been difficulty in the birth of the child, probably with the occurrence of meningeal hemorrhage, which had destroyed the speech mechanism in both cerebral hemispheres. Dr. Alfred Stengel reported "A Case of Meningitis"; also "A Case of Osteoarthritis, with Skiagraphs"; and also "A Case of Œsophageal Stricture, with Skiagraphs." Dr. J. P. Crozer Griffith presented "A Case of Possible Cerebellar Tumor." Dr. A. Van Harlingen presented a communication entitled "A Case of Pemphigus, with Some Remarks on the Treatment of this Condition."

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held November 12th Dr. Thomas C. Ely read a paper entitled "Diabetes Mellitus as a Cellular Fault." Dr. David Riesman read a paper entitled "Abscess of the Liver; Hepatotomy; Recovery." Exploratory puncture had evacuated considerable sterile pus, and the operation yielded a like result. Dr. James Tyson read a paper entitled "A Physician's Holiday at Carlsbad." Dr. F. A. Packard presented a specimen of carcinoma of the rectum associated with the lesions of chronic colitis.

Philadelphia Hospital.—The Bureau of Charities has elected a dental staff constituted as follows: Dr. R. H. Nones, Dr. M. H. Cryer, Dr. J. Norman Brownell, and Dr. Thomas C. Stellwagen, Jr. It is proposed to form also a pediatric staff.

Philadelphia County Medical Society.—At a stated meeting held November 14th Dr. Herman M. Biggs, pathologist and director of the bacteriological laboratory of the New York department of health, read by invitation a paper entitled "The Registration of Tuberculosis," in which, after considering the objections that have been made against this practice, he presented a logical and dispassionate argument in its favor, and he related the results of its operation in New York City. For properly dealing with cases of tuberculosis it was contended that the sanitary supervision in every municipality should comprise: 1, compulsory notification; 2, suitable plans for the education of the people; 3, a complete and efficient scheme for the disinfection or renovation of premises vacated by death or removal; 4, a hospital equipment; 5, the power of compulsory removal and detention of patients in a hospital when necessary, in the same manner as is practised in the contagious diseases. He showed that since 1886 there had been a reduction in the mortality from tuberculous diseases in New York City of more than thirty-five per cent., and he expressed the opinion, that, with a complete and efficient scheme for dealing with pulmonary tuberculosis, including suitable hospital accommodations and the proper enforcement of precautionary measures, the death rate from tuberculous diseases in New York City might be further reduced at least one-third within a period of five years. This would mean the saving of three thousand lives annually. After extended discussion, participated in by Drs. J. C. Wilson, A. C. Abbott, A. V. Meigs, J. M. Anders, L. Ott, L. F. Flick, W. M. Angney, M. Woods, S. Flexner, J. Solis-Cohen, A. Stengel, W. M. L. Coplin, and G. Hinsdale, a resolution was adopted recommending to the bureau of health the compulsory registration of cases of tuberculosis, with the adoption of measures looking to the restriction of the disease.

Return of a Disgraced "Ambulance" Corps.—Thirty-three members of the Chicago Irish-American Ambulance Corps, which left this city to help the Boers in the Transvaal last February, got back Saturday on the steamship *Trave*. There were fifty-eight men in the corps, among them six physicians. They were Drs. J. R. McNamara, Herbert McAuley, James J. Slattery, R. L. Long, A. F. Corney, and J. B. Aderholt, all of Chicago. George Cassidy went as a nurse. The other fifty-one were supposed to be litter men.

Before leaving this country each of the fifty-eight men went before a justice of the peace and made affidavit that he was going to South Africa, not as an ally of the Boers but as an ambulance man, and each man pledged himself not to fight. Miss Clara Barton gave the Irish-American Corps a Red Cross flag and recognized the organization as a Red Cross auxiliary. The six physicians and the nurse adhered to their pledges, but all the others entered the fighting ranks of the Boers the minute they reached the Transvaal. Some of the men were killed, some were captured or ran away, and some are still fighting. We are pleased to note that the reception the returning band of pledge breakers got from the committee which had been appointed to meet them was far from cordial, and instead of congratulations they received reproaches for having perjured themselves.

Fire at Cornell University.—The main building of the Veterinary College at Cornell University was damaged by fire on November 13th, about $10,000 worth of laboratory apparatus being destroyed. The total loss was about $30,000.

Yellow Fever in Havana is diminishing since the appearance of cooler weather. At the middle of this month there were sixty-five cases under treatment in the city, seven of them being in Americans. There have been two cases at Natchez and one at Brookhaven, Miss.

Fire in the Hudson Street House of Relief.—A fire did slight damage to the Hudson Street Hospital on Friday morning of last week. It started in the laundry on the top floor, but was extinguished quickly without disturbing any of the thirty-five patients at the time in the wards. The hospital is the accident branch of the New York Hospital.

University of Michigan's Homœopathic Hospital.—The new Homœopathic Hospital of the University of Michigan was opened on November 15th and filled with patients formerly cared for in part of the University Hospital. The formal opening will take place in the first week of December. Dr. Charles E. Walton, of Cincinnati, president of the American Institute of Homœopathy, will make the principal address.

A Disgraceful Riot occurred at the Omaha Medical College, Thursday of last week, in which nearly one hundred students participated, and two of them were severely, perhaps mortally, injured. The fight took place between the dental and the medical students over the question of seats. At the beginning fists were the only weapons, but soon a railing was demolished and its severed parts were used as clubs, with serious results.

More Free Treatment by the New York Board of Health.—A few days ago notice was sent to physicians here by the health department that treatment for the prevention of rabies, according to the method of Pasteur, would be administered free to any person residing in Greater New York; that it would be administered on request to persons outside the city upon the payment of $50 for the virus used, and that to persons unable to pay that fee treatment might be administered without charge by direction of the board of health. The treatment will be carried out at the Willard Parker Hospital.

X-Ray Treatment of Alopecia.—A Viennese physician, Dr. Kienbock, claims to have caused hair to regrow on a bald head by treatment with Roentgen rays. The case reported was one of alopecia in a young man, cause not stated, but the doctor has not succeeded in remedying calvities senilis.

Presentation to Dr. Wheelock.—On the evening of November 14, 1900, the committee appointed for this purpose by the Alumni Association of the College of Physicians and Surgeons, medical department of Columbia University, presented to Dr. George G. Wheelock, of New York City, a testimonial in silver to commemorate the faithful and wise manner in which he had performed the duties of treasurer for the Association during the long period of twenty-four years. The testimonial bore the inscription: "Fidelitatis Causa."

Testimonial Banquet to Dr. Christian Fenger.—A testimonial banquet was tendered to Dr. Christian Fenger at the Auditorium Hotel, Chicago, November 3, 1900. Over five hundred physicians from all parts of the United States were present. The meeting was called to order by Dr. J. B. Murphy, who introduced as toastmaster Dr. Charles A. L. Reed, of Cincinnati. Letters and messages of regret from the officers of various State, county, and local medical societies in the East, West, North, and South were read. Dr. W. W. Keen, of Philadelphia, presented the loving-cup to Dr. Fenger. One side of the cup bore the inscription:

> "This great good man for noblest cause displays
> What many labors taught, and many days."

On the other side it read: "To Dr. Christian Fenger, on the sixtieth anniversary of his birth, from those who know and love him best—THE MEDICAL PROFESSION." Dr. Fenger accepted the loving-cup in a brief but felicitous speech.

The First New York State Conference of Charities and Correction was held in the Senate Chamber at the Capitol in Albany, on November 20, 21, and 22, 1900. This Conference, designed to meet annually in this State, has been inaugurated for the consideration of questions of practical importance with relation to the public and the private charitable and correctional work of the State, with the hope that the Conference will be able to exert a powerful force for good in securing intelligent action upon such questions. Conferences similar in purpose have for some time been organized and carried on in many of the States, principally in the West, and those who are well informed on the subject regard them as sources of beneficent influence. All who are officially connected with public or private charitable or correctional work in New York State, or who take an active interest therein, are invited to enroll themselves as mem-

bers of the Conference and to attend its sessions. There are no other tests of membership, and no membership fee is charged, the expenses of the Conference being met by voluntary contributions. The officers of the Conference were: *President*, Hon. William Pryor Letchworth, LL.D., of Portage; *Vice-Presidents*, Robert W. de Forest, of New York; Rev. Thomas A. Hendrick, LL.D., of Rochester: *Secretary*, Homer Folks, of New York; *Assistant Secretaries*, Frederic Almy, of Buffalo; Dr. John F. FitzGerald, of Rome; Clarence V. Lodge, of Rochester; *Treasurer*, Frank Tucker, of New York.

An Impostor.—Dr. W. Peyre Porcher, of Charleston, S. C., writes that a man impersonating himself, and claiming to have attended the meeting of the Congress of American Physicians and Surgeons in Washington in May last, has been victimizing many of the profession of that city by pretending to be in distress and borrowing money from them. The man is described as being between sixty and seventy years old, with a heavy gray mustache, about five feet eight or ten inches tall, and of rather spare build. There should be some way in which physicians could protect themselves from this class of scoundrels, and Dr. Porcher hopes that any one approached by this man will be on his guard and will be able to cause the swindler's apprehension.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending November 17, 1900. Medical Director C. H. White placed on the retired list of the navy from November 19th, having reached the age of sixty-two years. Passed Assistant Surgeon R. S. Blakeman detached from the *Pensacola* and ordered to Naval Hospital, Mare Island, for treatment. Assistant Surgeon C. S. Butler ordered to the *Independence*. Surgeon W. A. McClurg ordered to additional duty on the *Yankee*. November 14th.—Assistant Surgeon W. M. Carton detached from the *Indiana* and ordered home to wait orders. November 15th.—Passed Assistant Surgeon A. R. Alfred detached from the *Castine* and ordered to the *Culgoa*. Passed Assistant Surgeon M. K. Johnson detached from the *Celtic* and ordered to the *Brutus*. Assistant Surgeon H. C. Curl detached from the *Culgoa* and ordered to the *Castine*. Assistant Surgeon E. Davis detached from the Cavite naval station and ordered to the *Brutus*. Assistant Surgeon W. L. Bell detached from duty at Guam and ordered to the *Celtic*. Assistant Surgeon B. L. Wright detached from the naval hospital, Cavite, and ordered to the naval hospital, Yokohama, for treatment.

The Late Dr. Lewis A. Sayre.—In the death of Dr. Lewis Albert Sayre the New York Pathological Society loses the last of the members who brought it into existence. The first meeting of the society was held in Dr. Sayre's office on June 14, 1844, Drs. George A. Peters and Middleton Goldsmith participating in the formation of the new society. Dr. Sayre kept his interest in the society alive, occasionally attending its meetings, until the end of his professional activity. It is with a special sense of loss that the society sees fade from its list of active members this illustrious name, enrolled at its first meeting when "the oldest pathological society in the world," as he was fond of saying, was created.

The New York Pathological Society now records upon its minutes the death of Dr. Lewis Albert Sayre, and adopts the following resolution:

"*Resolved*, That the sympathy of the New York Pathological Society be extended to the family of Dr. Sayre in their bereavement, and that the above testimonial be published in the current medical periodicals. (Signed) W. P. Northrup, M.D., James Ewing, M.D., E. K. Dunham, M.D., *Committee*."

Obituary.

HORACE TRACY HANKS, M.D., LL.D.,

NEW YORK.

Dr. Hanks, whose death from Bright's disease occurred on Sunday last at his home in this city, was born June 27, 1837, in East Randolph, Vt. After completing his college studies he taught school in his native place for some years, and then began the study of medicine under a preceptor. His degree was obtained from the Albany Medical College in 1861. For two years after graduation he served in the Union army as acting assistant surgeon, and in 1863 entered upon the practice of his profession in Royalston, Mass. Here he remained but a short time and then removed to this city. Circumstances turned his attention almost from the first to gynæcological subjects, and he soon became recognized as an authority in that specialty. He was gynæcologist to the Demilt Dispensary from 1872 to 1882, and in 1885 was appointed professor of the diseases of women at the Post-Graduate Medical School. In 1875 he became assistant surgeon to the Woman's Hospital and was elected attending surgeon to the same institution in 1889. He was also consulting gynæcologist to the Tarrytown, Mt. Vernon, and St. Joseph's Hospitals, and to the Newark Hospital for Women and Children. He was a member of the New York Academy of Medicine, the New York Obstetrical Society, the New York State Medical Society, New York County Medical Society, the Medico-Historical Society, and the American Medical Association, and was a Fellow of the American and of the British Gynæcological societies. He was an honorary member of the Boston Gynæcological Society and the Dubuque Medical Society. He was a prolific writer for medical publications and invented a large number of surgical instruments for use in his specialty. A widow and two daughters survive him.

Obituary Notes.—Dr. Robert B. Brown died on November 15th at his home in Phillipsburg, N. J., at the age of seventy-six years. He was graduated from the medical department of the University of Pennsylvania in 1846. He served as surgeon in the Union army during the Civil War.

Dr. A. Miles died last week at his home near Dallas, Texas, at the age of ninety-four years. He was a native of Kentucky, but practised medicine in Texas for nearly sixty years. He served as surgeon in the Confederate army during the Civil War.

Dr. George W. Sparks died at Philadelphia on November 17th at the age of fifty-six years. He was graduated from Jefferson Medical College in 1865.

Dr. William T. Collins died at Camden, N. J., in November, at the age of seventy-one years. He was a graduate of Jefferson Medical College.

Progress of Medical Science.

New York Medical Journal, November 17, 1900.

An Operation Devised for the Treatment of Marked Prolapse of the Rectum in Women.—By J. Wesley Bovée. The patient was a woman aged thirty-five, who suffered from large external and internal hemorrhoids and a protruding roll of fully three inches of rectum that was thickened and much discolored. The uterus was of about normal size, with its cervix just behind the pubes and the fundus very low posteriorly. The hemorrhoids were first removed, then the abdomen was opened by the usual subumbilical median-line incision. The left ovary was of about three times its natural size and largely consisted of numerous cysts. The appendages were removed and the uterus was firmly fixed to the abdominal wall by four strong interrupted catgut sutures, which passed through a considerable portion of the uterine fundus at the top and the principal fascia of the abdominal wall on either side of the incision. The rectum was now drawn upward until it was fairly tense, and was so held by an assistant until it was sutured to the cul-de-sac and posterior wall of the uterus, up to the abdominal wall. This was done by a running catgut suture. It completely divided the retro-uterine pelvic cavity into two equilateral ones. The patient was doing well eight months after operation, with no relapse.

Delirium Tremens.—C. J. Douglass thus states his views as to the correct method of treating this condition. First, patients should be put to sleep with apomorphine, which can be done in a few minutes without danger and without emesis. Secondly, they should not be restrained by physical force, as this adds to their suffering and prolongs and increases delirium. Thirdly, they should be allowed alcohol in some form. Fourthly, the patients should be nourished with milk, egg-nog, or some other liquid food. Delirium tremens seldom affects those who have not been deprived of proper nourishment for some time. Hence easily assimilable food is indicated.

The Etiology of Eczema with Reference to Recent Views as to its Parasitic Origin.—By L. Duncan Bulkley (continued article).

Phœnix, Arizona, as a Health Resort for Tuberculous Patients.—By E. Payne Palmer.

Endothelioma of Bone with Many Metastases.—Concluding article by F. H. Brandt.

A Review of Our Knowledge of Malaria.—By Joseph McFarland.

Rational Physical Training for Women.—By G. A. Saxe.

Medical News, November 17, 1900.

Pernicious Anæmia; Report of a Case.—G. R. Trowbridge states that the etiology of this affection is very obscure, there being no known or appreciable cause. As yet it is impossible to say whether the disease is produced by a defective hæmogenesis or hæmolytic process. The points on which to base a diagnosis are as follows, and in every suspected case include an examination of the blood: (1) Greenish-yellow tint of the skin. (2) Dyspnœa and rapid pulse without pulmonary symptoms and a proportionate rise of temperature. (3) The intense oligocythæmia. (4) The presence of macrocytes and microcytes. (5) The steady and uninterrupted progress of the disease toward a fatal termination, and the inefficiency of treatment. The prognosis is always unfavorable. Arsenic is the only drug which seems to have a beneficial effect in these cases, and then it is only slight and not permanent and only temporarily checks the progress of the disease. The writer concludes by saying: In cases of apparent chlorosis and primary anæmia in which there is present the greenish tint of the skin, together with dyspnœa, palpitation, and general malaise, one should not depend on symptoms for the diagnosis, but should let the blood examination decide whether one is dealing with either of these diseases or with a case of pernicious anæmia.

The Surgical Importance of Jaundice.—Archibald Maclaren concludes: (1) That slight attacks of jaundice are of comparatively little surgical importance, and that the majority of cases of surgical disease of the biliary passages have no jaundice at all. (2) That persistent jaundice, especially if progressive, is usually a contraindication; (3) while on the other hand intermittent, deep jaundice, especially if associated with chills and a rise in temperature, denotes a stone in the common duct which urgently demands removal. The writer also states that about half the patients who during life present symptoms of carcinoma of the liver are jaundiced. The surgery of cancer of the liver is very unsatisfactory. The disease is, in his experience, very aggravated, and the end is even hastened by an exploratory operation. Cholecystotomy and drainage give relief except in cancer of the common duct. Cancer of the gall bladder, which is almost always found in cases when gall stones have existed for years, should be removed if the liver be not too extensively infiltrated.

Some Observations on Affections of the Gall Bladder.—By Frank LeMoyne Hupp.

The Hydriatic Treatment of Tuberculosis.—By J. H. Kellogg.

Boston Medical and Surgical Journal, Nov., 5, 1900.

Feeding in Typhoid Fever, with a Report of Cases.—George W. Moorehouse urges the use of a more generous diet in the treatment of typhoid fever than is the usual practice, and describes milk diet, liquid, soft typhoid, typhoid convalescent, and full typhoid diets. Out of one hundred and fifty cases put on soft diet there were thirteen deaths, or a mortality of 8.67 per cent. Dr. Bushuyev, a Russian surgeon, reports the result of experiments upon one hundred and fifty-four patients in a hospital. Seventy-four, treated by a colleague, received two litres of milk and one or two soft-boiled eggs in the day. Bushuyev's eighty patients were put upon a liberal diet. The general mortality was ten per cent. on the liberal and 12.1 per cent. on the milk diet. The average duration of the fever after entrance was 18.9 days for those liberally fed, and 22.3 days for those on milk. The average stay in the hospital was forty-two days for those liberally fed, and 49.2 days for the others. Of the patients liberally fed only 8.3 per cent. were discharged incapable of duty, but of those who were kept on a milk diet 15.4 per cent were so discharged.

Three Cases of Gunshot Wounds.—A. Farenholt reports three cases. In the first a youth was shot in the head by a Spanish Mauser ball, calibre 8 mm. The wound showed that a modern high-power bullet, passing through a bony cavity at a very short range (two feet), may not cause a "ragged and enlarged opening" at the wound of exit, as we are so often reminded it does at greater ranges. In the second case a 45-calibre Remington ball gave a round and clear-cut wound of entrance and a gouged-out, large and ragged wound of exit. In the third case, a Mauser ball, at a distance of seventy yards, gave a rather ragged wound of exit.

The Co-operation of the Medical and Legal Professions.—By George A. Sanderson.

Criminal Neglect; Report of a Case.—By A. W. Buck.

Public Health Laboratories.—By Theobald Smith.

Journal of the American Medical Ass'n, Nov. 17, 1900.

Iodine Used Hypodermically in the Treatment of Pulmonary Tuberculosis.—Alfred Careno Croftan declares that iodine is peculiarly a drug against which different subjects show marked idiosyncrasies. The chief symptoms observed are emaciation, usually accompanied by profuse sweats, some pyrexia, and an accelerated pulse; a peculiar psychical depression develops a form of hypochondriasis ("anxietas"). In the light of our theoretical beliefs the administration of iodine should act curatively in pulmonary tuberculosis. Accurate dosage is essential to the success of the plan of treatment that is being advocated; too large doses will certainly aggravate, too small doses will be inefficient. Iodipin injections were tried only on carefully selected cases. Twenty-seven cases have so far been treated with good results; nineteen were cases of incipient tuberculosis with only circumscribed areas of infection in one or the other of both apices. The results obtained so far are not conclusive, they are only suggestive, although they now appear to be sufficiently striking to warrant an optimistic view. The sooner the disease is recognized and treatment begun, the better the prognosis. Iodipin was employed in the form of the ten-per-cent. preparation, and the injections were made into the subcutaneous tissues between the skin and the muscle, preferably in the gluteal and interscapular regions. Beginning with one drop of iodipin, which, to give the necessary bulk for hypodermic administration, was dissolved in half a drachm or so of sterilized oil, the injections were gradually increased, one drop being added to the dose each day. The dosage was regulated by the symptoms: as soon as an improvement became apparent, the dose exhibited at the time was continued for a period of thirty to sixty days. If the quantity at first acting beneficially seemed to grow insufficient, the dose was again increased drop by drop; more than sixty minims a day have so far never been given. The writer believes pulmonary tuberculosis in its incipiency, before it has become a mixed infection, to be one of the most easily curable of bacterial diseases.

Symptoms and Diagnosis of Hypertrophy of the Pharyngeal Tonsil.—George Morgenthau states that the most common of these symptoms is the excessive discharge which flows either into the nasopharynx or into the nose. Finally, chronic rhinitis results. The children become mouth

breathers. Infants are sometimes unable to nurse at the breast. Nosebleed sets in often. The nasal discharge is apt to excite eczema at the introitus, thickening and roughness of the upper lip, etc. Impairment of smell and taste often succeed chronic inflammation of the nose. Laryngeal and bronchial symptoms intervene: cough, hoarseness and false croup, and bronchitis and bronchopneumonia. Adenoid growths are often accompanied by nervous disorders. Major ascribes enuresis nocturna to carbonic-acid-gas poisoning from insufficient ventilation of the blood, the breathing being too superficial because of the stenosis; of this, interrupted sleep and snoring are a further result. Various authors explain differently the chest deformities. In extreme cases the anatomical deformities of the buccal cavity are marked. The patient may appear stupid but is not necessarily so. Adenoid growths are the most prolific cause of certain diseases of the ear in childhood, excepting, perhaps, the infectious diseases. As to the diagnosis, the characteristic appearance, the manifold signs of nasal stenosis, and the sound of the voice (which, to be sure, is very similar in paralysis of the soft palate), combined with the aural symptoms, make the diagnosis possible almost at a glance. Rhinoscopy offers an efficient aid.

Massage of the Eyeball.—Casey A. Wood believes that in the main indirect massage with the pulp of the finger placed on the skin of the lids is to be preferred. Direct massage, especially of the conjunctiva, is valuable and sometimes preferable to the indirect method, but the latter is usually sufficiently efficacious, is less difficult, and is more readily borne by most American patients. Indirect massage should never produce actual pain. If the lids are to be treated the patient should look down when the upper lid is being massaged, and up in the case of the lower lid. If the cornea is to receive attention the patient should look straight forward. Once daily to twice a week constitutes the range of frequency of these applications. The writer then speaks of several remedies used. In massage for its own sake cod-liver or pure castor oil is used. He believes in mercurials of various strengths, combined with all sorts of oleaginous excipients. He greatly favors the old citrine ointment. The patient, half an hour after lid friction, should not experience any added discomfort. The writer believes that massage in young subjects especially lessens the opacity following ulcer of the cornea. If applied early, it promotes the removal of the surrounding infiltrate that would otherwise remain. In the same way it is valuable in the treatment of interstitial keratitis.

Use and Abuse of Potassium Iodide in Ophthalmic Practice.—The following conclusions are presented by Albert Rufus Baker: (1) Iodide of potassium should generally be administered in rapidly increasing doses until from gr. i.-d. is given daily. (2) The drug should always be given after eating, and well diluted with water. (3) Frequent hot baths are essential to the best results in the use of the remedy. (4) Not infrequently large doses will be tolerated when smaller ones cannot be well taken. (5) The use of the large dose is not limited to syphilitic cases. (6) Large doses are indicated in optic neuritis, ocular paralysis, choroiditis, serous iritis, and in relapsing iritis, cyclitis, and interstitial keratitis. (7) It is contraindicated in gray atrophy of the optic nerve and in most cases of postneuritic atrophy. (8) Albumin in the urine, generally speaking, is a contraindication for large doses of iodide. (9) Young children do not take the iodide kindly, and it should be administered cautiously. (10) The remedy is of doubtful value in early syphilitic iritis. (11) Large doses are of doubtful utility in the removal of post-operative exudates, but should be given further trial.

Diabetes Mellitus in Children.—Leopold F. W. Haas concludes that: (1) Diabetes occurs more frequently in children than is generally supposed. (2) Uranalysis is just as important an element in the scientific diagnosis of disease in children as it is in adults. It is to be regretted that the general practitioner rarely realizes this fact. (3) There is a possible etiological connection between peliosis rheumatica and diabetes. The pathogenesis of both conditions is so obscure, however, that speculation on this question can only point out a direction for further research.

Tuberculosis of the Testicle, with Special Consideration of its Conservative Treatment.—By John B. Murphy.

Purpura Hemorrhagica or Scorbutus? A Clinical Sketch.—By Henry E. Tuley.

A Double Hook for Use in Advancement Operations.—By C. F. Clark.

Medullary Anæsthesia in Gynæcology.—By J. Riddle Goffe.

Hernia or Diverticulum of the Chorion.—By L. H. Laidley.

Electric Recording Perimeter.—By William M. Sweet.

Malarial Hæmoglobinuria.—By William Britt Burns.

Glioma of the Retina.—By G. A. Sulzer.

Philadelphia Medical Journal, November 17, 1900.

The Etiology of Yellow Fever.—Eugene Wasdin quotes Sternberg in a recent note: "From Wasdin's point of view the question of yellow-fever etiology is settled." The author adds that nothing is more certain than that fact, and then appends his reasons for the statement. Laborious clinical observation has culminated in the formulation of a group of infectious diseases, called the "acute infectious diseases." They have characteristics in common; primarily, they are infectious; they are characterized by clinical symptoms due to the influence of intoxicants; they are all specific infections; many of them are caused by vegetable micro-organisms of low type. Clinically, these diseases closely resemble each other until the development of their specific symptoms, after which they are readily diagnosticated. Pathologically the chief disasters arise from the influence exercised by the toxins formed by the organisms. In some of these diseases the infecting organisms also pass into the circulation and add their effect to that of the toxins. Co-instantaneously there are developed two inherent forces, or qualities, in the infecting germ—toxicity and septicity. The germs, intensely toxic, produce a reaction resulting in the fatty degenerations and at times the necroses in the parenchyma of the organs. Those intensely septic are characterized by more prolonged clinical symptoms, less marked fatty changes, and more marked necroses in the tissues. Each infecting organism is specific, and it is only so when it has entered into contact with the living tissues; when, if the environment is propitious, this potential becomes a developed force. When these developments are mixed the pathological changes are found to be combined. When the toxic potential is strongly developed there will arise the acutely toxic cases; if it is only slightly developed, such cases will be ephemeral; if the septic potential is developed, either alone or in conjunction with the toxic, there must arise the septic cases of these diseases. The three types of cases named are and have been recognized thus far only in yellow fever (Sternberg), although they may all now be recognized in the other acute infections. The writer continues that it is in the application of this law to the acute infection of yellow fever, explaining its symptomatology and its pathology upon these firm facts, that he now contends that yellow fever cannot be rudely torn from its place in the list of acute infections and placed, as Reed and Carroll would have it, among the accidental, artificial inoculations, which appears to be the fate of the malarial fevers at this time. Each one of the specific infectious organisms may be able, under artificial inoculation, to produce its specific disease, but this does not remove these diseases from the list of the natural infections.

Carcinoma of the Rectum.—John B. Deaver regrets that more radical surgery than that advised is not permissible; by which he means the removal of the lymphatic glands of the mesosigmoid, in this wise absolutely cutting off the lymphatic circulation between the site of the disease and the general lymphatic circulation. If this was possible, the outcome of these operations would be more promising. But as this is not possible, early and radical operation is all the more urgently called for. When the growth occupies the rectum high up, the writer opens the abdomen in the left iliac region. If it is then determined that the growth with the rectum can be taken out through a posterior incision, the sigmoid is divided transversely and removed with its mesentery as far down as the growth, when the lower opening is closed and the margins of upper opening are stitched to the margins of the upper part of the incision, closing the lower part of the incision entirely.

Note on Specimen Showing a Small Saccular Aneurism on an Accessory Branch of the Right Renal Artery.—By Maude E. Abbott.

Aneurism of the Spermatic Artery Simulating Oblique Inguinal Hernia.—By S. W. Miller.

Acute Hemorrhagic Encephalitis.—By Charles Dewey Center.

Idiopathic Phlegmonous Gastritis.—By Francis P. Kinnicut.

Venous Thrombosis in Heart Disease.—By William W. Ford.

The Lancet, November 10, 1900.

On the Influence of Fatigue on the Minute Structure of the Kidney and Liver.—By Guido Guerrini. In the kidney the grosser modifications of structure are in the cells of the convoluted tubules and of the ascending part of the loop of Henle. The corpuscles of Malpighi and the collecting tubes are nearly always normal. In the affected cells the modifications of structure are, naturally, in relation with the degree of fatigue undergone by the animal. The more fatigued a dog is the more profoundly altered are the cells. In animals already much fatigued the following appearances may be observed. The protoplasma loses its

unsual aspect and becomes homogeneous and granular. It appears that the cellular body enlarges, sometimes little, sometimes so much that in a transverse section all the openings of the canals seem to be closed by the swollen cells. The edge between the cells becomes uncertain and sometimes disappears altogether. In animals still more fatigued the minute modifications of the cells of the convoluted tubules are much greater. It is seen, in fact, that the borders of the cells which surround the opening of the canals fray out and break, and that the cellular protoplasm shows here and there rarefied points, vacuoles and cracks, and finally crumbles away into a fine detritus which collects in the opening of the tubules. In the midst of this detritus normal nuclei are sometimes found, sometimes lumps or granular masses which stain like the nuclei. This degenerative process almost always attacks a certain number of cells, but sometimes it is seen only in a group of a few diseased cells which are in the midst of several normal ones.

The minute modifications of structure of the liver cells are much less than are those of the kidney cells, and they appear conspicuously only in the liver of those dogs in which the modifications of structure are the greatest. They are as follows: From the beginning all the cellular protoplasm appears homogeneous, cloudy, and granular. The cellular body enlarges and the edge between the cells becomes uncertain and sometimes disappears altogether. Sometimes the little biliary canals are evidently compressed, whereupon the protoplasma of the liver cells appears rarefied, full of knots, spongy, and very dark from biliary pigment.

The Physiology and Pathology of Inheritance, or What do We Inherit from Our Parents?—Thomas Oliver says that from a physiological point of view there is considerable evidence to show that mental, not less than physical, qualities are transmitted; that pathologically such a disease as haemophilia is inherited, and that when there is a family history of phthisis and cancer there is, especially as regards phthisis, a greater liability to the disease than when a family shows no such record. He believes that the influence of inheritance, however, has been exaggerated. Tuberculous disease is inherited, but only in the same sense as are other diseases that are due to microbes: it is in the form of an enfeebled resistance on the part of the tissues. Pulmonary phthisis seems to exhibit a kind of inheritance that is particularly its own, but on scrutiny this is found to be largely due to the domestic character of the malady which is encouraged by our home life, insanitary dwellings, overcrowding of the poorer working-classes, infection, Britain's changeable climate, dusty occupations, and ill-assorted marriages.

Two Cases of Hemorrhagic Pancreatitis.—J. H. Bryant reports the cases of two men, aged thirty-six and twenty-two respectively. The first case was diagnosed as one of perforating gastric ulcer, and the abdomen was opened, with the finding of the condition named in the title. Death ensued on the fourth day. The autopsy showed (and this is the remarkable feature of the case) fat necrosis outside the peritoneal cavity. There was fat necrosis of both the mediastinal and pericardial fat, and the cavity of the abdomen was at the time of operation distended with bile-stained, serous, sterile fluid. This latter condition was especially noticeable in the second case in which the same diagnosis was made before operation as in Case I. No fat necrosis was found. The tissues in the neighborhood of the bile passages and the pancreas had a swollen and sodden appearance and were all very deeply stained with bile. It was thought that bile might have escaped into the abdominal cavity by either the blood-vessels or lymphatics, or both.

An Interesting Case of Amenorrhœa.—W. J. H. Hepworth reports the case of a young married woman aged twenty-three years, who had had two children and suspected a third pregnancy, as she had menstruated only once since her infant was born, and that was six weeks after birth. The patient found as soon as she left London and went to the country that her sickness would return at the regular times, but would not if she remained in town. By leaving town for two days each month it was possible for her to regulate the monthly function without difficulty.

A Series of Eleven Operations for Perforated Gastric Ulcer.—By G. H. Hume.

The Urinary Pigments in their Pathological Aspects.—By A. E. Garrod.

Surgical Emphysema of the Eyelids.—By C. L. Birmingham.

Empyema following Lobar Pneumonia.—By W. Hale White.

A Case of Anthrax.—By E. A. Clarke.

British Medical Journal, November 10, 1900.

Clinical Lecture on Progressive Pernicious Anæmia with Spinal Symptoms.—Sir Dyce Duckworth cites the case of a man aged thirty-six years, afflicted with this disease. As the result of treatment by rest, good diet, with wine, red bone marrow, and the action of arsenic, the patient improved, although he never recovered his original health, having been a vigorous and robust-looking man. Later he had a relapse, and in addition he gave evidence of the onset of some grave disorder of the spinal cord. At this time the red cells numbered 1,600,000; white cells, 5,000; hæmoglobin, twenty-seven per cent.; the patient sweated profusely, and was very exhausted and languid. About two weeks later there was weakness in all muscles of both legs, no definite paresis. There were complete loss of sense of position, and nearly complete anæsthesia below the level of the patella, but dipping down the popliteal space in a loop over the calf, in the "small sciatic area." Four days later loss of rectal control occurred. About five weeks from the time the above blood count was taken, the red cells had dropped to 1,500,000; hæmoglobin, thirty-two per cent. Five days later he died; at 6 A.M. the temperature rose suddenly to 104 F. The respirations were 34 and the pulse 120, at times very small. About an hour before death the temperature rose to 105°. The pulse was 136, and of very small volume. One hour after death the temperature was 106.2°. The present conception of this distressing malady regards it as the result of a special form of blood destruction, so-called hæmolysis, occurring in the course of the portal circulation, induced by the action of some toxic matter produced in and absorbed from the alimentary tract. The disease is therefore a chronic infective form of toxæmia, which induces profound anæmia, and it is surmised that this toxin is of bacterial origin.

The Treatment of Dysentery.—Wilfred Watkins-Pitchford gives his experience in the treatment of this disease in Natal during the first part of this year. As the patients brought to the hospital were nearly all beyond the first stages the saline aperients met with little success. ipecacuanha also was disappointing, probably for the same reason. The tincture of "monsonia ovata" appeared to produce no effects whatever except nausea and depression. Greater success attended the use of mercury perchloride in mixture with bismuth and opium, and several of the patients who recovered undoubtedly owed much to this combination. "Izal" in 5-minim doses certainly produced amelioration of symptoms. Izal combined with bismuth and chlorodyne gives a most satisfactory result. The formula used by the writer is: ℞ "Izal," ♏ iii.; bismuthi subnitratis, gr. x.; tincturæ chloroformi et morphinæ, ♏ viii.; mucilaginis acaciæ ad ℥ i. To be taken every two, four, or eight hours, according to the severity of the symptoms. Milk is not a suitable diet for this disease. Beef-tea and bread with butter satisfy, and leave a residue which appears to cause but little colic or rectal irritation. Great risk must frequently accompany the giving of rectal injections, especially when combined with abdominal massage. The coexistence of enteric fever and dysentery or their occurrence within a short interval of one another is not uncommon.

Enteric Fever in South Africa; Effective Sterilization of Excreta.—H. A. Cummins, in the epidemic of enteric fever at Bloemfontein, obtained from the sanitary contractor a large thirty-gallon iron "jackpot" into which were poured about two gallons of 1:20 carbolic solution and subsequently the excreta. The pot was kept boiling day and night. According to requirements the contents of the pot were emptied, but always a sufficient, heated residue was left to affect the next stool emptied. Carbolic solution was poured in if necessary to make up for loss by evaporation. The contents were thus kept fluid, and no charring could occur. In this manner the practically instantaneous sterilization of each stool the moment it left the bedpan was secured day or night. There was practically no smell from the fumes. As a result of bacteriological experiment, five nutrient agar tubes which were inoculated from the pot developed no sign of bacterial growth, while one tube inoculated from the contents of a bedpan about to be emptied into the cauldron showed about one hundred well-marked colonies.

Notes of a Series of Cases of Glandular Fever Occurring in Epidemic Form.—Leslie Durno makes this report. With the exception of one adult, the ages of the patients ranged from two and a half to thirteen years. In every household in which the malady appeared very few of the younger members escaped. The illness commenced with headache, nausea and sickness, pain in one side of the neck, and, in by far the greater proportion, of the left side. The temperature ranged from 100 to 105° F. The pulse rate was high. Constipation was the rule. The lymph glands on the affected side of the neck became swollen and tender. Acute anæmia developed rapidly and in some cases was extreme. There were no deaths. The disease is highly infectious. Sodium salicylate with one or two calomel purges in the feverish stage, arsenic and iron during convalescence, appeared to give good results. An important element in treatment is

to maintain as thorough an antiseptic state of the mucous membrane of the throat and pharynx as possible.

The "Hepatic Odor" in Abscess of the Liver.—W. K. Hatch calls attention to the peculiar odor present in patients suffering from abscess of the liver. In one patient who had been treated for chronic diarrhœa of two months' standing, the presence of this smell guided the writer to suspect the liver, although as the temperature was subnormal and the liver only slightly enlarged the medical attendant had not considered the liver at all affected.

Apomorphine as a Hypnotic.—E. W. Adams administered a hypodermic injection containing gr. $\frac{1}{15}$ of this drug to an alcoholic patient. The expected did not occur. In about twenty minutes she was quietly sleeping. Instead of aiding the ineffectual retching that was present, this latter was quelled by the exhibition of the drug.

Presidential Address on the Present Position and Future Work of the British Medical Association.—By John W. Byers.

The Vulgar Errors and Superstitions of West Somerset in their Relation to Medicine.—By G. F. Sydenham.

Enteric Fever in the Army in South Africa, with Remarks on Inoculation.—By Howard H. Tooth.

Laparotomy for Intestinal Obstruction, Repeated within Seven Months.—By J. Lewtas.

An Account of Seven Cases of Acute Irritant Poisoning.—By W. H. Packer.

Notes on a Case of Acute Yellow Atrophy of the Liver.—By G. H. Pearce.

A Case of Compound Dislocation of the Wrist.—By William Tiplady.

A Case of Acute Yellow Atrophy of the Liver.—By C. T. Anderson.

The Treatment of Diphtheria by Iodine.—By Hugh Taylor.

A Case of Lead Poisoning by Beer.—By E. R. Morgan.

Liquor Thyroidei in Hæmophilia.—By C. Royds Jones.

Case of Bullous Urticaria.—By Sidney H. Carr.

French Journals.

Treatment of Inflammations of the Uterine Adnexa by Water at 60 C.—A. Suarez de Mendoza reports his success with this treatment. In the last two years he has treated two hundred and forty-two women by vaginal injections of water at 60°. Some of these patients, one hundred and five in number, were afflicted by more or less serious lesions of gonorrhœal origin. In fifty-two cases the infection was traced to the puerperium. In the great majority of cases, and whatever the origin of the infection, at the fifteenth or twentieth injection, sometimes even before, improvement begins and makes rapid progress. In those cases which are not extremely severe, cure appears perfectly established. The technique is very simple. There is a special cannula in order to avoid the transmission of heat to the skin, which is never touched by the water; and as the vaginal mucosa is not very sensitive to heat, the temperature above indicated is comfortably borne. The time taken for the injection is ten minutes. The patient assumes the obstetrical position, and the reservoir of hot water is placed at a height of 60 cm. above her; the cannula lubricated with vaseline is introduced into the posterior cul-de-sac, and the stop-cock opened. Generally at the end of five or six seconds the water flows out in a regular stream, but sometimes the opening of the cannula is obstructed by a fold of mucous membrane, which necessitates a few movements of the instrument in order to start the flow. The cannula must be carefully supported in order that none of the water escape over the patient's exterior, for the sensation of burning would prevent the proper application of the injection. Consequently, in case the fourchette is torn, its borders must be gently pressed together to prevent the water from escaping between the cannula and the inferior vaginal wall.—*Annales de Gynécologie et d'Obstetrique*, Septembre et Octobre, 1900.

Hygiene and Therapeutics of Puberty and of its Diseases in Woman.—Paul Dalché believes that as far as possible the young girl at the period of puberty should live at home, in order to avoid privation and fatigue. The child cannot have the freedom of air and sun in even the best regulated school that she is free to enjoy at home. The diet should be generous; the meals should be frequent and be composed to a great extent of roasted or broiled meats and wine. Constipation should be avoided. Cold should be avoided at the menstrual epoch, especially in the young. Clothing should be carefully chosen; it should not compress the organs; it should protect efficiently against variations of air and climate. Exercises, gymnastic and other forms, as well as hydrotherapeutic measures should be intelligently prescribed. Faulty attitudes, so often assumed, should be condemned; if indulged in, they should be corrected. The eyes should be carefully watched. The author quotes from Lawson Tait, who believes in the association of the two sexes. He states that although it may be a pure coincidence, yet he has noticed ovarian hyperæmia especially in young girls who have no brothers or whose brothers are younger than they. Leucorrhœa is the most frequent and the earliest affection of puberty. It results from the hyperæmic state which accompanies evolution of the uterus, and which provokes a hypersecretion of the mucosa, but it is also often an expression of a debilitated condition. This discharge may cause a vulvar eruption. For such a case boiled hot water should be used, the surfaces isolated, and talcum powder applied. The writer lastly considers vulvar pruritus and eruptions with their treatment.—*Bulletin General de Thérapeutique*, October 23, 1900.

Researches in the Etiology of Cancer and the Pathogenic Blastomycetes.—Léopold speaks of the results of his investigations of this subject as follows: There can be seen in the fresh tissue of almost every malignant neoplasm brilliant bodies, partly round, partly biscuit-shaped, in which can be shown reproduction and segmentation. These bodies, which were not confused with cocci or degenerated cells, could be considered only as blastomycetes by the fact that they were not changed in a solution of caustic soda or potassa, or in hydrochloric or nitric acid. After many trials pure cultures of blastomycetes were obtained from four malignant human neoplasms. These were obtained from a cancer of the ovary, from a cancer of the breast and the axillary glands, and from cancer of the uterus. The blastomycetes were therefore obtained from a fresh cancer of the ovary. The pure culture can be obtained from fresh carcinomatous tissue. The injection of this pure culture in the testicles of a rat was followed by the development of a large number of nodules in the peritoneum to which the animal succumbed. Blastomycetes taken from these nodules give pure cultures. Consequently, there is no doubt that blastomycetes can be the cause of malignant neoplasms in man, and that inoculated into an animal they cause a neoplasm in it, which destroys life.—*Annales de Gynécologie et d'Obstétrique*, September and October, 1900.

Cervical Metritis.—Pozzi presents the following conclusions on this subject: (1) Acute or chronic inflammation of the cervix can exist for a long time without invading the body of the uterus. (2) Nevertheless, the acute lesions of the cervical mucosa easily extend to the mucosa of the body, and the chronic lesions of the cervical parenchyma of inflammatory origin (sclerous and sclerotic degeneration, partial or total) promptly react on the nutrition and anatomical condition of the entire uterine body. (3) The operation of trachelorrhaphy is inferior to the biconical resection of the cervix, more or less modified according to circumstances. It ought to be abandoned. (4) There are a large number of acute, subacute, or chronic inflammations of the cervical mucosa in nulliparæ, which are dependent on the narrowness of the external orifice and on the insufficient drainage resulting therefrom. The most important part of the treatment is then to reconstruct by operation in a durable manner an orifice large enough for the cervix.—*Annales de Gynecologie et d'Obstetrique*, Septembre et Octobre, 1900.

Semeiology and Treatment of Refusal of Food.—After reviewing the causes of this disorder, which may be either physical or psychological (gastro-intestinal disorders being among the first; melancholia, a maniacal state, general paralysis, degeneracy, acute and chronic alcoholism, neuroses, epilepsy, and hysteria being psychological causes), Paul Garnier and Paul Cololian discuss the treatment of the condition. Before resorting to artificial alimentation, the reason for the refusal of food must be ascertained and the cause removed if possible. Moral suasion is often very efficacious. Sometimes if victuals are placed within reach and the patient believes himself unobserved, he will eat. The various methods of artificial feeding are described, after which the kinds of food suitable are enumerated. This should be liquid: milk, chocolate, eggs, scraped meat, purée of vegetables, and a little peptone. Salt must not be omitted. Food should be given once or twice a day. Cod-liver oil is excellent for this condition.—*Gazette des Hôpitaux*, October 23, 1900.

The Accidents of Internal Arsenical Medication.—After taking up in detail the troubles not infrequently attending the administration of arsenic, according to Dupoux, the writer speaks of the treatment both preventive and curative: The physician should be assured of the good condition of the eliminative organs and of the digestive apparatus before prescribing arsenic. The drug should be given in the best form and under the best conditions. It should not be given to the young. The dose should be increased little by little, stopped at the end of fifteen days, then begun again. At the least sign of intoxication the doses must be diminished, and wholly stopped in case of

severe symptoms. All the means tending to favor elimination of the poison should be used—milk, baths, friction, purgatives, diuretics, etc. Alkaline remedies might be prescribed together with arsenic, such as bicarbonate of sodium, which would assist in eliminating the poison and favor digestion.—*Gazette des Hôpitaux*, October 25, 1900.

Nasal Cough in Tuberculosis.—L. Revillet sums up the diagnostic points as follows: An irregular cough occurring especially at night in the dorsal decubitus; disproportion between the cough and expectoration; diseased nose—polyps, vegetations, hypertrophy or atrophy of the mucosa, ozæna; the posterior pharyngeal walls bathed in mucopurulent discharge. The treatment consists in washing the nose with boiled salt water, or with the addition of a little boric acid or lemon juice. Or a mixture may be used, made of boric acid, menthol, and chlorhydrate of cocaine. A nasal douche of sulphur water gives excellent results. If the secretions persist, cauterizations of the mucosa with the galvano-cautery may be employed.—*Lyon Médical*, October 28, 1900.

Deutsche medicinische Woch., Oct. 25 and Nov. 1, 1900.

Functional Diseases of the Heart.—H. Hoehhaus believes that at least one-third to one-half of all neurasthenics suffer from cardiac neuroses, and that a somewhat smaller percentage of hysterical patients are similarly afflicted. Any of the conditions predisposing to these two affections may also cause functional disease of the heart, though additional factors, such as intoxication with tea, coffee, nicotine, or even alcohol, bodily or mental overexertion, or sexual excesses are nearly always present. Usually the lesion is due to the summation of several minor causes of this nature, while reflex disturbances of the gastro-intestinal tract or the genital apparatus may also play an important rôle in the etiology. The symptoms may be grouped under (1) the subjective sensations of the patient, which may run the gamut from slight feelings of pressure in the cardiac region to the severest spasms of angina-like pain, and (2) the objective alterations in the heart's action. In most cases this is rapid and forcible, more rarely it is depressed, while arrhythmia is not as uncommon as usually supposed. In many instances the diagnosis is apparent at once, but often even after long observation and consideration of the history the differentiation between organic disease, especially a beginning muscular insufficiency and pure neurosis, is of the greatest difficulty. The author has found careful determination of the blood pressure by the instruments of Gärtner or Riva-Rocci and Roentgen-ray illumination to be the most helpful aids. Whenever the arterial pressure is found markedly to exceed a value of from 130 to 140 mm. of mercury, the assumption is warranted that the disease is purely functional, while the fluoroscopic observation of the neurotic heart shows that its contraction is not only unusually jerky and sharp, but that the difference in size between the systolic and diastolic phases is abnormally great.

Observations on Copper Workers.—L. Lewin has attempted to settle the mooted point as to the toxic action of copper taken into the body in small amounts for long periods of time and answers the question by denying the possibility of any chronic copper poisoning analogous to that produced by lead. Previous animal experimentation has furnished evidence giving color to such a view, but decisive evidence can be obtained only by observations on those engaged in handling the material industrially, and therefore exposed to receive small amounts daily for years at a time. The result of such observations conducted by the author leads him to conclude that while as an immediate consequence the inhalation or swallowing of considerable quantities of metal may lead to local disturbances of the mucous membranes primarily concerned, these effects are but slight and readily pass off without sequelæ, and furthermore that in man there is no such thing as chronic copper poisoning. When symptoms exist among those exposed to daily contact with the metal they are to be ascribed to other grounds than this, and the fear that minute amounts of organic or inorganic salts of copper, such as might exist as intentional or accidental contaminations of food products, are dangerous to health is wholly groundless.

The Gonorrhœal Nervous Diseases.—A. Eulenburg calls attention to the fact that while nearly every other part of the body has its distinct series of maladies to which a gonorrhœal etiology is attached, the nervous system appears to have been somewhat neglected in this regard. This omission he then proceeds to rectify by describing fourteen cases of nervous disease apparently directly traceable to a specific urethral infection. In considering the secondary nerve lesions due to the gonococcus three classes are to be made: (1) Neuralgic affections, especially gonorrhœal sciatica. (2) Various forms of muscular atrophy or dystrophy, and atrophic palsies. (3) Gonorrhœal neuritis in its more restricted sense, as mononeuritis or polyneuritis, and gonorrhœal myelitis. In order to establish a connection between the infection and the disease a single coincidence of symptoms is not sufficient, but a general consideration of the points involved in each particular case is necessary. Important factors are the simultaneous occurrence of urethritis with or without the presence of gonococci in the secretion, the existence of other metastatic specific lesions, epididymitis, endometritis, endocarditis, or arthritis; or symptomatic peculiarities of the nerve affection itself.

Do Any Genetic Relationships Exist between Appendicitis and General Neuroses?—Ossian Schauman answers this question in the affirmative, and as evidence cites the occurrence of appendicular inflammations in several members of each of fourteen different families, in twelve of which there was a hereditary neurotic taint. Furthermore, in investigating seventy-five cases in which the disease had befallen but a single member of the household, it was found that in the majority of instances either the patient or a near relative gave evidence of nervous degeneracy. In order to establish a connecting link between the neurotic condition and the intestinal lesion the author adverts to the well-known fact that neurasthenia and various forms of enteroptosis are frequently found in the same individual, and suggests that the abnormalities of position may either provide more favorable conditions for the development of the bacterial virus which represents the immediate cause of the disease or may lessen the resisting-power of the appendix.

Salkowski's Method for Determining the Alkalinity of the Blood.—By Waldvogel.

A Contribution to the Knowledge of Subphrenic Abscess.—By O. Krohne.

Hemianopsia and its Diagnostic Significance.—By H. Salomonsohn.

The Choice of the Suture Material.—By Krönig.

Phloridzin Diabetes.—By Albert Seelig.

Münchener medicinische Wochenschrift, October 30, 1900.

The Determination of the Functional Integrity of the Kidneys before Operation by Means of the Freezing-Points of the Blood and Urine.—Hermann Kümmell gives these four points as being the most useful in indicating whether the state of "the other kidney" is such as to permit extirpation of the diseased organ. (1) Estimation of the urea. (2) Determination of the freezing-point of the blood. (3) Determination of the freezing-point of the urine, if possible obtained from the two kidneys separately by ureteral catheterization. (4) Examination of the separated urine from the two kidneys, with and without the previous administration of phloridzin or methylene blue. The value of the blood investigation, which gives far more reliable results than the urea determination, rests on these facts. The degree of concentration of any solution is directly proportional to the distance its freezing-point lies below that of distilled water, and the normal freezing-point of human blood has been found to lie between -0.55° and -0.57 C. If the kidney function is impaired an increase in the amount of solids takes place, with a corresponding lowering of the freezing-point. If one kidney has been thrown out of function, but the other is capable of carrying on the work unaided, *i.e.*, when a nephrectomy would be permissible, the freezing-point will invariably be found to be normal, and *per contra* if this is lower than the limit given, operation is contraindicated. The urine examination is conducted on similar principles but is less reliable in practice, owing to the physiological variations being much greater.

Processes of Compensation.—Adolf Bickel says that a loss of function of one part of the nervous system may be vicariously compensated for through the adaptability of other portions of the mechanism. This mutual interchange of function is more prominent the higher we go in the scale of animal development. Thus in the lower animals (frogs) the disturbances primarily attending injury to the central nervous system persist unchanged indefinitely, while in more highly developed organisms (dog) such evidences of impaired function may in the course of time be entirely obliterated through the re-education of other centres. This physiological fact is of importance, since it affords a scientific basis for the systems of compensatory training advocated in various nervous diseases, especially locomotor ataxia, by v. Leyden, Frankel, Goldscheider, Jacob, and others.

The Substitution of Eucaine B for Cocaine in Bier's Method of Medullary Narcosis. F. Engelmann adds another note to the universal cry of warning which is beginning to make itself heard from all quarters against the premature enthusiasm of the advocates of this method. In an attempt to find a less dangerous substitute for cocaine he employed eucaine, which has the same anæsthetic power coupled with only one-third of its toxicity. One-sixth of a gram of the drug was injected into the author's medul-

lary canal, but no anæsthesia resulted, and exceedingly distressing headache, backache, vomiting, dyspnœa, palpitation, etc., supervened, the effects not passing off entirely until nine to ten days had elapsed. The much-desired, harmless but effective spinal anæsthetic is therefore apparently not to be looked for in eucaine B.

A Little-Known Pupillary Reaction and its Therapeutic Application.—By H. Kirchner.

Infection with Influenza Bacilli and the B. Proteus.—By H. Doering.

Albumen and its Artificial Oxidation.—By F. N. Schulz.

Clinical Experiments with "Fersan."—By J. E. Fölkel.

Berliner klinische Wochenschrift, October 22, 1900.

Hemorrhagic Erosions of the Gastric Mucosa.—Carl Parises gives a general summary of the views on this condition of the gastric mucosa. The principal symptoms are a burning pain over the entire gastric region, a lessened ingestion of food, and a marked emaciation. Nausea is often present, but actual vomiting is rare. Pain comes on from fifteen to forty-five minutes after taking food, and is distinctly burning in character and not, as in ulcer, crampy and nagging. Moreover, it is not localized, as in the latter condition, but is diffused. Examination by means of the test-meal, etc., shows scarcely any departure from the normal as regards motor functions, bits of mucosa in the washings, and in the majority of cases a subacidity. The affection is due to circulatory disturbances in the mucosa, leading to its acute inflammation, and spasm of the muscularis. Authorities differ as to the specificity of the lesion, some claiming it to be a distinct affection, while others maintain that it is merely a feature of chronic gastritis. Treatment should consist of irrigation with a 1:1,000 to 1:2,000 solution of silver nitrate, which is allowed to remain in the stomach for a few minutes and is then withdrawn, being followed by irrigation with decinormal salt solution. Diet is in a general way as for ulcer. Many patients are able, however, to take a more liberal diet than are ulcer patients.

The Fracture of the Greater Tuberosity of the Humerus.—By H. Wohlgemuth. This condition is of rare occurrence, but is observed in certain cases of dislocation and fracture of the neck of the bone. Two cases are reported by the author, who finds in this by-accident the explanation of loss of power in certain movements at the shoulder joint, after all evidences of either dislocation or fracture have disappeared. An *x*-ray picture will show that the tubercle of the affected bone stands above and to the outside of its normal position, as determined by comparison with the healthy side, so that it must approximate to the acromion process before the abducted arm reaches the shoulder level. This removal of the normal position of the site of attachment of the supraspinatus, and the associated atrophy thereof, render it impossible for this muscle to overcome the obstacle interposed by the conditions stated; hence the impairment of movement at the joint.

Trigger Finger.—Five cases are reported by Dr. Tilman. All complained of difficulty in using the hand and of pain running up the arm. It is noteworthy that in all the condition seemed to result from over-use of the hand in doing work to which the patients were not accustomed. Examination showed in all circumscribed thickening of the flexor tendon of the finger affected. For treatment of a recent case the author advises fixation in extension upon a splint, daily changing of the bandage, applications of tincture of iodine, and massage. In older cases, if the finger is not too painful, passive manipulation is advised. In other more obstinate cases operative intervention is necessary. Gout and rheumatism may cause this peculiar tendon affection.

Molecular Concentration of the Blood in Eclampsia of Pregnancy.—By A. Szili.

Weather, Duration of Sunshine, and Infectious Disease.—By Professor Hessler.

The Theory of Rabies at the Close of the Nineteenth Century.—By V. Babes.

Salsomaggiore and its Springs.—By G. E. Curàtulo.

Archives of Pediatrics, November, 1900.

The Quantity of Diphtheria Antitoxin Required in the Treatment of Diphtheria.—William H. Park says that in diphtheria we should give enough antitoxin to neutralize all the toxin present and that likely to be produced at the seat of inflammation, and also whatever may have been absorbed. The tissue changes already produced we cannot hope to remove, neither can we hope to neutralize the poisons of the other bacteria which are so often associated with the diphtheria bacilli in the disease. From the results of experiments and from his observation of cases in hospital and private practice, the author has been led to adopt the following dosage. Very mild cases, 1,000 to 1,500 units for the first dose; moderately severe cases, 2,000 to 3,000 units; very severe cases, 4,000 to 5,000 units; laryngeal cases, according to their severity, 2,000 to 5,000 units. For children under one year he gives about one-third less than for older children and adults. He believes that the condition of the throat as to swelling, extent and nature of the membrane, etc., is a better guide to antitoxin dosage than the general condition of the patient. The duration of the disease influences the curative power of the antitoxin, rather than the dosage. If after twelve hours inflammation advances, or after eighteen hours it has not begun to subside, a second dose of antitoxin should be injected. In a very few cases a third dose is required at the end of thirty-four to thirty-six hours. For the bronchopneumonia and sepsis complicating some of the worst cases antitoxin is usually of no avail.

Cough in Influenza Simulating Whooping-Cough.—F. Forchheimer describes a cough following influenza, which possessed the following peculiarities. It always moved in epidemics and was decidedly contagious; previous attacks of whooping-cough were no protection. The onset was that of ordinary influenza, and the cough, which followed in a few days, was like that of pertussis, except that the whoop, while distinct, was not usually quite so marked. It was accompanied by congestive symptoms and followed by vomiting and expectoration. The blue color of the mucous membrane and tongue was absent, but ulcers of the frenulum were marked. If left to itself the trouble lasted from six to eight weeks, but in the majority of cases it could be aborted—so as to last a week or ten days only. Full doses of quinine form the best treatment, but must be large—not less than one decigram less than the age in years, and one centigram less than the age in months. When the cough has thoroughly developed, phenacetin or antipyrin give great relief, and in bad cases codeine and chloral may have to be administered.

Malarial Coma in Children.—George N. Acker reports two cases of coma connected with malarial fever, which he believes to have been due to the malarial parasite. Both patients recovered. The author says that it is remarkable that malaria in children does not cause more disturbance of the nervous system than is usually the case, for with the unstable condition that is found in poorly nourished children one would expect the cerebro-spinal system to be chiefly affected, resulting in paroxysms characterized by delirium, convulsions, coma, and tetanic spasms, producing serious disturbance of the functions of animal life.

The Possibility of Eliminating the Deleterious while Retaining the Antitoxic Effects of Antitoxic Serum.—By William H. Park.

A Case of Rachitis with Enlarged Spleen.—By William H. Jessup.

Epidemic Paralysis in Children.—By Henry Dwight Chapin.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE NEW BOROUGHS AND PUBLIC HEALTH—WAR NOTES—LISTER AT KING'S—EFFECT OF WINDY LOCALITIES ON PHTHISIS—SARCOMA—APPENDICITIS, RELATION TO RHEUMATISM, PREVENTIVE OPERATIONS—MANGLES AND TYPHOID—PLAGUE, DIPHTHERIA—THE LATE MR. ANDERSON AND DR. ECCLES.

LONDON, November 2, 1900.

THE London vestries are no more. All were duly executed yesterday, and Londoners elected the members of the new metropolitan boroughs. It is devoutly to be hoped that the new corporations will avoid the errors of their predecessors and will give their attention to the problems of municipal government which affect the public health. What with a new Parliament and new boroughs we have had a full diet of electioneering lately, but in London there is an amazing amount of apathy. We cannot tell yet the effect of yesterday's elections, but there seems a distinct apprehension in many quarters that the voters have neglected to poll. If so, we may find that we have not entered on an era of sanitary improvement. Yet every one is hoping for something better than the old vestrydom. Even men who would not take the trouble to vote are wondering whether the water supply will be better or the rates raised.

The commissioners on the war hospitals have returned from South Africa and will take evidence here next week. Dr. Conan Doyle's book entitled "The Great Boer War"

is exciting some comment and contains much of his experience in the Langman Hospital.

Mr. Treves has also entered the list of writers on the war with "The Tale of a Field Hospital," giving an account of the one which accompanied the Ladysmith relief column. These two works thus give the experience of surgeons at several points of the South African campaign.

Lord Lister opened the new laboratories at King's College on Tuesday evening and said the occasion marked an important event in the higher education of the metropolis. Lectures alone, he declared, were not sufficient—practical instruction was necessary in the various sciences. He thought it a happy coincidence that this great addition to the college occurred as it entered on an enlarged career as a part of the new London University. He would himself have preferred a second or teaching university, but other counsels having prevailed he hoped all would co-operate for the common good.

The influence of wind, or rather windy localities, on phthisis was the subject of an elaborate communication to the Medical and Chirurgical Society by Dr. Gordon of Exeter. The paper was illustrated by tinted maps and the facts brought forward pointed to results which were not destitute of the element of surprise. Dr. Gordon's investigations were confined to Devonshire. Comparing the mortality of phthisis with the general death rate of rural districts of Devon, he found that the variations of soil could not account for the facts. Rainfall seemed more closely connected with prevalence of phthisis but he was driven to the conclusion that this relation was that of a common cause. That cause seemed to be exposure to the west and southwest winds. Places where the dwellings were well sheltered from these winds had an annual death rate from phthisis of 0.24 per 1,000. With imperfect shelter the rate rose to 0.57. Where the dwellings were fully exposed to west or southwest winds, or both, the rate was 1.34. Dr. Gordon did not think differences in sunshine, temperature, or purity of the air could account for the figures, but we have no means of accurately estimating their variations. He recalled that the late Dr. Haviland had directed attention to exposure to wind as a cause of increase of phthisis.

In the discussion on the paper several suggestions were made to account for the facts. Thus, Dr. Cayley remarked that in the Scilly Islands the climate was mild but the winds were very violent. He had noticed that the windows were small, and thought the excess of phthisis there might arise from the people shutting themselves up too closely at night. This view was supported by Sir D. Powell and to some degree by Sir W. Broadbent, who thought it was the force of the wind rather than its direction which proved injurious. This, of course, points in the same direction. Other speakers mentioned other factors, and mostly agreed that windiness is a contraindication for the situation of a sanatorium. Dr. Longstaff remarked that not merely the country around, but the state of the dwellings, the occupations of the inhabitants, and their other circumstances must be considered. There were copper and tin mines in some of the places included in the paper, the farmyards in others were notoriously ill-kept, and other indications of dirtiness were obvious. Violent winds might induce "chills," as well as lead people to shut themselves up too closely.

Sir H. Weber thought it very difficult to examine one alone of the numerous factors.

Dr. Gordon, in his reply, said he thought the west and southwest winds were injurious because they were the most violent, the wettest and the most prevalent in Devonshire—to which all his statements were confined.

Two interesting subjects occupied the attention of the Medical Society on the 22d ult. The first was unusual cases of sarcoma. Mr. Shield read notes of four such, and others were mentioned by Messrs. Turner, Black, Pope, Waterhouse, and Morgan (president). The last named referred to the rarity of suppuration in association with sarcoma, though some had been mentioned by previous speakers. He had seen a case in the region of the os calcis which at first simulated tuberculosis, and one of ulceration of the toe in which the inguinal glands subsequently became melanotic. He did not approve the routine administration of potassium iodide to patients with tumors. Mr. Shield also held that this medication should not be allowed to impair the chance of recovery by operation. The question of rise of temperature might well have been discussed. It does not seem to be regularly recorded, but there is a rise and it is likely to cause errors, for it closely resembles that of suppuration.

The other subject was the association of arthritis and appendicitis. Cases have been recorded by Dr. Sutherland and others in which one preceded the other, or the two were coincident, and some in which perityphlitis was relieved by salicylates. The similarity in structure of the tonsil and appendix vermiformis has also been supposed to point to similar pathological tendencies. Dr. Beverley Robinson has not been able to convince himself that the two are causally related, and, I think, many other observers are equally doubtful. Dr. Pointon, who introduced the subject, seemed in this position, and mentioned the researches of Piard upon metastatic suppurations in connection with appendicitis, and Akerman's experimental production of osteomyelitis in young rabbits by injecting pure cultures of the bacillus coli. The polyarthritis is therefore probably of a pyæmic rather than a rheumatic nature. This view commended itself to the president and several of the speakers.

Dr. Rolleston thought the structural analogy between the tonsil and appendix supported the idea that appendicitis might be of rheumatic origin. He thought the prejudice against this view was due to a fear lest operation should be delayed in consequence, and suggested that septic infection might be added to a case started by rheumatism. Some patients certainly recovered under salicylates—a treatment long employed by Dr. Cavafy—but he admitted he had not seen a case arise during rheumatic fever, nor definite joint mischief in the course of appendicitis.

Mr. Wallis questioned the rheumatic nature of appendicitis, but thought arthritis might be due to it, or, indeed, to septic matter absorbed from any ulceration in the lower bowel. Dr. Savill had seen a case of prolonged polyarthritis in which death occurred from perforated appendix, and the joint mischief seemed due to septic absorption from the appendix.

Dr. Cayley pointed out that the cases in which there seemed any association between the two diseases were but very few, though there seemed some relation between catarrhal colitis and rheumatic symptoms. Surgeon-Major Black thought an abscess round the appendix might lead to absorption of pus into the femoral sheath.

The appendix vermiformis has also been the subject of discussion at another society—the Harveian—where Mr. Mansell Moullin maintained the advisability of early operation in all cases of acute inflammation. By early operation he means what may be called preventive. In all severe cases he holds the question should be determined within thirty-six hours of the onset, and even this limit may have to be shortened in some cases. As it is impossible to determine at the beginning of severe cases which may wait, he adopts the general principle that when there is danger ahead it is wise to ascertain the exact condition of things by a simple exploratory operation. He thinks an incision one and a half inches long and the introduction of a finger sufficient for this. The pulse he considers the best guide when to operate. It is better, he said, to operate on all severe cases at first, for it is not possible to distinguish those which might wait awhile. This course is wiser than to allow those to die who will otherwise have septic peritonitis, in order to save others from an operation which will become necessary later on. Mr. Raymond Johnson rather supported this view, though he admitted that such practice would result in operations being done on patients who might recover without. Still the danger of the operation was very slight. He thought the incision proposed very small, and that there was some danger of disturbing adhesions round small collections of pus.

A vigilant medical officer of health has traced an outbreak of typhoid to an infected mangle—an additional terror of the laundry.

Diphtheria is rather on the increase, but typhoid is abating. A case of plague arrived in a steamship from the Philippines. The vessel was disinfected and every precaution taken. Glasgow is to be congratulated. No suspected cases occurred in the last month. Only eight convalescents remain in hospital and no contacts in the reception houses.

Mr. William Anderson, F.R.C.S., died on the 27th ult., aged fifty-seven years. He was surgeon to St. Thomas' Hospital and professor of anatomy in the Royal Academy. From 1873 to 1880 he was principal of the Naval Medical College of Japan. There he made a valuable collection of art treasures, which is now in the British Museum. On returning to London he settled down to steady work at his old school, where he was highly esteemed as a surgeon, a colleague, teacher, and friend.

Dr. Symons Eccles died suddenly on the 22d ult. in his forty-sixth year. He served in the Russo-Turkish war and was decorated with the medjidieh. On returning he settled in London and devoted great attention to massage, his writings on that subject being of the best quality. He had been president of the West London Medical Society, and was one of the founders of the journal of the same name.

Dr. Ramon y Cajal.—The Spanish government has appropriated 80,000 pesetas ($16,000) to establish and maintain a laboratory of biological research in Madrid under the direction of Dr. Ramon y Cajal.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 15, 1900.

WILLIAM H. THOMSON, M.D., PRESIDENT.

Conjugation in the Asexual Cycle of the Malarial Parasite.—DR. JAMES EWING delivered the Wesley M. Carpenter Lecture, taking this for his topic. He said that in 1897 his attention had been attracted by a specimen of blood from a recent tertian infection, in which there were numerous twin parasites of a few hours' growth. The evidence favoring conjugation of parasites rested principally upon morphological appearances. In many instances the young organisms were entirely separate. Many red cells contained two young parasites which were clearly fused together along the segments of their bodies, and two chromatin granules were found at different points. The bodies of these twin parasites apparently became fused together while their nuclei remained separate. Occasionally the two chromatin granules were closer together, but no fusion was observed at this early stage. Later on, a number of long budding pseudopodia might be seen. The chromatin masses were then subdivided into ten or twelve masses, but still remained far apart. Finally, the chromatin granules came to lie side by side surrounded by a milky or achromatic substance. Very numerous young twin parasites were succeeded by single forms, and a full-grown brood, all single, was found associated with a young brood consisting all of twins. The suggestion naturally arose, that the presence of two masses of chromatin did not necessarily mean the presence of two parasites in one red cell. It must be admitted that this objection was partially valid. However, he had never seen in the delicate tertian ring two equal chromatin granules. The significance of these double granules was not quite clear. The accessory granule might arise from incomplete fusion, or from precocious subdivision of the chromatin, or more likely by incomplete separation of the bodies of two spores. This he believed to be the mode of origin of some of the small "compact bodies" with more than one chromatin granule. In some of the conjugated forms three masses of chromatin granules were found, while only two bodies were found in the red cell. It might be objected that it was impossible to determine when the bodies of two parasites were united, as one might overlap the other and so give an appearance which would mislead the observer. Examples of twin parasites of advanced development were sometimes seen in severe tertian infection without subsequent conjugation. This was a rather common observation. He had seen hundreds of conjugating forms in a few months but only three or four twin parasites in as many years. Conjugation seemed to require the presence of a compact body and of a ring-shaped parasite. In some instances of multiple infection by full-grown malarial parasites there was evidence of death of one of the parasites. In his own cases showing conjugation no cases of dwarfed parasites could be found, and while young twins were quite common all the other older parasites were single. The usual result of twinning of tertian parasites was conjugation. Twins sometimes went to maturity without twinning, apparently when both parasites showed the usual ring form. As to the frequency with which conjugation occurred, the speaker said that the majority of specimens failed to show distinct traces of the process, although he had found little difficulty in obtaining specimens showing a few conjugating forms. These specimens were all taken from very rich infections. The conjugating forms were usually few or wanting when the number of parasites was small, or when quinine had been given. Single parasites of both types—the compact bodies and the thin rings—could be traced through the later stages of their development. In the full-grown stage of the compact bodies they still contained numerous chromatin granules. As the thin ring forms increased in size they were characterized by their hyaline appearance and tendency to stain with methylene blue. In the full-grown stage it was exceedingly difficult to demonstrate the chromatin. The crescents of the æstivo-autumnal forms had been long divided into two kinds, viz., the small flagellating or male body, and a larger and more densely staining or female body. He had been unable to trace the development of the two forms of æstivo-autumnal rings that he had described. If conjugation occurred in this parasite, it probably lasted for only a brief period, and could be demonstrated only in peripheral blood in which these bodies were closely massed. It was a well-recognized biological principle that conjugation among protozoa might be the only sexual feature of reproduction during a limited number of generations, after which the sexual capacity ceased, and must be redeveloped by the formation of new bisexual forms. The spontaneous disappearance of the malarial infection might be explained by a gradual failure to reproduce by conjugation, and the development of single parasites into individuals sterile for the human host, but adapted for development in the mosquito. The malarial parasite might be said to begin its existence in the human host by a series of development of amœboid bodies. Later on the sexes became fully differentiated, as shown by the formation of the flagellated and non-flagellated bodies. These forms were sterile to the human host, but fertilization might take place in the mosquito. Here the parasites became encysted, but subsequently in some way germinal rods were formed, and were eventually introduced into the human body as amœboid forms.

SECTION ON SURGERY.

Stated Meeting, November 12, 1900.

CHARLES N. DOWD, M.D., CHAIRMAN.

Intra-Abdominal Omental Torsion.—DR. JOSEPH WIENER presented a man seventy-nine years of age, upon whom he had successfully operated for the removal of an intra-abdominal omental tumor. Owing to the patient's bad condition at the time of operation, nitrous oxide gas had been used for the anæsthetic. The history had pointed to an appendicitis, but the latter had been excluded at the operation. At the site of the tumor that had been detected on palpation was a piece of omentum which had been subjected to torsion. It was of a dark blue color. The adhesions were tied off, the pedicle was untwisted, and the abdominal wound was closed. The patient had made a good recovery.

Gibson's Method of Suprapubic Drainage of the Bladder.—DR. P. R. BOLTON presented a man who had been referred to him last summer by Dr. McIntyre. He had a calculus in the bladder. The bladder had been exposed by an incision through the recti, then opened, and the calculus extracted. The bladder had then been sutured in the angles of the incision, taking only the muscular layer. The bladder was anchored securely to the posterior surface of the recti muscle. A drainage tube was securely fastened in by sutures. On the fifth day the sutures had been removed, and the man had been discharged on the following day. The method had worked admirably, having completely prevented any leakage from the bladder.

Perineal Prostatectomy.—Dr. Parker Syms presented a man sixty-eight years of age, who had been admitted to the Lebanon Hospital on November 20, 1899. For several months previously there had been frequent micturition, and at the time of his admission complete retention of urine. Examination had shown a large prostate but no cystitis. A median incision had been made in the perineum, and the prostate enucleated. The bladder had been drained through the perineum for a few days. The man was now able to hold his urine for four or five hours. The speaker said that he was desirous of doing prostatectomy without making a suprapubic opening, and to facilitate this had devised a special drainage instrument, a sketch of which was shown.

Dr. Wiener said that he had carefully studied the reported cases of omental torsion, and had come to the conclusion that the formation of a pedicle might be explained by the fact that at one time a portion of the omentum had been in a hernial sac, thus allowing the distal portion to become thick, and by pulling on the rest of the omentum tended to the formation of a pedicle.

Dr. L. Bolton Bangs commented favorably upon the method of suprapubic drainage devised by Dr. Gibson. He had had an opportunity of trying it in only one case, that of an old man in bad condition. He had opened the bladder and removed twenty-six faceted stones. He had inserted two rows of sutures, and this had prevented all leakage.

Dr. Willy Meyer said that the case presented showed what could be done by this method, but there was a possibility that this unfolding of the bladder might unduly reduce its capacity.

Dr. Bolton replied that in his case there had been no evidence of reduction in the capacity of the bladder, for the patient had been able to sleep all night and urinated only three or four times a day.

Hernia and Obscure Abdominal Pain.—Dr. William H. Thomson said that some years ago Mr. Bennett, of London, had delivered a lecture on certain obscure abdominal pains. He had pointed out that such pains were sometimes due to small omental herniæ in the walls of the abdomen, and having no connection whatever with the inguinal canals. Soon after, the speaker said, he had met with just such a case. The pain had developed in a man after a sudden misstep on the sidewalk. The inguinal canals were perfectly free, but about half-way between the symphysis and the umbilicus there was a tender spot, and operation had proved this to be a hernia. The operation had given relief. Another case had been seen shortly afterward. Last May he had seen a third case. The patient, a woman, had fallen across a pipe railing, and had broken two ribs. After the ribs had healed there was a continuous, dragging, severe pain. Examination had shown simply a small tender spot two inches to the left of the umbilicus and nearly three inches above this level. Palpation had failed to detect any tumor, and a surgeon had made an exploratory incision under local anæsthesia. A small knuckle of omentum had been found caught in the rent in the abdominal wall.

Heat Stroke as a Post-Operative Complication.—Dr. Charles L. Gibson said that in this city during the heated term a combination of heat and humidity with absence of breeze was very liable to lead to heat stroke. He had become deeply impressed with heat prostration as a factor in causing fever and other constitutional disturbance after operation. Of course, one must be cautious about attributing to heat stroke many disturbances which might perhaps be the result of sepsis, iodoform poisoning, or other causes. The first case reported was that of a boy admitted with gangrenous appendicitis. The operation had not been complicated and the boy had reacted well, but on the following day had developed a temperature of 104° F. and a pulse of 148. This had been associated with delirium and with other symptoms which seemed to point to a speedily fatal termination. By cold sponging the temperature had been quickly lowered to 100.6° F., and with this change in temperature the pulse had dropped to 98 and had become of good quality, and the delirium had subsided. After this recovery had been uninterrupted. The weather at the time was very hot and sultry. A second case occurred on August 10th, one of the most trying days in the hospital operating-room during the past summer. By bearing in mind the possibility of the occurrence of such a complication, the appropriate treatment was more apt to be instituted and preventive measures were likely to be employed, such as securing good ventilation by electric fans or other means.

Dr. A. B. Johnson spoke of a case on which he had operated last summer when the temperature in the operating-room had been about 102° F. The patient was a child having a small scar on the lower lip. The child was apparently in perfect health. A very small quantity of chloroform had been administered, the scar cut out, and a single skin graft applied. So trivial was the operation that one might have been justified in doing it in a physician's office. Within a few hours after the child had been returned to the ward the temperature had reached 108° F. He had not recognized the possibility of this condition being due to heat stroke, and consequently refrigeration had not been resorted to. The child had died that night. Within a few days after this he had encountered two similar cases, and all the other probable causes of such fever had been carefully excluded. These cases had both yielded promptly to cold sponging. Looking back over the years past he could not but feel that he had seen several other cases explicable on the theory of heat stroke. He remembered particularly a group of three cases, all operated upon in extremely hot and sultry weather, and all terminating fatally.

Dr. George E. Brewer said that on July 4th he had had occasion to operate upon a youth of nineteen for sarcoma of the tonsil and soft palate. The operation had been a severe one, but the patient had left the table in excellent condition. The thermometer in the operating-room on that day had registered 99° F. Within two hours after being returned to the ward the house surgeon had reported that the man appeared to be dying. The pulse was 150 and the temperature 105° F., and he was extremely restless and delirious. Some hours later, on mentioning this case to Dr. Gibson, the suggestion had been made by the latter that this was a case of heat prostration. The treatment outlined in the paper had at once been undertaken, with the result that there had been immediate improvement. It had been several days before the temperature and pulse had returned to the normal, but the effect of the refrigerating treatment had been immediate and most marked. This was the only case that he had seen in which the symptoms had been characteristic, and he had felt that other causes could be excluded. Since that time he had seen heat stroke in one of Dr. Weir's cases. He was very glad that this topic had been presented for discussion, for he felt confident that this complication of heat stroke was a reality.

Dr. Robert T. Morris said that it would be most interesting to study in this connection the anæsthetics employed in these cases. He believed a large proportion of the cases of sunstroke occurred in alcoholic persons, and after they had indulged quite freely in alcoholic drinks. It was possible that the anæsthetic agents acted somewhat like alcohol, rendering the system less resistant to heat. He recalled an experience

of two years ago, in which there had been several high temperatures immediately following operation, occurring during a period of hot, moist weather. He had made a mental note of it at the time, but was exceedingly glad that the attention of the profession had been directed to this subject by this paper.

Dr. James P. Tuttle said that he had seen several very high post-operative temperatures during the summer, and had been unable to explain them before hearing this paper. One of these cases had occurred last summer, and had terminated fatally. In this case the temperature had risen to 107° F. and had reached 109 at the time of death. Owing to suppression of the urine it had been supposed that the kidneys had been responsible for this death, but the autopsy had failed to substantiate this view. Chloroform had been the anæsthetic employed.

Dr. A. V. Moschcowitz said that during the past summer he had performed an amputation of the lower extremity in a case of Raynaud's disease with gangrene. In three hours after operation the temperature had been 107° F.; in another hour it had reached 109°, and in five hours death had occurred. Before this a diagnosis of heat stroke had been made. Although a most exhaustive and painstaking autopsy had been made it had shown only hyperæmia of the meninges, and a turgidity of all the blood-vessels of the brain. In another case a prompt resort to refrigeration had brought down the temperature and the patient had made a good recovery.

Dr. William H. Thomson said he would like to know whether any of those present could recall having seen similar cases in cool weather.

Dr. Alexander Lambert said that the cases cited this evening reminded him very strongly of some of those cases of heat stroke seen by him at Bellevue Hospital during the very hot weather of 1896. The rapidity with which the temperature had risen after these operations would seem to be sufficient to exclude septicæmia or even kidney complication. He had often wondered why there were not some cases of heat stroke when he had seen the way in which many operative cases were swathed in cloths, and towels, and thick dressings. The most important meteorological factor in the production of heat stroke was lack of motion of the air, and the consequent interference with radiation of heat from the body. In that dreadful hot season in the summer of 1896, the wind did not for ten days move faster than six or eight miles an hour. This memorable period was marked by less than the average humidity, and yet the number of cases of heat stroke was appalling. He could not agree with Dr. Moschcowitz that turgidity of the cerebral vessels indicated heat stroke; there was nothing indicative of heat stroke except the changes in the nerve cells. One of the best methods of controlling the high temperature in heat stroke was by the administration of ice-water enemata.

Dr. Studdiford reported a case operated upon in July about 9:30 A.M. The case was one of fibroid and pus tubes with total hysterectomy. At 1 P.M. the temperature had been 102° F.; at 8 P.M. 103.6°, and the following morning 102°. In the evening it had reached 106°, and a little later 107.6° F. The case had not been looked upon as one of sepsis, and had been given an ice-pack. By nine o'clock the temperature had fallen to 101.6°, and by 9 A.M. to 98.6°. There had been nothing about the wound or the vaginal drainage to indicate sepsis. The patient made a good recovery.

Remarks upon the Construction of Amputation Stumps, with a Report of Two Cases of Amputation by the Osteoplastic Method of Bier.—Dr. A. V. Moschcowitz read this paper. He said that most of the really satisfactory amputation stumps had followed disarticulations or amputations near a large joint. At one time the volume and thickness of stumps were considered to determine their usefulness, but every one had seen stumps made of broad bony surfaces which were not at all serviceable. There could be no question, he thought, about the superiority of Bier's osteoplastic method, although it necessarily lengthened the operation somewhat, and hence might not be appropriate in certain cases. The technique differed from ordinary methods in the formation of an osteoplastic flap. As it was difficult to make this flap with an ordinary saw, he had devised a special saw for this purpose. Taking the leg as an illustration, the periosteum of the anterior surface of the tibia was circumcised on three sides of the quadrilateral space, the edges of the periosteum were raised for a short distance from the bone, and a thin plate of bone was sawn out. This was used as a cover to the sawn edges of bone, to which it united, giving a useful bearing surface for the stump, and one free from tenderness. A skiagraph taken eighteen days after one of these amputations of the leg showed perfect union between the osteoplastic flap and the tibia, but not between this flap and the fibula. The speaker said that since he had become interested in this subject he had embraced every opportunity to examine amputation stumps of all kinds, and had been able to satisfy himself of the fact that every stump made by other methods, unless the result of a disarticulation, was more or less painful. Bier claimed that his method was an absolute prevention of conical stump.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 10, 1900.

Eugene Hodenpyl, M.D., President.

Sarcomatosis of the Peritoneum.—Dr. F. C. Wood presented several specimens. The first of these was one of sarcomatosis of the peritoneum, removed from a small Chinese woman who was very much emaciated. An exploratory operation had been done, and she had died soon afterward. The autopsy revealed the mass presented. The determination of the primary growth was especially difficult in this case because nearly all of the abdominal organs were involved. The spleen had escaped. There were no metastases anywhere in the body. Presumably the growth had originated from the retroperitoneal lymph nodes, but microscopical examination of the tumor was rather against this, for the appearance presented was that of a sarcoma consisting of round and spindle cells. The specimen under the microscope showed an extreme degree of fatty degeneration. The right ovary could not be found, so that possibly the growth might have started from that ovary. The uterus was not invaded. The bladder wall had been invaded, and was about one inch in thickness. The woman claimed to have been in perfect health up to five months before admission to the hospital, and stated that there had been no evidence of the tumor previously.

Diffuse Lympho-Sarcoma of Both Kidneys.—The pancreas, liver, uterus, and ovaries were involved in this case. The specimens had been removed from a woman twenty-six years of age, who had always been an invalid. About one year and a half before admission to the hospital she had begun to have considerable pain in the abdomen, and about the same time had noticed some enlargement of the abdomen. The urine had been examined repeatedly for a long time by a competent physician, but with negative result,

although it was assumed that the kidney was the seat of a new growth. On admission, there was an oval tumor in each flank. The urinary examinations in the hospital had also been negative. The blood examination showed moderate leucocytosis. The woman had died from shock the day after an exploratory laparatomy. The kidneys presented suggested fœtal lobulation. When fresh, the tubular markings had shown pretty well, and portions of the kidney tissue seemed good on gross examination. Microscopical examination, however, showed that the kidney tubules were separated from one another by a layer of small round cells. One of the kidneys presented weighed one pound and nine ounces, and the other, one pound and four ounces. In this case the pancreas was large and quite firm, and microscopical sections showed infiltration of lymphoid cells into the trabeculæ. The ovaries were completely infiltrated, as was also the uterus. A large ragged ulcer, about three inches long, was situated in the ileum just above the caput coli, and extended around the entire circumference of the gut. There was nothing in the history pointing to such a condition. Sections of the ulcer showed nothing but necrotic tissue extending down in portions to the peritoneum. No tubercle bacilli were found, so that the cause of the ulcer was still in doubt. The spleen was perfectly normal, both in size and structure. The question naturally arose, Did not this patient have a simple pseudo-leukæmia? He believed one case of lymphatic leukæmia without enlargement of the spleen had been reported, yet the general findings had not been those usually present in lymphatic leukæmia. He would, therefore, classify the infiltration in the case just presented as one of diffuse lympho-sarcoma. Sections of the kidney were exhibited under the microscope.

Accessory Lobe of the Liver.—A specimen was shown by Dr. Wood. There had been a congenital atrophy of a portion of liver tissue, thereby cutting off a segment. The patient had entered the hospital with pain in the abdomen and a high temperature. Physical examination of the chest had revealed a pneumonia. As there were jaundice and abdominal pain, cholelithiasis had been diagnosed. Palpation showed a mass thought to be the gall bladder, but this proved at autopsy to be an accessory lobe of the liver. Death had resulted from pneumonia.

Cirrhosis of the Liver.—In this case there were several adhesions between the anterior abdominal wall and the omentum, containing several large veins. The diaphragm was likewise adherent to the liver. The veins running from the liver to the umbilicus were also enlarged. The man was about fifty-five years of age, and up to three weeks before admission had been able to work. Nevertheless, the autopsy had shown advanced cirrhosis and advanced change in the portal circulation. The explanation probably was to be found in the existence of a complete collateral circulation. The operative cases in which a collateral circulation had been established had usually been relieved for a number of years. This operation consisted in stitching the omentum to the abdominal wall, and thereby short-circuiting the portal circulation into the general circulation and reducing the pressure in the portal system.

Metastatic Epithelioma in the Heart.—Regarding this case the speaker said that the peculiar feature was that there were no other metastases in any part of the body. The patient was a man who had previously had the tongue removed for epithelioma. The tumor had recurred in the supraclavicular lymphatic nodes, and death had finally resulted from pressure on the trachea. The autopsy had revealed infiltration of the tissues of the neck and involvement of the lymph nodes in the anterior mediastinum. Examination of the heart showed metastases deep in the muscle, and also superficially in the fat on the line of the vessels. They were probably embolic in origin. This condition of the heart had given rise to no symptoms.

Dr. L. A. Conner said that he had been deeply interested in the diffuse sarcoma of both kidneys. He had not realized before that it was possible for such a growth of sarcoma to involve the kidney and still the markings to be preserved so well. This fact led him to suspect that there might be some other explanation.

Dr. Wood replied that the picture under the microscope showed plainly that the cells had infiltrated the spaces between the tubules, and left a fairly good tissue between. The same thing was seen sometimes in cases of nephritis and also in the involvement of other organs. He did not assume that the tumor was primary in the kidneys.

Dr. E. Libman said that last spring he had presented some cases of sarcoma of the intestine. In one of these the kidneys had been infiltrated in exactly the same manner, as shown by both gross and microscopical examination.

A Case of Pulmonary Stenosis due to Ulcerative Endocarditis of Aortic Valve.—Dr. E. Libman presented this case. The patient was a man twenty-one years of age, who had been well up to May, 1897, when he had suddenly lost the sight of the right eye. He had recovered, some weeks later, sufficiently to be able to read large letters. Three months afterward he had lost the power of speech for twelve hours. On October 26, 1897, while sitting in a chair he had become paralyzed on the left side and totally unconscious. On admission to the Mount Sinai Hospital the following day he was found to be hemiplegic and unconscious. The left ventricle was distinctly hypertrophied. There was a rough, blowing systolic murmur at the apex, transmitted slightly to the left. There was a very loud systolic murmur over the aortic valve, which was transmitted upward and downward, and accompanied by a very marked thrill in both the carotids and subclavian veins. There was no elevation of temperature at this time, but about two weeks later he developed a fever, and this continued up to the time of his death. Six days before death a blood culture (blood from vein) showed the presence of the staphylococcus albus. Two days before death a systolic murmur and thrill developed in the pulmonary region, and were entirely distinct from those in the aortic region. The second pulmonic sound did not diminish in intensity. The clinical diagnosis was ulcerative endocarditis of the aortic and pulmonary valves successively. Petechiæ developed over the body. A culture from the heart's blood made directly post mortem after burning the skin also showed the staphylococcus albus. The post-mortem showed the right ventricle very markedly hypertrophied. The aortic valve was ulcerated, and in the free edge of two of the flaps and part of the third there were large vegetations. The sinuses of Valsalva were filled with vegetations. In the interventricular septum back of the aortic valve there was an enormous hemorrhagic swelling, which almost entirely occluded the pulmonary artery. Cultures from the vegetations and the centre of the swelling showed the staphylococcus albus. Spreads from the soft, purulent centre of the swelling showed numerous staphylococci.

Dr. G. Langmann said that all these or similar cases were mostly classified under the name of aneurism of the heart wall or septum, although they surely did not form a true aneurism. Their origin was justly attributed to an infection of the heart wall continuously hit by the infected valve.

Dr. Libman replied that the stenosis had been due to the aortic endocarditis, as the latter had caused an enormous inflammatory swelling in the septum.

Dr. James Ewing asked what significance was attached to the presence in these cultures of the staphylococcus albus. It seemed to him this might have been an accidental germ in the circulation, or the specific cause of the endocardial lesion, or possibly a contamination of the culture. It was also possibly the result of an ante-mortem invasion of the blood by these germs.

Dr. Libman said that there was an old endocarditis. Out of one hundred and fifty blood cultures he had never met with the staphylococcus albus as a contamination. From the technique employed, both during life and at the autopsy, he felt positive that the staphylococcus albus was the specific cause. Furthermore, he had found bacteria in the blood (intra vitam) in fatal cases of ulcerative endocarditis, whenever cultures had been made.

Dr. Conner said that two or three years ago he had presented an aneurism involving one of the sinuses of Valsalva, and producing a bulging forward of the conus of the pulmonary artery, and causing a very marked pulmonary stenosis, in which the appearances were strikingly similar to those of the present case. There appeared in the specimen just presented also to be a laminated clot.

Dr. Libman said that the examination seemed to show that this was a developing abscess of the heart muscle.

Effects of Repeated Intubation.—Dr. David Bovaird made some remarks on this subject, and presented illustrative specimens. He said that in some instances it was necessary to practise intubation repeatedly on the same person. In one case occurring under his observation, a child had been intubated forty times, yet had recovered. The first specimen presented had been taken from a child about three years of age, who had been suddenly seized with croupy cough and severe dyspnœa. Antitoxin had been given promptly, and intubation done almost immediately afterward. A few days after the tube had been removed, but recurring stenosis had required intubation again. While the tube was still in place, the child had developed measles and then pneumonia, and had died as a result of these complications. At the autopsy there had been found at the base of the epiglottis an ulcer of considerable size. In the body of the larynx, just within the cricoid ring was a large and deep ulcer. This ulcer involved the cricoid cartilage, severing it completely in front. Farther down in the larynx and near the trachea were two small ulcers corresponding to the lower end of the intubation tube. The ulcer at the base of the epiglottis represented the pressure made by the head of this tube. The ulcer at the cricoid cartilage was the result of the pressure of the body of the tube. The second specimen had been taken from a child aged six months. This child while recovering from measles had developed stenosis. A tube for a one-year-old child had been inserted, and the child had done well until the removal of the tube at the end of five days. Intubation had been required at the end of twenty-four hours, and this had to be repeated every two days for several days, and then almost constant re-intubation had been demanded because the child kept coughing out the tube. For this reason a tube for a two-year-old had been inserted, with like result. A tube for a three-year-old had then been introduced. This specimen showed large and deep ulcers at the base of the epiglottis. Nothing could be found representing the cricoid cartilage, it having apparently been absorbed by reason of pressure. There were three ulcers corresponding to the points of pressure of the lower end of the tube. In both specimens it was interesting to note the amount of injury done to the cricoid cartilage. As this cartilage was not only a support for the larynx but the attachment of important muscles, it was evident that the destruction of this cartilage would be in itself sufficient to explain the recurrent stenosis of the larynx, the muscles by which the glottis might be opened no longer having a *point d'appui*.

Cystic Kidney.—Dr. Bovaird also presented a specimen of congenital cystic kidney removed from a child aged one year, dead of some enteric affection. The right kidney was the one involved. On the other side the pelvis of the kidney was found dilated and filled with gravel. There was also a stone of some size. These conditions on the left side suggested a possible explanation of the cystic degeneration on the right, that the ureter or pelvis of the kidney had been blocked by a stone and the cystic degeneration had resulted from the obstruction. No stone or gravel could, however, be found on the right side.

Dr. W. P. Northrup said that these two cases, following closely after measles, suggested the explanation of the tissues breaking down so easily. These cases of so-called "retained intubation tube" were both of comparatively short duration. One should bear in mind the behavior of measles in a children's institution. Such children got up pressure necrosis on the back of the head, cancrum oris, necrotic processes on the fingers, and pressure sores on various parts of the body. Their tissues had diminished resisting-power. As regarded the prolonged retention of intubation tubes, a case had just been reported in the *Archives of Pediatrics*, October, 1900, p. 737. In this case there had been subglottic stenosis, and after repeated intubations and extubations in the hands of a novice, the tissues had been denuded and had then grown together. Ultimately a tracheotomy had been required, and the child had died from pneumonia after this last operation. In this case the larynx had presented distinct hour-glass constriction, and complete atresia.

Photomicrographs of Filaria Sanguinis Made with a Special Lens.—Dr. Buxton exhibited a series of photographs taken with a one-tenth Spencer lens from specimens mounted in balsam and examined through α-brom-naphthalene instead of oil of cedar, as recommended by Dr. Piffard. Certain new striations appeared in some of the photographs taken with this lens.

Dr. Ewing said that the method employed had developed in the body of the filaria a peculiar cross striation, which was evidently part of the structure of the capsule of the filaria. So far as he knew it had not been described before, and certainly had not been observed in any previous drawing or photomicrograph.

Effects of Milk Preserved by Formalin upon Mice and Kittens.—Dr. William H. Park read a paper with this title. He said that the addition of formaldehyde to milk made the proteid material somewhat less digestible. The proportion required to preserve milk was about 1 : 50,000, and in this quantity digestion might be retarded about ten per cent. It was not contended that the end products were different, only that the digestive process was retarded. Certain reported investigations seemed to leave in doubt the question of the effect of formaldehyde on small animals. In one series small gains in weight were noted in kittens and rabbits, and a slight loss in a guinea-pig only. Another investigator had used three or four kittens for each control, and had experimented with different proportions of formaldehyde. When 1 : 50,000 formaldehyde was used, one of the kittens died in the third, and two in the fourth week, while the other two gained in weight. Of four kittens getting 1 : 25,000 formaldehyde, all gained. Of five getting 1 : 12,500, two died in the fourth week, two gained, and one lost. All the control kittens were reported to have gained—certainly a very remarkable showing. It had

been stated that 1:50,000 retarded the increase in weight twenty-nine per cent., and 1:12,500 sixty-nine per cent. These statistics had been manipulated in such a way as to leave grave doubts as to their reliability. Dr. Park said that he had accordingly experimented with young white rats, using 1:50,000, 1:10,000, and 1:1,000 solutions of formalin. All of the rats had gained in weight and at very nearly the same rate. A series of experiments had then been undertaken with cats, using pure milk, milk containing 1:10,000, and milk containing 1:1,000 formalin. At first they were fed on pure, selected milk. They all gained on this, but the 1:1,000 much less than the 1:10,000, 1:50,000, or pure milk series. Later on changing to ordinary milk the cats lost weight, except those fed on milk containing 1:10,000 formalin. The explanation probably was that the ordinary milk in the hot weather (August) fermented through the night in the feeding-dishes, except the milk containing 1:10.000 or more formalin. Ordinary store milk in summer contained not only great numbers of bacteria, but also the products of their growth. He was inclined to think that among the poor, who could not keep the milk properly cold and sweet, it might be well during the hot months to introduce into the milk a small quantity of formalin, or if possible a better preservative, and label such milk "preserved milk," because it would do less harm in the milk than the products of fermentation.

Dr. Northrup thought the question propounded by Dr. Park could have but one answer. If the formalin only retarded digestion, then it would certainly be better to feed this to children than to give them milk containing a large quantity of bacteria and all sorts of by-products. If it were simply formalin delaying slightly digestion, against milk containing bacteria plus the never-to-be-forgotten toxins incidental to such growth, the answer was in favor of the lesser poison, namely, formalin. The great trouble was to accomplish this without opening the way for many abuses.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, October 2, 1900.

J. Arthur Booth, M.D., Chairman pro tem.

Periodical Psychoses.—Dr. A. B. Defendorf read this paper. He said that years ago all forms of insanity were looked upon as more or less periodical, but gradually this list had been reduced to periodical mania and periodical melancholia. The English and American observers had been slow to recognize periodical insanity. The records of hospitals for the insane showed it to constitute a not inconsiderable percentage of cases admitted, coming second to dementia precox. These cases were characterized by intense psychomotor restlessness, yet they exhibited no signs of fatigue after weeks or months of excessive motion. One of the striking features of this form was that consciousness continued unclouded. In the extreme maniacal condition called delirious mania the patient's consciousness of surroundings did become clouded. These patients were rich in words if not in ideas. Delusions when present were transitory, and were usually of the expansive type. They were happy and contented, yet they changed very suddenly from happiness to melancholia or *vice versa*. In the depressive form the associations of ideas showed retardation, and the emotional attitude was uniformly one of depression or despair. More or less stable delusions were present. Cases would be found showing both the maniacal and depressive elements, but usually one or the other predominated. The most prominent etiological factor was defective heredity, it being found in from seventy to eighty per cent. Other causes were shock, acute diseases, and mental strain. When the first attack occurred after childbirth it was apt to recur with each succeeding confinement, and continue after the climacteric. The first attack was apt to be of the depressive form. More than half of the cases occurred before the age of twenty-five. As the attacks were repeated, the lucid intervals tended to shorten. During these intervals the mental faculties were fully retained. The prognosis of the psychoses was bad. During the height of the disease or in the extremely maniacal or depressive forms, death might occur from exhaustion, or might be self-inflicted. The author's conclusions were: (1) Periodical insanity was characterized by a definite symptomatology, which permitted of differentiation in the first attack; (2) it was a prominent psychosis.

Dr. B. Sachs said that while all recognized that there was such a thing as periodical insanity, there was danger lurking in the term, because almost all forms of mental phenomena were apt to exhibit a tendency to recurrence. For this reason it should be insisted that there must be a regular recurrence; for instance, of mania and depression with perhaps a lucid interval. It was rather curious that those describing periodical insanity insisted that there must be marked depression. He could recall a case of distinct hypochondriasis followed by a lucid interval of seven years and then an attack of pronounced melancholia. There was again a lucid interval followed by an attack of mania. Attention was called to the remarkable suddenness with which the patient passed from one state to another. He had had under observation a girl who had been in a state of depression for over eight months, and then very suddenly had had a lucid interval lasting one year. This had in turn been followed by acute mania.

Dr. W. D. Granger said that a few cases of undoubted circular insanity were so decided in their symptoms that they could not be mistaken for anything else. This was particularly true if the person was seen late in life, and had a history of recurrent attacks extending over many years. There were, however, many cases less pronounced in type, rendering it difficult to classify them. He had personally seen only a few cases of circular insanity. He had never seen the sudden changes referred to by the last speaker, nor had he ever seen a case of true incoherence in connection with circular insanity. He had seen several cases of recurrent insanity in which there would be from two to five attacks of rather mild melancholia. He had had a young lady suffering from this form of insanity, and also her mother, brother, and sister. The sister had had a most violent mania, proved at autopsy to have been a complication of typhoid fever. She had had periodical attacks of active though not violent mania. Another form of the circular type that he had noticed and had never seen described in the text-books was the form of chronic mania developing in the last few years of life recurrent attacks of mania and melancholia.

Dr. William H. Thomson said that he had had under his continuous observation for ten years a case of periodical insanity, and probably the only one to which he would be willing to apply the term periodical insanity. The attacks had recurred regularly every other day all these years. The patient was a man forty-eight years of age when the disease had first set in. There was no hereditary psychosis. At the beginning he had been attacked with melancholia, and had attempted suicide. Attention had been early directed to the fact that his condition was worse every other day, and for this reason he had had most thor-

ough and persistent antimalarial treatment. When first seen by the speaker, his memory had been good, and he had been in no way irrational. The temperature had been normal. The next day his temperature had risen to 101° F., and he had become delirious. On the following day his condition was that noted at the first visit. The febrile symptoms had ceased after about three months, but in other respects the patient had kept up this alternation ever since that time. Examination of his secretions had thrown no light whatever on the etiology of his singular mental disturbance. The type was that of melancholia with excitement. He had never been truly maniacal. Regarding periodical psychoses in general, Dr. Thomson said he could not agree with the reader of the paper that they constituted such a definite class, for, if so, they should be definitely periodical. Another case was then cited, in which the attacks had begun with talkativeness and an appearance of well being, which would last for about six weeks, and would be followed by extreme mental depression. At no time was there any confusion of personality or any delusion. The attack of mental paresis would last two or three months, and would usually come on every winter. Such a case seemed to him a true example of periodical psychosis, but many of those described in the paper seemed to him to come rather under the head of relapsing than periodical insanity.

Dr. William M. Leszynsky said that no one could tell at the first attack whether there would be recurrence or not. With a good previous history it was an entirely different matter.

Dr. L Pierce Clark said that, while in a hospital for insane, he had seen a case of intermittent mental stupor which recurred at short and fairly regular intervals, thus resembling in some respects the case reported by Dr. Thomson. Such cases were very rare, only six being on record. Sudden transitions were quite characteristic in the mental disorder first described by Charcot in connection with mental epilepsy.

Dr. Defendorf said that the periodicity was the characteristic of the whole course of the disease throughout the life of the individual, and it was certainly an irregular periodicity. But there were certain fundamental symptoms, such as the condition of the memory, the tendency toward deterioration, and the character of the delusions and hallucinations, upon which the diagnosis should be founded. Relative to the sudden transitions from one state to another, he said that this occasionally happened, sometimes over night.

Status Epilepticus; its Nature and Pathology.—Drs. L. P. Clark and T. P. Prout presented this paper, Dr. Clark reading the clinical portion. About forty-five cases formed the basis of the paper. Unfortunately only five cases could be studied histopathologically. The modern notion of status, it was stated, was that it was the acme or true climax of the disease, and not, as formerly supposed, a chance termination of epilepsy that by proper treatment could have been avoided. It was a state of epilepsy in which one seizure followed another so closely that the previous psychical exhaustion was not recovered from. One patient at the Craig colony for epileptics had three hundred and eighty-four typical psychic seizures in one day. It occurred with about equal frequency in all the different forms of epilepsy except that dependent upon organic brain disease. The latter constituted one-half of all the cases of status. Exhaustion paralysis was very characteristic of status. No foundation had been discovered for the statements of some writers that either age or sex exerted any influence. According to the authors' experience, the shortest interval had been in those developing their epilepsy between the ages of ten and sixteen years. On an average, eleven years elapsed between the beginning of the epilepsy and the occurrence of status. Menstruation in women did not seem to be productive of status. In the great majority of cases the approach of status was denoted by a steady increase in the frequency of the epileptic seizures. They had seen three hundred attacks a day in several cases, and still recovery had occurred. One patient had had status epilepticus for twelve days, and had recovered, having had during this time eighteen hundred seizures. The temperature elevation in status usually began after the first severe convulsion, and there was usually a direct ratio between the number and severity of the convulsions and the elevation of temperature. The record of the pulse, temperature, and respiration frequency gave the best indication of the severity of the status. Generally the maximum of the fever marked the maximum of the seizures, and if the fever persisted after this, one should be led to suspect some complication. Occasionally the fever subsided by crisis. Occasionally also the temperature rose to 107 or 108 F. As to the cause of the fever curve, the paper stated that some looked upon the elevation of temperature as purely psychical, while others believed it was the result of a direct action on the heat centre. The pulse rate increased in frequency with each attack, but the pulse curve usually ran nearly parallel to the temperature curve, though responding more slowly on recovery from status. Almost always there was Cheyne-Stokes respiration, but it was not so unfavorable a symptom as in some other disorders. Both pneumonia and pleurisy were fairly frequent complications. The prognosis of status was necessarily grave. A low temperature was supposed to be a fair sign, though there might be recovery after a temperature of 107.5° F. Paralysis of the muscles of deglutition was a very unfavorable sign. The gradual, steady increase in the symptoms was the most unfavorable sign of all. Many patients had a record of two to five status periods, and it was probable that the mortality did not exceed twenty-five per cent. It was possible to abort a case of status, if taken in time, and certainly the present mortality should be reduced. The plan of treatment pursued in the cases mentioned in the paper was as follows. At the outset the patient was given a dose composed of gr. xxv. of bromide, gr. xx. of chloral, and a large dose of opium and morphine. If the convulsions were not controlled, gr. xxx. or xl. of chloral were given by the rectum, and if this was not sufficient, bromide was given hypodermically in a part of the body that would be the least painful if abscesses formed, as they often did after such injections. The latter were very painful, and should be given only in the stuporous stage. They usually controlled the condition. Dr. Prout then took up the pathological side of the subject. He said that the modern belief was that the epileptic storm had its seat in the cortex. Recent experimental research seemed to warrant the following conclusions: (1) That the transmission of the impulse in epilepsy was through the extra-pyramidal tracts which transmitted motor reflex impulses; (2) that the sensory portions must be irritated in order to produce the fit, and (3) the fit appeared to be a complex reflex phenomenon. The paper was founded on a study of thirteen cases. In all but two the post-mortem examination was made within seven hours after death. The changes found in the brain were by far the most pronounced in the status cases. The degree of chromatolysis seemed to depend upon the number and severity of the convulsions. In the cells of the second layer the nucleus was swollen markedly; the nuclear membrane was hazy and indistinct, and the nucleolus was frequently replaced by a granular mass. These changes were especially numerous in the status cases. Many nucleoli were found far removed from the cells

to which they belonged. He had examined the normal human brain with regard to this nucleolar extrusion, and had found it comparatively infrequent. Leucocytes clinging to degenerated nerve cells were also very frequently observed. The neuroglia was studied in seven cases, and the conditions were found to vary a good deal. A broadening of the outer cortical layer was fairly constant, and occurred apparently at the expense of the cortical layer. The condition of the neuroglia seemed to depend largely upon the condition of the epilepsy. It was more pronounced in the insane epileptic than in cases of simple epilepsy. When morbid processes attacked the nucleus the vitality of the cell itself was endangered. The increase in the neuroglia was the result of nerve-cell destruction. The authors' conclusions were: (1) it would seem that epilepsy was essentially a sensory phenomenon; (2) the essential lesion pertained to the nucleus of the cortical cell and jeopardized the cell; (3) the chromatolysis was probably a nutritional change brought about by the jeopardization of the nucleus; (4) the rôle of the leucocyte in the cortex after severe convulsions was most probably that of the phagocyte; (5) the neuroglia proliferation in epilepsy was one of the more remote sequences, and (6) epilepsy was a progressive disease of which status was the climax.

Dr. Schlapp said that he had had occasion to treat two cases of status the past summer, and both patients had recovered. One patient had had thirty attacks in eight hours. She had then become stupid and had finally developed hallucinations, the whole condition lasting two weeks. In both of the cases there was such a large quantity of albumin in the urine that the latter became solid on boiling. He thought this condition was commonly present in status. He did not think it was right to assume that the second or third layer of cells could be taken as sensory cells, so much depended upon the particular region of the brain. Most of these cells were now looked upon as associated cells, thus opposing the theory of Bruce.

Dr. Defendorf asked regarding the temperature of the patient dying of status. He had had an opportunity of studying two cases, and in both there had been what had been called "acute alteration." This was often found in other conditions, particularly when there had been high temperature.

Dr. Sachs asked whether in these cases of status epilepticus gross changes had been found that might, in some way, have been accountable for these cell changes. A number of years ago he had examined the brain of a child dying in status, and the one condition found at that time had been a very large subpial hemorrhage covering almost the entire brain. He would like to know whether in the brains examined by Dr. Prout similar conditions had been found. If they had, it did not seem to him fair to determine the true pathology of epilepsy from patients who had died in status. A truer knowledge of this pathology should be obtained from a study of the brains that had not undergone such secondary changes. The plates exhibited showed cellular changes such as had been reported in a number of very widely different diseases of the brain.

Dr. Schlapp said that he had recently seen a case presenting hemorrhages throughout all the membranes.

Dr. Leszynsky said that fifteen years or more ago he had published a paper entitled, "Epilepsy as a Cause of Death." In every one of the cases coming to autopsy there had been intense venous stasis, and in some a few small hemorrhages. One or two of these patients died within two hours, and one after a single convulsion. A very competent pathologist had made the autopsies. At that time the most successful method of treatment of these cases had been early venesection, and he had seen no reason to change his view regarding the efficacy of this treatment. The injection of chloral into the rectum was certainly very satisfactory. He had practised venesection because of the intense venous stasis, not only found at autopsy but seen in the face of the patient.

Dr. L. P. Clark said that albuminuria had been frequently observed in the cases that they had studied, yet the quantity of albumin had varied greatly, and had not been at all in proportion to the severity of the seizures. In most of their cases there had been no systematized delusions present, and the delirium had resembled that of typhoid. A very large number of gross lesions had been found as the result of the severity of the convulsions. He had seen intense venous engorgement and hemorrhages, though sometimes these had been absent in very severe cases of status.

Dr. Prout, in closing, said he did not wish to be understood as saying that the invasion of the cortex with leucocytes was characteristic of epilepsy. It was well known that such an invasion was marked in general paresis. He had only mentioned the fact as showing that the leucocyte was carrying off effete material. In speaking of the cells of the second layer he had referred to them as sensory, in contradistinction to those which we were accustomed to associate with motor phenomena. He did not think it had been conclusively shown that these cells were associational in character. Many of the sections figured in the plates showed the presence of punctate hemorrhages.

New Instruments.

A NEW VAGINAL DOUCHE.

By GEORGE H. TUTTLE, M.D.,
EAST CAMBRIDGE, MASS.

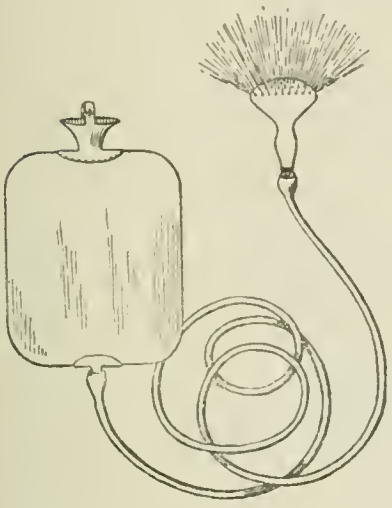
The use of hot water in the vaginal canal for the relief of congestion, inflammation, and hemorrhage, dates back far into the past. It has been proved conclusively by Dr. Murray, of Edinburgh, that the prolonged use of hot water (100° F. or more) produces a tonic contraction of the blood-vessels followed by a very slow relaxation of the same. Davenport, of Boston, states that three conditions are necessary to produce this result: the water must be fairly hot; it must be brought thoroughly in contact with the mucous membrane of the whole vagina; and the application must be a prolonged one.

To meet these requirements Professor Baker, of Boston, devised the method now in use, in which a six-quart pail and a douche pan are employed. The patient lies in bed with the hips elevated, for a period of fifteen to twenty minutes, while six quarts of water pass in and out of the vaginal canal. It is evident that in using this method the patient must lie in bed, a special apparatus must be used, a nurse is almost a necessity. Furthermore, if the hips are raised the gravity of the uterus carries it backward toward the peritoneal cavity, and, to some extent, removes its body from the effects of the hot water.

It is intended by this new device to produce the desired effects with an ordinary two-quart syringe—having a special attachment—while the patient sits at her ease on a closet seat or chamber vessel.

The mechanism and action of the new device are as follows: The douche bag is simply one of a set of syringe attachments. It is funnel-shaped, made of the finest rubber, about two and one-half inches long, and very flexible. At its fundus are a series of pin-holes, hardly distinguishable by the eye. The smaller end of the bag is stretched over the vaginal tube and held

there by winding soft string about it. The bag, being very flexible, is doubled about the hard-rubber tube for insertion. After insertion the douche bag slowly fills with water and minute streams issue from the pin-holes much as water does from a flower-pot sprinkler. The weight of the water in the bag causes it to settle until it acts as a perfect stopper of the vaginal outlet. The walls of the vagina are pressed apart by the expanding bag, and the folds and wrinkles of the mucous membrane are spread open still more by the inflowing water. This influx continues until the force of the water from the fountain bag is equalized by the various forces at work within the vagina, *i.e.*, elasticity of the rubber, contraction of the vaginal muscles, and the gravity of the water both within and without the douche bag. Thus for a time things remain nearly stationary, and the uterus, falling to the lowest possible point, is bathed in the supernatant hot water. After four or five minutes the patient pushes the hard-rubber nozzle inward—loosening the stopper—so as to let out the water which has cooled somewhat; then, by replacing the bag as before, a new accumulation takes place, and so on until two quarts of water have been used. It takes fifteen to twenty minutes to use up the full amount of water. In this way both a cleansing and a poulticing or parboiling effect is produced. At the end of the douche, the fountain bag, which has been suspended from a nail about one and one-half feet above the patient's head, is lowered to a point below the level of the vagina, whereupon the douche bag is emptied and falls out of itself.



This douche may also be used with the patient in a recumbent position, *i.e.*, in bed-ridden cases. Then a douche pan is necessary, but while taking the douche the shoulders of the patient should be raised by pillows, and not the hips as in Baker's method. In this way the weight of the uterus carries it downward as far as possible into the warm water.

I have used these bags in sixteen cases with much satisfaction to the patients and myself. These cases included leucorrhœa, abortions with hemorrhage and retained membranes, intermenstrual hemorrhages, dysmenorrhœa, and subinvolution. I have also obtained good results in cystitis and inflamed or bleeding hemorrhoids, and should expect good results in pelvic peritonitis, etc. I should think that this bag with slightly larger pin-holes might be used in the rectum when it is desired to give extra large rectal injections and have them retained.

Deaths from Consumption.—Last year in the Dominion there were three thousand more deaths from consumption than from all other infectious diseases. In Ontario one person in every one thousand of the population dies annually from consumption. Last year the province lost twenty-five hundred wage-earners from this disease, which means a direct loss of $2,500,000 and an indirect loss of an almost incalculable sum besides.—Dr. T. V. Hutchinson, *Dominion Medical Monthly*, October.

Surgical Suggestions.

The Ligature and the Value of Dry, Sterilized Catgut.—Dr. J. H. Carstens (*The Stylus*, October) makes the following points about the dry, sterilized catgut ligatures: (1) All buried ligatures ought to be absorbable. (2) All absorbable sutures must be absolutely sterile. (3) Chemicalized sutures are no more sterile than plain sutures. (4) A suture that is chemicalized is harder and remains longer in the tissues. (5) This latter is no advantage, but a disadvantage. If in a special case it is desirable that a suture should remain longer, dry sterilized kangaroo tendon can be used.

Intussusception.—Dr. A. Primrose, in the *Canadian Journal of Medicine and Surgery*, November, says that one must remember the rare possibility of spontaneous cure in intussusception. The intussusceptum may be cast off in a gangrenous condition and passed per rectum. Recently a Russian surgeon, Segal, reported a case of this character occurring in a man fifty-six years old, in whom an intussusception occurred and was cured spontaneously, the patient having passed per rectum large portions of the intussusceptum.

Hernias coexisting with adherent omentum are never safe, and especially so in men of active life and habits. In these cases it is always best to advise operation.—**In Cancer of the Breast** the presence of a large amount of fat renders less easy a thorough removal of the glands. Hence the prognosis of cure or prolonged survival must be more guarded in fat than in lean women. **In All Plastic Operations** it is important to remove the stitches as soon as possible. If left too long in the skin they will cause the formation of small scars, while if the operation has been through mucous membranes the cutting through of stitches causes the formation of little tags.—**Clubbed Fingers.** Sickly, pale children with clubbed fingers may have chronic bone disease, or bronchiectasis, or congenital heart trouble, but in the great majority of instances there is an empyema, and hence the necessity of always carefully examining the lungs in this class of children.—**Rectal Exploration.** When investigating the rectum with a long bougie it is always well to remember that there are two possible sources of error. In the first place the instrument may so double over that a mistaken idea of the length of the channel will arise. On the other hand, the bougie may be arrested by one of Houston's folds, thus simulating a stricture.—**Cancer.** It is permissible to do an incomplete operation for cancer only when it is knowingly performed with the object of relieving pain, soothing the imagination by giving the patient a faint hope, and getting rid of a loathsome sore, and because we know that recurrence in a scar is usually much less painful than the original ulcerative process.—**Pain.** In the diagnosis of malignant tumors it is well to recollect that the element of pain is quite an uncertain one. Sarcomata, for instance, are usually less painful than carcinomata, and yet we occasionally encounter cases of painless carcinomata of various regions. In some instances of adenoma the pain may be just as severe as in either of the other two. **Aneurism.** In the presence of large aneurisms of important vessels it is well to remember that operation is most likely to succeed when the occurrence is recent, when there is no evidence of aortic or mitral disease, when there is an absence of the rasp sound along the aorta, which would indicate extensive atheroma, and when there is no important visceral disease.—*International Journal of Surgery*, November.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 17, 1900:

	Cases.	Deaths.
Tuberculosis	292	147
Typhoid fever	86	17
Scarlet fever	91	1
Measles	53	3
Diphtheria	226	25
Laryngeal diphtheria (croup)	16	14
Cerebro-spinal meningitis	0	5
Varicella	12	0
Smallpox	1	0

Malaria has not received its share of attention in the etiology of acute nephritis.—J. W. Kelly.

Preservative Injection for the Embalming of Human Bodies.—

℞ Sodium arsenate	2 kgm.
Aq. bul	7,850 c.c.
Boil until complete solution, then add	
Glycerin	2,000 "
Formaldehyde	100–150 "

—Dr. A. Hewson, *Philadelphia Medical Journal*, October 27th.

Diabetic Coma.—Dr. John S. Ely (*Yale Medical Journal*, October) says: "I would warn against too precipitate withdrawal of carbohydrates from patients suffering from diabetes. In a number of cases this has been speedily followed by the development of coma, probably because of the readiness with which proteid food yields acids in the course of its decomposition. To avoid this the alkaline treatment should be instituted prior to the reduction of carbohydrates, and these should then be gradually withdrawn."

Measles.—In a study of one hundred and forty cases of measles, with reference to the appearance and value of Koplik's spots as a diagnostic signs, Dr. William J. Maroney (*Yale Medical Journal*, October) gives the following table which sums up the results of his examinations:

Time of Recognition.	Cases	Remarks.
At the beginning of the eruption.	53	In the large majority of these the children did not come under the observation of the physician until after the appearance of the eruption.
Twenty-four hours before the appearance of the eruption.	51	Slight fever, ranging from 99° to 101° F., was present in all the fifty-one cases. Slight coryza and conjunctivitis in thirty-five.
Forty eight hours before the appearance of the eruption.	20	Slight fever as above, but no coryza.
Three days before the appearance of the eruption.	4	Slight fever as above, but no coryza.
Four days before the appearance of the eruption.	2	Slight fever as above, but no coryza
Spots observed, but no eruptions.	2	Both children were very delicate. Hyperpyrexia, etc., intervened and death occurred in a few days.
No spots observed	8	In four of these the children were marantic, with very dry mouths. Two had aphthous stomatitis covering the mucous membrane.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 17, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Colorado, total for the State.	October 1st to 31st	75	
District of Columbia, Washington	October 28th to November 3d	1	
Iowa, Des Moines	October 1st to 31st	1	
Kansas, Wichita	November 3d to 10th	11	
Total for the State.	October 1st to 31st	27	
Kentucky, Lexington	October 28th to November 10th	4	
Louisiana, New Orleans	October 26th to November 3d	2	
Massachusetts, Taunton	October 28th to November 3d	1	
Michigan, Detroit	November 3d to 10th	1	
Minnesota, Minneapolis	October 28th to November 10th	6	
New York, New York	November 3d to 10th	1	
Ohio, Cincinnati	November 3d to 10th	14	
Utah, Salt Lake City	October 31st to November 10th	47	
Washington, Seattle	October 1st to 31st	9	
West Virginia, Wheeling	November 3d to 10th	1	
Smallpox—Foreign.			
Brazil, Rio de Janeiro	September 8th to 16th		33
Egypt, Cairo	October 7th to 14th		1
England, London	October 20th to 27th	1	
India, Calcutta	September 22d to October 13th		24
Madras	October 6th to 12th		1
Russia, Moscow	October 13th to 20th	3	
Odessa	October 22d to 27th	1	2
Scotland, Edinburgh	October 20th to 27th	1	
Glasgow	October 26th to November 2d	26	2
Yellow Fever—United States.			
Mississippi, Natchez	About October 15th	12	7
Yellow Fever—Foreign.			
Brazil, Rio de Janeiro	September 8th to 16th		2
Cuba, Havana	October 26th to November 3d		13
Dominican Republic, Puerto Plata	October 6th to November 3d	5	
Tampico	October 28th to November 4th	12	4
Mexico, Vera Cruz	October 26th to November 3d	11	12
Cholera.			
India, Bombay	October 8th to 16th		17
Calcutta	September 22d to October 13th		461
Karachi	October 7th to 14th	1	1
Madras	October 6th to 12th		21
Plague.			
Egypt, Alexandria	October 1st to 14th	1	
England, London	October 30th	1*	
Germany, Bremen	November 6th		1†
India, Bombay	October 8th to 16th		85
Calcutta	September 20th to October 13th		197

* On vessel arriving from the Philippines.
† Sailor from South America.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Uric Acid as a Factor in the Causation of Disease. By Alexander Haig, M.D. 8vo, 846 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

Obstetric Clinic. By Denslow Lewis, M.D. 8vo, 862 pages. Illustrated. E. H. Colegrove, Chicago, Ill.

A Text-Book of Histology. By A. A. Böhm, M.D. 8vo, 501 pages. Illustrated. W. B. Saunders, Philadelphia.

Cancer of the Stomach. By William Osler, M.D. 8vo, 157 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A Manual of Hygiene and Sanitation. By Seneca Egbert, M.D. 8vo, 835 pages. Lea Brothers & Co., Philadelphia.

Obstetrica; A Manual for Students and Practitioners. By David James Evans, M.D. 8vo, 430 pages. Illustrated. Lea Brothers & Co., Philadelphia.

International Clinics. By Henry W. Cattell, M.D. 8vo, 298 pages. Illustrated. J. B. Lippincott Co., Philadelphia.

A Manual of Materia Medica and Pharmacology. By David M. R. Culbreth, M.D. 8vo, 885 pages. Illustrated. Lea Brothers & Co., Philadelphia.

The Practice of Medicine. By James Tyson, M.D. 8vo, 1222 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

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Original Articles.

PERNICIOUS ANÆMIA AND ITS RELATION TO INHERITANCE.[1]

BY CHARLES L. DANA, M.D.,

NEW YORK.

My apology for reporting a case of pernicious anæmia is this: The history of the case shows interesting facts in the family and personal history bearing upon the question of hereditary or congenital influence in producing the disease. I have not found that this phase of the etiology or pathology has been studied; at least no reference is made to the question in the systematic treatises upon it, or in any of the recent monographs to which I have had access. The history of the case is as follows:

Joseph K——, married, aged forty-seven years, nationality German, wood-carver by occupation, was admitted to the wards of Bellevue Hospital April 6, 1900. He presented at that time the characteristic symptoms of pernicious anæmia.

Family history: The patient was the thirteenth of fourteen children, all of whom were born dead except one brother next in age to himself, and who afterward died from pneumonia. The father was a tailor by occupation, a Prussian, and was about forty years of age when his child was born. He was said to have been always a healthy man; never suffered from rheumatism or anæmia, and died at the age of seventy-seven. The patient's mother was about the same age as her husband, and died of some pulmonary disease at the age of fifty-nine. She was not a sufferer from anæmia or rheumatism, nor were there any neuroses in the family. It is evident that the mother was somewhat advanced in years when the child was born, being nearly the age of forty. Despite this history of twelve successive miscarriages there was no history of syphilis obtainable.

Personal history: At the age of ten the patient had scarlet fever and suffered at this time from inflammation of the right ear. In consequence of this illness he stated that he had to learn to talk again, and he had stuttered ever since. He gave a history of having always been healthy and able to work, never having had any acute illness, except as stated, until July, 1897. At this time he was taken with an attack which he says resembled the one for which he was admitted. This came on suddenly after a meal of hard-boiled eggs and tea. He was taken with violent pains in the stomach and was brought to the hospital. He subsequently became jaundiced, and afterward had an attack of gastro-duodenitis. He did not at this time have any shortness of breath or swelling of the feet, and he was discharged "cured." He denies ever having had syphilis.

Habits: In the past the patient had been in the habit of taking whiskey and beer in moderation. He was a hard smoker from the time he was twelve years of age until he was thirty-five, when he stopped. He began to chew at the age of sixteen, and has chewed tobacco ever since, using about three ounces a week.

He first noticed his present illness in January, 1900. At that time he found that his hands were beginning to shake at his work; they were numb; he could not pick up anything small like a ten-cent piece. Then he began to grow generally weak, but his numbness disappeared. He noticed that he would get tired during his work much sooner than formerly. He soon experienced a slight, gradually increasing shortness of breath on exertion, but paid little attention to it, and kept at his work as best he could. About the middle of February, 1900, he noticed a dizziness on getting up in the morning, which soon became so great that he would have to catch hold of something, and remain quiet with eyes shut until he could get his bearings. At this time he was unable to hold a cup of water in his hand on account of its shaking so violently. He went to the Bellevue dispensary, and was treated by several doctors there, none of whom examined his blood. He continued to get gradually worse, although his appetite was good and bowels were regular. When he lay down he had a sensation of formication in his hands and sometimes in his feet. This sensation in his hands was present only during the day. He slept well at night, and did not feel sleepy during the day. The symptoms grew worse, and so he went to the hospital April 6, 1900.

Status præsens: The patient is a short man, fairly well nourished, weighing one hundred and nineteen pounds. His complexion is the peculiar yellowish-white characteristic of severe anæmia. There is some œdema of the face and legs; the mucous membranes are pale and the sclerotics somewhat jaundiced; the tongue is smooth, pale, not coated, and moist. The heart is normal; the apex beat is in normal position; there is a soft blowing systolic murmur at the apex, not transmitted; also a booming sound in the vessels of the neck, increasing as one listens higher up. The pulse is regular, quick, full, and compressible. The arteries are thickened and tortuous. The chest is barrel-shaped: on the right side is a supernumerary nipple about three inches below the normal nipple. The lungs are hyperresonant; few bronchial râles can be heard. The liver is large, the spleen normal. There is an inguinal hernia on the left side and some œdema of the scrotum. There is no eruption on the skin. Some few enlarged lymphatic glands can be felt on the right side of the neck. The conformation of head and ears is normal. The veins of arms are prominent and nodular; not so those of the trunk or legs.

Nervous system: The epigastric, cremasteric, and plantar skin reflexes are all normal. There is no extensor toe reflex. Vasomotor reflex very sluggish, slow, and imperfect. Elbow jerk not present. Knee jerk very feeble on left; not present on right side. The legs are not hypotonic. There are a slight amount of ataxia in both hands, and a slight static ataxia. There is a little fine tremor, especially in the left hand. Muscular strength fair. Eye examination by Dr. Weeks, June 15th, showed motility of muscles and pupil normal; both discs pale. There was slight catarrhal condition of the left ear drum, the left drum head being drawn in. "Otitis media purulenta chron-

[1] Read at the meeting of the Practitioners' Society, November 2, 1900.

ica" in right ear; hearing diminished—cannot hear watch tick in right ear, watch heard at two inches in left ear; ordinary voice heard in left ear.

A later examination on April 10th shows slight ataxia of hands and slight tactile anæsthesia; dynamometer record is, right hand, seventy; left hand, sixty-five. The patient sways when standing. The knee jerks are normal. The pupils are small, the right a little larger than the left; they respond well to accommodation, and but poorly to light.

A further examination on April 19th showed slight numbness in tips of fingers and toes; dynamometer, right hand, seventy; left hand, forty; slight ataxia of left hand. Patient swayed a good deal on walking. Knee jerk diminished on right side.

The stools were well formed, of normal color, odor, and amount; without mucus or fat.

May 22d. Dynamometer record, right hand, fifty; left hand, forty; some paræsthesia and slight tactile anæsthesia of the fingers of the left hand.

The blood examinations were as follows, made by Dr. Camac, and later by Dr. Scott:

	April 9th.	April 23d.	May 14th.	June 19th.
Coagulation	Slow.			
Microcytes	Numerous.	Numerous.	Numerous.	
Macrocytes	Numerous.	Numerous.	Numerous.	
Poikilocytes	Numerous.	Numerous.	Numerous.	
Degeneration areas	Numerous.			
Red blood cells	1,400,000	1,800,000	1,008,000	958,000
White blood cells	6,000	7,000	7,000	4,400
Hæmoglobin	25 per cent.		25 per cent.	23 per cent.
Stained specimen — Red blood cells.				
Polychromatiphilia	Marked.	Marked.	Marked.	
Normoblasts	1.	2.	4.	
Gigantoblasts	2.	6.	7.	
White blood cells.				
Small mononuclear	35 per cent.			
Large and transitional	25 per cent.			
Polynuclear	40 per cent.			
Eosinophiles	0			

The patient's mind was clear, but he was somewhat apathetic. He complained of no headache or pain of any kind. He was quite weak and easily got out of breath. He slept well at night; his appetite was good; his kidneys acted freely, and he had an average of about two stools a day, which were normal in appearance. The general course of the disease during the next three months corresponded very perfectly with Addison's classical description and hardly needs a recital here. There was a slow but steady progress downward. Puffiness of the face, weakness, breathlessness on slight exertion, characteristic pale-yellowish look, swelling, all became very marked. The patient was quiet but not despondent or complaining. He continued to suffer from the paræsthesia and clumsiness of the fingers. The blood examination, as shown in the table, revealed the characteristics of pernicious anæmia. It was not affected by any form of treatment. High rectal injections, arsenic, iron, bone marrow, purgatives, and tonic measures of all kinds were used without avail. During the progress of the disease the urine was measured daily. It ranged in amount from forty-five to sixty ounces, and became a little less as the weather grew warmer.

Urinary examination: April 7th. Specific gravity, 1.032; acid; no albumin or sugar microscopically; phosphates and urates; total amount for the day sixty-two ounces.

May 19th. Color, light straw; specific gravity, 1.013; alkaline; urea sixty-five per cent.; no albumin or sugar; microscopically negative; total amount, fifty-eight ounces.

June 18th. Color, amber; specific gravity, 1.013; no albumin or sugar microscopically; urea, .769; few hyaline and granular casts; epithelial cells, phosphate, and urates; total amount, forty ounces.

These records show a gradual diminution in amount, a deficiency in urea, and low specific gravity, and deficient total solids. They contrast with the rather free elimination from the intestines.

The stools showed nothing abnormal; no parasites were seen after purging. There were two to three stools daily up to the time of his death. The digestion was good. There were no symptoms pointing to the disturbance of the gastro-intestinal tract, beyond the free action of the bowels. The temperature during the first month averaged about 100° F., ranging from 99.5° to 100.5° or 101° F.; there was a daily rise in the afternoon of about a degree. In the next two months it ranged about one-half a degree lower, keeping slightly above normal until the terminal rise at the time of his death. This slight febrile rise is characteristic of typical cases of pernicious anæmia.

The pulse beat was about 100, ranging from 95 to 105.

Respiration slightly accelerated, averaging 24 in the last month of life, running often to 28.

There was no further development of the nervous symptoms, which indicated a slight involvement of the posterior columns in the cervical region of the spinal cord, that being the part of the spinal cord most often affected in this disorder.

The patient steadily grew weaker, more œdematous, and more anæmic. He died of exhaustion on June 15th.

I do not intend to discuss the question whether pernicious anæmia is a specific type of disease. It seems to be very well settled that there is such a disease which has clinical characters that make it separate and recognizable, when the clinical history and blood examinations are studied together. I believe the exciting causes of the disease are many and various. It is my purpose to-night to show that the victims of it all possess one common thing, viz., a teratological defect or weakness in the blood-making organs.

In the study of nervous diseases one becomes impressed with a fact which does not seem to have been appreciated by pathologists in their studies of pernicious anæmia—this is the occasional unequal vitality of the different tissues of the body. For example, in the muscular dystrophies we know that the muscular system is congenitally short-lived and wastes away before the individual's other organs are even matured. In hereditary chorea the gray matter of the brain cortex, especially in the central convolutions, dies before the man is forty. In certain forms of primary dementia the same fact is true. In locomotor ataxia and the spinal atrophies and other degenerative diseases, certain systems are born with a weak vitality and succumb to infections, toxins, or accidental injuries, which do not affect the other parts. Of the millions who get syphilis only some thousands have tabes, and of the thousands who are poisoned with lead only a few have an atrophy of the cornual cells. The same law, I believe, applies to other structures. The kidneys and the liver atrophy and die early in some, while others subjected to the same influence continue healthy. These tissues have inherited a feeble resistance to deleterious agents.

The factor of teratology or unequal vital endowment of the tissues is one of the most important and compelling in the explanation of progressive degenerative diseases of the human body.

There are certain microbic poisons and toxins so potent that they can sap the vitality of even the soundest tissue; but such potently malignant agents cannot be always invoked by the pathologist. Are they sufficient to explain pernicious anæmia?

The theory of atrophy of the gastric tubules is admitted inadequate, and has been abandoned. Only a small proportion of the victims of intestinal parasites have pernicious anæmia. Among twenty-three African

negroes all were found to have intestinal parasites and twenty-six had ankylostoma, but none showed any signs of anæmia.[1]

The theory of a specific infection is still only a guess. The theory of an auto-intoxication from the gastro-intestinal tract is the one which now holds the most support. It is based upon the evidence of gastric disease, of intestinal parasites, and of the discovery of certain ptomains in the urine. Dr. W. Hunter has found putrescin and cadaverin, substances caused only by micro-organisms, in one case; but these substances are also found in cysts. Micro-organisms and parasites have often been discovered in the bowels, but I cannot find any very positive or convincing evidence of an adequate auto-toxæmia, and no therapeutic attempts addressed to this condition avail at all. It is difficult to understand how so powerful a hæmolytic agent could be present there and not cause more marked general symptoms. It is a characteristic of all progressive degenerations that remedies never permanently avail. We may, however, suppose, if you wish, that there is some auto-poisoning. It would not be sufficient, according to my point of view, if there were not an inherent lack of vitality in the blood cells also. In the same way the posterior spinal roots, or anterior horn cells, would not atrophy and die if, superimposed upon their natural weakness, there were not some luetic or lead poison to affect them. The muscular dystrophies often start in after an acute infectious disease.

All the degenerative diseases are apparently diseases of lysis, not of genesis. The full-grown cell is attacked, not the embryonal cells. So in pernicious anæmia it is now generally agreed that it is not the blood-making organs but the finished blood which is attacked. It may be objected that the blood is not a tissue like muscle or nerve or liver, but a tissue feeder. Still the analogies are sufficiently perfect. The red blood cell is a fully developed anatomical unit with a definite life history which must run a certain course, in order that it may perform its functions. If it dies too soon through lack of original endowment of vitality, the process is the same as that of the degenerating muscle or nerve or kidney cell, which lives but forty years instead of seventy. The argument, to be sure, would make the original defect lie in the blood-making organ. This is not able to turn out a cell that can live its proper life, though it may mature and become for a time a healthy cell. I should accept this point of view and make pernicious anæmia a disease in which, owing to bad endowment, those organs begin to fail in their work after a certain number of years. This does not affect the practical, accepted fact that the anæmia is due to the killing or dying off of cells which start out apparently in proper number and appearance.

It might be asked, "Why should we not have pernicious anæmia in old age if this doctrine is true, since in advanced life other tissues grow old?" As a matter of fact, there is the same general atrophy of the blood at that period, but nature has arranged it that fatal degenerative diseases occur mostly before or at middle life. It seems that after that point is safely passed it means that the individual has received usually a well-balanced endowment and that the machine will run on with a fair degree of certainty, so far as degeneration is concerned. After this period it is mainly secondary to the arterial sclerosis and defective vascular supply.

In my own case the history of the family is most striking, and shows an extraordinary lack of vitality on the part of the generation to which the patient belonged. Out of fourteen children twelve died in infancy, and the other two before the age of forty. There was no evidence of lues, and though this may have been present, it is rare for this trouble to cause more than three or four miscarriages or early deaths.

I have not been able to look up the personal histories of the many cases of pernicious anæmia reported, but in the systematic articles on this subject by Stengel, Cabot, Henry, Howard, Shattuck, Coupland, Pepper, Ehrlich, and Lazarus, and in the recent numerous discussions on this topic, I find no notice of any careful study of the family history. Such studies are always difficult and usually negative, but a few very positive cases like my own ought to carry weight.

In cases in which a mother gives birth to a long series of still-born children it has been found that some of those who finally survive have teratological defects. Thus Ballantyne[1] reports the case of healthy parents who had eight children, the first two were normal, then came an abortion, then four pregnancies resulting in still births, or nearly such with hydrocephaly, anencephaly, spina bifida, malformed feet, malformed hands, absence of radius, then a normal child.

I hope that this attempt at an oblique illumination may at least start some inquiry in a new direction, even if it only leads to the conclusion that my case was an accident or a coincidence. I shall not easily believe this so, because the view which makes pernicious anæmia a teratological defect has so much in analogy to support it.

[1] Zuin and Jacoby: Berlin. klin. Wochensch., No. 36, 1896.

GASTROPTOSIS.[2]

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The descriptions in the books of the symptoms of gastroptosis are hopelessly obscure and chaotic, but not more so, unfortunately, than is the complexity of symptoms actually presented by the patient. When one goes over the series of his cases in analytical study, it becomes painfully evident that no two are alike, and that characteristic and diagnostic points are few and misleading. It seems to me that the present jumble arises from the fact that we are apt to consider gastroptosis a morbid entity, and that we do not go closely enough into the other conditions which may be found in the displaced stomach—atony, gastritis, and disorders of secretion and sensation, for example—any of which or all of which may be potent factors in the symptom complex.

Let us take the heart by analogy—a hollow muscular viscus to which the stomach may well be compared. A diagnosis alone of mitral insufficiency or of enlargement is hardly up to date. The cardiac musculature, the probabilities of present or future degenerations, the general recuperative power of the patient, the condition of the arteries—all these and more have to be taken into consideration. In like manner, with the stomach, factors other than the mechanical displacement should enter into the study of the case.

The cases upon which the facts of the paper are based are taken from private practice, and have all been under observation a long enough period of time to allow of their being carefully studied. The cases of hospital patients who return to unhygienic living and erratic diet have been totally excluded as have been all of those cases which have been seen, diagnosed, and have passed from under observation. Such a selection seems to me the fairest, and the one that promises to give the most accurate data.

It may here be said that the facts obtained coincide with the writer's experience of other cases, greater in

[1] American Journal of Obstetrics, 1900, p. 577.

[2] Read before the Clinical Society, May 25, 1900.

number, seen in public practice, of which records are incomplete.

The cases thus selected, the majority of which have been under constant observation for a number of months, number 45, 8 males and 37 females. Of the 45 cases

3	patients	were	between	20	and	25	years old.
9	"	"	"	25	"	30	" "
5	"	"	"	30	"	35	" "
6	"	"	"	35	"	40	" "
10	"	"	"	40	"	45	" "
6	"	"	"	45	"	50	" "
3	"	"	"	50	"	55	" "
1	patient	was	"	55	"	60	" "
0	"	"	"	60	"	65	" "
2	patients	were	"	65	"	70	" "

The marked preponderance in adults during the most active portion of life, the storm and stress period, is here well illustrated—36 cases occurring between twenty-five and fifty years of age, 9 cases at other times. Cases in persons under twenty, giving symptoms, have not been seen, quite contrary to Meinert's experience. A cause adequate to explain the gastroptosis was found in but a single case. This patient was a man forty-five years of age, who three months after marriage developed the symptoms of incomplete intestinal obstruction. Exploratory laparotomy by Dr. B. F. Curtis showed the intestines in a contracted condition, resembling the appearance of spastic ileus. The gastro-hepatic omentum was so lax that the stomach could easily be pulled about the abdominal cavity. The organ was of normal size and muscular tone. The mesocolon was also long and lax, allowing of an extreme degree of coloptosis.

There have never been gastric symptoms either before or after the operation. Tight lacing did not appear to be a cause in any of the cases. Rapid emaciation was not found in any of the cases. Laxity of the abdominal wall was not a marked feature. Of the 37 women 25 were nulliparæ, 3 had one child, 5 had two children (in one, diastasis), 1 had three children, 1 had four children (diastasis), 2 had children, number was not stated (in both, diastasis; one was sixty-seven years old, one seventy-two years old).

Only four cases of diastasis recti were encountered: one in a IIpara, one in a IVpara, two in old people, multiparæ.

An appreciable displacement of the right kidney was present in about one-half the cases.

It did not seem to me that any woman of the series laced more than normally, and that the corset was responsible for a single case. This is contrary to the experience of Fleiner and Meinert.

Only one case showed chlorosis. I have examined a large number of chlorotic girls, and can dispute the statement of Meinert, that gastroptosis exists in every chlorotic girl. Meinert bases his experience on one hundred cases of chlorosis. It probably depends on what dividing line you draw between a normal and a displaced stomach, for Meinert says fifty per cent. of girls twelve years old have gastroptosis, eighty per cent. of girls fourteen years old have gastroptosis, ninety per cent. of adult females have gastroptosis. These statistics are entirely at variance with our experience in this city.

Stiller's sign or stigma of neurasthenia—the mobility of the tenth rib—was not always looked for, but when search was made the rib did not seem unattached.

My general impression is that gastroptosis is far more common among the upper classes—a more frequent disease of private practice than of hospitals. Whether this is due to the more highly sensitive nervous systems of the upper classes, or to more systematic use of the corset, or is due to the fact that hospital and dispensary patients are not carefully examined, I do not know. The last-mentioned reason seems to me the most explanatory.

An exciting cause for the manifestation of symptoms occurred very strikingly in twenty-four of the forty-five cases, and is stated as follows:

1. Well till six years ago. Then the only sister died after a long illness.

3. Well till six years ago. Then nervous prostration developed from "adequate cause" (love affair). Since then the patient never was well.

5. Never well since domestic complications, six years ago.

6. Well until she lost her money, and had to keep a boarding-house; at about the same time she developed exophthalmic goitre.

8. Well till two years ago. Then she had a stillborn child; nephritis and fever followed.

10. Constantly ill for four years, directly following a fall through the ice.

16. Well till husband had pneumonia four years ago.

17. Lost money two years ago, and has had to teach music.

19. Well till six years ago. Then, under domestic strain, she developed hystero-epilepsy.

20. Lost money six years ago. Since then constantly stomach sick.

21. Constantly ill since death of only sister, eight years ago.

22. Severe attack of gall stones eight years ago. Never well since.

23. Six months' growth of ovarian tumor.

24. Well till runaway accident six years ago, in which she was thrown from carriage. Constant indigestion since.

26. Husband died eight years ago.

27. Husband died three years ago.

28. Two and one-half years ago operation for cervix and curetting.

29. Well till one year ago. Then severe overwork and poor treatment (insufficient diet).

30. Three to four years following prolonged nursing of a sick patient.

31. Woman, aged seventy-two years, with lax abdominal walls; was well till her husband died two years ago. Since then constantly ill.

34. Well till one year ago, when she had exhausting hemorrhage, said by Trudeau to be "vicarious menstruation." This came at the same time as severe domestic unhappiness. Never well since.

36. Well till two years ago. Patient had had exudative nephritis for six years, but the stomach was perfectly satisfactory. Then the father became ill, the home was given up for residence south. Since then, nervous worry and stomach symptoms.

40. Well till one year ago. Then she developed chlorosis, and her stomach began to trouble her.

Of these 24 patients 23 were women, 1 was a man. Probably the man would have done differently if at the time he had received rational treatment.

Of all the complications of gastroptosis atony is the most important, and is usually the exciting cause of symptoms. In the pre-atonic period the symptoms seem to be intermittent, induced by fatigue or by emotional or nervous strain, and are interrupted by more or less lengthy periods of well-being. These intermittent symptoms seem almost entirely due to gastric neuroses, either sensory or secretory. When, however, atony develops, the clinical picture changes. The patients no longer feel well after the summer's outing, but there is more or less continual gastric distress. Flatulence, loss of appetite, or an appetite that is too easily appeased, and an increasing malnutrition, together with any or all of the multiple forms of neurasthenia, are the most prominent symptoms.

Of the 45 cases, atony was absent in 19, slight in 6, moderate in 16, marked in 13. In one of the cases there was hypermotility.

I. Cases without atony. In the ten cases (four males, six females) there were practically no symptoms. It will be noticed that as atony increases there is an increased number of neurasthenic females. In thirteen cases no gastric analysis was made because no stomach symptoms were present. One case showed hypermotility, so that the stomach was continually empty one-half hour after the test breakfast. Aside from a feeling of "goneness" coming on two hours after eating and lasting until the next meal, no gastric symptoms were present. In two cases gastric analysis showed normal acidity and digestive power. In one of these there was coloptosis and obstinate constipation, with loss of appetite. The other case was a nervous society woman, who complained of a peculiar feeling in the pit of her stomach after eating whenever she was overtired. One patient showed in the fasting condition considerable amount of mucus—the test breakfast showed low acidity (16) without HCl. The symptoms were weakness, insomnia, and flatulence, and entirely disappeared after one month's treatment by lavage and Kissingen water. Here the symptoms were due, not to atony or gastroptosis, but to an intercurrent gastritis.

In one case moderate gastritis was present (total acidity 40, mucus in fasting stomach; in test breakfast thirty small pieces of gastric mucosa were found), but the symptoms were entirely neurotic, and consisted in peculiar feelings during the height of gastric digestion. A full diet, with small doses of bromide, chloral, and chlorofom water, brought about entire cessation of symptoms in two days. The superficial erosions gave no symptoms.

One case (an epileptic) presented the complication of periodic vomiting of gastric juice ("gastroxynsis of Rossbach") together with gastric and cutaneous hyperæsthesia, resembling the gastric crises of locomotor ataxia. Between attacks there was steady hyperacidity (nearly 4 per cent.). No result was obtained by treatment.

One case showed hyperacidity (.025 per cent.) with superficial erosions. Sections of the mucous membrane in the wash water presented the lesions of mucous gastritis, and a small amount of interstitial infiltration.

There is nothing very definite about the symptomatology of this class without atony: 1 case of hypermotility; 1 of moderate gastritis and gastric neurosis and superficial erosions; 1 of marked mucous gastritis; 5 giving no symptoms; 1 of superficial erosions and hyperacidity; 1 of gastroxynsis. hyperacidity, epilepsy.

Of the ten cases six might well be described as neurasthenic.

II. Cases with slight atony, six cases. Of the six cases·

1. Complicated by hyperacidity: principal symptoms, gas on empty stomach and heartburn. The patient showed gastric hyperæsthesia from acids described by Talma. Symptoms steady for ten years. The patient was treated by atony diet and alkalies and small doses of chloral; he recovered. He has been well for two years past.

2. Girl, aged twenty years, was well till she developed chlorosis two years ago. Then she had attacks of gastroxynsis. Hæmoglobin twenty-seven per cent. Treated by iron and recovered entirely.

3. Male, neurasthenic. Gas at 6 A.M. always, for past three or four years. He was much improved by atony diet, and for past year has had no complaint.

4. Female, aged twenty-eight years. Nausea, constipation, weakness, and anæmia. Examination of gastric contents showed mucus in fasting stomach and subacidity. By lavage and Kissingen and intragastric faradism she made good recovery. This case was interesting because of quick response of motor functions to intragastric faradism, and because after any fatigue or mental excitement atony returned as a temporary condition.

5. Female, aged thirty years. She was well until some nervous strain occurred, then lost appetite and had gas constantly. Chemical analysis showed slight mucous gastritis, normal acidity. Treatment by Wiesbaden, with marked improvement. Still under observation.

6. Female, aged twenty-eight years. She had attacks of pyloric spasm for two years at intervals, with nausea, flatulence, and loss of flesh and strength; slight atony, pulsating and tender aorta, cutaneous hyperæsthesia. Mucus in fasting stomach. The test breakfast showed anacidity. Treatment by lavage, Kissingen, hot wet flannels. Still under observation.

Synopsis: 1. Hyperacidity; recovered. 2. Gastroxynsis, chlorosis; recovered. 3. Hyperæsthesia and neurosis; recovered. 4. Chronic gastritis; recovered. 5. Gastritis; improving. 6. Gastritis anacida: improving. Three of the six might be considered neurasthenic.

III. Cases with moderate atony; fourteen cases, all females.

In all of these cases there were slight, constant symptoms—loss of appetite, vague feeling of distress after eating, and eructations of gas. In all there were periods of exacerbation of symptoms regularly induced by fatigue or nervous strains.

In six cases no gastric analysis was made, as there did not seem to be sufficient severity of symptoms, and the six cases were all in nervous women of marked neurasthenic habit. In one of the cases there was "peristaltic unrest."

Of the eight cases with gastric analysis, one showed normal acidity after test breakfast. The fasting stomach contained regularly 20–40 c.c. of glairy mucus reacting to free HCl., but no food remains even after the Riegel dinner taken seven hours previous to the examination. The symptoms were loss of appetite, gas, pyloric spasm, gastralgia, oliguria, neurasthenia, and insomnia.

Two cases showed normal acidity and absence of mucus. The symptoms of one were weakness and anæmia which disappeared under treatment. The other case showed anæmia and oliguria which were relieved by iron, diet, and diuretics. The fourth and fifth cases showed gastritis subacida. The sixth and seventh cases showed hyperacidity and gave the symptoms of hyperacidity only. The eighth case showed mucous gastritis with normal relation of acidity—neurotic vomiting and gastralgia—rapidly relieved by lavage and internal administration of bromides. There were only two patients in forty-five who vomited, and in these cases the vomiting was distinctly a neurosis.

To recapitulate this group. Six cases gave scarcely any symptoms of any severity—all were neurasthenic, and did well without local gastric treatment. Eight cases were analyzed: Four cases had normal acidity, two cases had subacidity, two cases had hyperacidity. Thirteen of the fourteen were neurasthenic—all females.

IV. Cases with marked atony. This group comprises fifteen patients, including two males, and constituted the worst set of cases. They all presented constant gastric symptoms, were never free from indigestion, and were all more or less incapacitated, thirteen being practically semi-invalids. Gastric analysis was made in all but one case. In all of the fourteen cases examined mucus was found in the test breakfast, and in eleven cases was found in the fasting stomach.

Eight cases showed hyperacidity, three cases showed normal acidity, three cases showed subacidity. One of the last three gave practically no HCl, either free or combined.

All the fifteen cases were neurasthenic, and all to a fairly intense degree.

1. Female, aged twenty-nine years; flatulence, heartburn, pyloric spasms, hysteria, insomnia, oliguria, indicanuria with constipation, weakness; semi-invalid six years. Gastroptosis, atony, periodic slight dilatation, coloptosis, mucous colitis. Slight mucous gastritis with hyperacidity.

2. Female, aged forty-eight years; flatulence, neurasthenia, semi-invalid. Hyperacidity, moderate gastritis.

3. Female, aged thirty-five years; gas, fluctuating acidity (from 6 to 144), bulimia, profound neurasthenia, peculiar head symptoms with visual aura resembling petit mal, gastroptosis, atony, enteroptosis, intestinal auto-intoxications; invalidism.

4. Female, aged thirty-five years; gas, distress in epigastrium, feeling of load. Alternating diarrhœa and constipation. No colitis. In wretched health continually. Hyperacidity. No mucus.

5. Female, aged sixty-seven years; constipation, gas and flatus, acidity, semi-invalid. Gastroptosis, atony, hyperacidity, slight colitis, diastasis recti.

6. Female, aged forty-two years; pain, neurasthenia, emaciation, slight mucous gastritis and subacidity. Has phthisis, exophthalmic goitre, and hay fever.

7. Male, aged forty-six years; gas, anorexia, attacks of pyloric spasm, retention followed by congestive headache. Never has a well day.

8. Female, aged fifty years; for ten years nausea and vomiting, pain, gas, alternating diarrhœa and constipation. Analysis: normal acidity. No mucus. Patient more or less of a wreck, weighing less than one hundred pounds.

9. Female, aged twenty-nine years; for fifteen years an invalid. Gas, neurasthenia, oliguria, weakness. Mucous gastritis with subacidity, marked atony.

10. Female, aged twenty-six years; for four years pains, gas, nausea, vomiting, insufficient diet, constipation. Weight seventy-one pounds in travelling-dress; five feet six inches tall. Gastroptosis, atony, hyperacidity, neurosis. Invalid.

11. Male, aged forty-eight years; for ten to twelve years never well. Gas, insomnia, loss of flesh and strength. Normal acidity, no mucus.

12. Female, aged forty-two years; for ten years gas, sore feeling, pyloric spasm, neurasthenia. Slight mucous gastritis. Normal acidity. Invalid.

13. Female, aged forty-eight years; for six months pain, gas, acidity. Lost twenty-five pounds in six months. Analysis shows hyperacidity. Stomach displaced and apparently adherent to ovarian cyst.

14. Female, aged twenty-six years; for one year constant peristaltic unrest, flatulence. Analysis shows slight gastritis; fasting stomach empty. Test breakfast shows high acidity. Superficial erosions.

15. Female, aged thirty-six years; for two years severe and constant flatulence, loss of appetite, emaciation, and loss of strength. H. forty-two per cent. Fasting: small amount of mucus of alkaline reaction. Test breakfast f. a. 16. No free acid, no lactic.

It becomes very evident on reviewing these groups of patients that the severity of symptoms and the obstinacy of their course depend to a great extent upon the degree of the associated atony, and, moreover, it would seem as if atony progressed with advancing neurasthenia and malnutrition in equal strides. Of the cases showing moderate or marked atony, not one well-nourished non-neurasthenic victim can be found. Paul Cohnheim, Boas' able assistant, in reviewing a series of cases seen in Boas' clinic, says in a recent number of the *Archiv für Verdauungskrankheiten*: "Gastric atony is a constitutional malady—a part only of a general muscle and nerve weakness. It is never cured by bland diet, but only by raising the general nutrition, and by increasing the strength of nerve and muscle. The symptom complex which we call atony, is never found in well-nourished patients."

These expressions of Cohnheim's coincide completely with my own experience in these cases, and I place especial emphasis upon this point when we consider the treatment of the condition. Left to themselves, these patients assume a starvation diet by which the real difficulty is increased. Fatten them, nourish them, test the motor and chemical functions of the stomach by test meals, and so prescribe a suitable diet, and then and then only is no class of cases so encouraging or gives better results.

Continual secretion of gastric juice (Reichmann's symptom). Continual secretion of gastric juice was not found in any of the cases. Six patients showed mucus in fasting stomach without traces of HCl. All these six had gastritis. In four patients mucus and free HCl could be demonstrated in the fasting condition.

To constitute a true continual secretion, it is generally agreed that the presence of HCl must (1) be constantly found in the fasting stomach mornings after a lavage the previous night; (2) that the quantity should be fairly considerable. Of course, an arbitrary line must be drawn for the exact quantity required to justify a diagnosis. This quantity Boas places at 100 c.c., Riegel at 50 c.c. Smaller quantities may be present from time to time, as an artefact, and are to be disregarded. In no one of the four cases mentioned did the quantity exceed 25 c.c. It is, moreover, interesting that all of these cases were cases complicated by atony; two of the four cases were further complicated by superficial erosions.

Acidity. The relations of acidity to gastroptosis are very interesting, especially when considered in connection with complicating atony and gastritis.

It was found impossible to draw fine distinctions between various grades of acidity, because the acidities varied so much on various days. It may be stated (1) that a displaced stomach is a neurotic stomach; and (2) that the majority of gastroptosis patients requiring treatment are neurasthenics. These two conditions, the local and the general, evidently furnish reason enough for marked fluctuations in the secretory functions of the stomach. Just here I would add that to determine the actual fluctuating power of any stomach one single examination will not suffice, but that examinations should be made at stated intervals and under varied conditions. A stomach, for example, that will digest perfectly the Boas meal of bread and water, may fail utterly to do its work when confronted by the Riegel dinner of a plate of beef soup, 150–200 gm. of beefsteak, 50 gm. of potato purée, and one roll.

In the thirty-three cases examined, however, acidities, while fluctuating, kept within certain broad limitations, with the exception of one case (gastroptosis, atony, post-operative hysteria) in which acidities varied between 6 (.07 per cent.) and 144 (.5256 per cent.) without apparent reason.

The easiest and most practical classification seems to be: (*a*) normal acidity, 40–60 (.146 per cent. to .219 per cent.); (*b*) hyperacidity, 60 and over; (*c*) subacidity, 40 and under.

Of 33 cases examined there were, (*a*) of normal acidity, 10 cases; (*b*) of hyperacidity, 15 cases; (*c*) of subacidity, 8 cases. Cases with lower acidity than 22 (.08 per cent.) were not encountered.

Thus it will be seen that the great majority of gastroptosis cases show ample acidity to digest ordinary

food, and that if symptoms are present they must be referred, for the greater part at least, to derangements of motor or secretory functions. Reference will be again made to this point in discussing the treatment of these cases.

Again, the mildest cases are generally to be found in the subnormal group; the severest cases, *i.e.*, those presenting the greatest severity of symptoms, are about equally distributed among the normal and hyperacid cases.

Let us glance for a moment at the relation between acidity and atony for an explanation:

Relation of acidity to atony. (1) Of cases with normal acidity (10), 1 case showed no atony, 0 case showed slight atony, 3 cases showed moderate atony, 6 cases showed marked atony.

Summary: One case showed atony absent or slight; 9 cases, atony moderate or marked.

(2) Of cases with hyperacidity (15), 3 cases showed no atony (one, epilepsy and gastroptosis; two, erosions); 2 cases showed slight atony; 5 cases showed moderate atony; 5 cases showed marked atony.

Summary: 15 cases; 5 cases atony absent or slight, 10 cases atony moderate or marked.

(3) Of cases with subacidity (8), 2 showed no atony, 2 showed slight atony, 1 showed moderate atony, 3 showed marked atony.

Summary: 4 cases showed atony slight or absent, 4 cases showed atony moderate or marked. The large proportion of atony present in cases with normal or hyperacid conditions seems, therefore, to afford the connecting link between the acidity and severity of symptoms.

Acidity and gastritis. By going over this list of acidities and by marking off those patients with gastritis, the following data are furnished:

(1) Cases with normal acidity (10), 1 case had gastritis, 9 cases had no gastritis; gastritis, 10 per cent.

(2) Cases with hyperacidity (15), 5 had gastritis, 10 had no gastritis; gastritis in 33 per cent.

(3) Cases with subacidity (8), 5 had gastritis, 3 had no gastritis. (The latter three were very profound neurasthenics. In one case after a four-weeks' rest cure the acidity had passed into the hyperacidity class.) Gastritis, 62 per cent.

These figures show the effect of a mucous gastritis in re lucing acidity. Such facts would seem to show:

1. That cases of gastroptosis uncomplicated by gastritis give, as a rule, normal or excessive acidity.

2. That gastritis, when it does occur, brings down the acidity somewhat to normal or subnormal; but it is rare, in gastroptosis and gastritis combined, to meet with the low acidities encountered in gastritis alone.

3. Owing to the fairly high acidities seen in these complicating gastritides, the ordinary symptoms of gastritis are not marked.

In no case of the series did the gastritis seem a factor in the severity of the case. A few of the cases were treated by lavage and by mineral waters, and in every case mucus practically disappeared, subacidities became higher, and the patients did well.

An analysis of pain is somewhat interesting. Pain was complained of by 15 of 45 patients. In 6 the pain was evidently due to pyloric spasm. All had marked atony, with normal or increased acidity in equal proportions (3 of each). In no case was dilatation present, except in two cases as a transitory phenomenon after extreme degree of spasm. In 4 patients pain was due to superficial ulcerations. All of these were hyperacid cases; three had gastritis.

Two patients presenting superficial erosions gave no pain; one was subacid, one hyperacid. It is somewhat striking that 6 of the 45 cases should be complicated by superficial erosions, especially as the 6 cases are all of different types and present very little in common, except the large proportion of hyperacidity (5 of the 6).

In 2 patients the pain was evidently due to dragging on the gastric ligaments, and disappeared after the use of an abdominal belt. In 2 patients the pains were evidently of a neurotic nature, in 2 cases they were due to hyperacidity.

The relations between atony, gastroptosis, and dilatation of the stomach are of paramount interest, especially as the whole subject stands at present on debatable grounds.

A great deal of trouble may, however, be averted, if we clearly understand what is meant by the term "dilatation." It cannot be affirmed with too much emphasis that the actual size of the stomach has nothing to do with the condition that we call dilatation; hence the term is a misnomer, and should pass from our medical nomenclature and be replaced by the term "muscular insufficiency."

It is entirely in this significance that I use the term dilatation in this paper, meaning not the size of the stomach, but its power to expel its contents through the pylorus into the intestine. If a patient is given at night two roll sandwiches and water, and if on the following morning food-remains are found, there is present muscular insufficiency, ectasia, or dilatation (whichever term we prefer). This muscular incapacity is the main fact—the exact size of the insufficient stomach is entirely a secondary and insignificant affair. Understanding, then, exactly what is meant by the term, it is evident that dilatation theoretically can arise only (1) when the muscle is too weak to expel stomach contents through a normal pylorus or (2) when obstruction exists at the orifice. While acute muscle weakness has been known frequently enough to lead to acute dilatation, there is no evidence that chronic primary muscle weakness alone has ever led to the chronic dilatation. Cohnheim, in Boas' clinic, after an experience of many hundred cases of pure atony, has never seen ectasia follow, and while he and Boas are not prepared to deny that such may result, they would regard dilatation from such a cause as extremely rare. In this view Boas is supported by a brilliant minority, Schreiber, Ullmann, and Kausch. Kausch, writing from Mikulicz's clinic, has never observed a case of pure atony ectasia. On the other hand stand in array Riegel, Ewald, and Rosenheim. The high position of the belligerent parties adds an additional zest to the combat. There can be, however, no doubt that gastroptosis may be followed by dilatation, and that the dilatation may come about in one of three ways: (1) kinking of the duodenum; (2) pyloric spasm; (3) arterio-mesenteric constriction.

1. Kinking of the duodenum usually occurs at the junction of the superior horizontal and descending portion of the duodenum. If the stomach wall is of fairly good strength, compensatory over-activity may occur just as the left ventricle undergoes compensatory hypertrophy in aortic stenosis. It may be only when the stenosis increases, or when the vital powers fail, that muscular insufficiency of the stomach results.

2. Pyloric spasm may result in one or more of three ways: (*a*) hyperæsthesia of the pars pylorica or pyloric antrum; (*b*) hyperacidity; (*c*) reflexly from gaseous accumulations.

Pyloric spasm is extremely apt to occur in gastroptosis with atony, as in these cases all three predisposing causes are apt to be combined. Transitory spasms may be followed by transitory muscular insufficiency, as in the following case:

Male, aged forty-five years, markedly neurasthenic; gastroptosis, atony, hyperacidity; generally increased reflexes; occasional attacks of spasm, nausea, vomiting of rancid acid material, congestive headache followed by diarrhœa. During one of these attacks the fasting

stomach contained 200 c.c. fluid of rancid odor, with food remains. Total acidity, 56; free HCl, 36; combined HCl, 4; total HCl, 40; salts, 6; organic acids, 10 (no lactic, chiefly butyric).

Subsequent examinations have shown the stomach perfectly empty in the fasting condition. Under treatment no further attacks have been noted for three years.

It is more than probable that many cases of continual or periodic secretion of gastric juice are to be explained on this theory. It is important to recognize and prevent pyloric spasms in order to conserve the motor function of the stomach.

A rarer cause for dilatation has been described by Arnold Albrecht in a recent number of Virchow's *Archiv*. The course of the superior mesenteric artery is such that whenever downward traction is made on the intestinal mass, the root of the mesentery with the superior mesenteric artery and veins exerts direct pressure on the junction of the duodenum and jejunum. A passage obstruction may be thus caused that may run even an acutely fatal course, as penalty, from some unknown cause, after surgical operations. It has seemed to me, in experiments on the cadaver, that the downward traction of enteroptosis may be sufficient to cause considerable insufficiency in an atonic stomach.

My own conviction is that atony alone does not cause dilatation, but that one of these three mentioned causes will be found present if food remains are detected in a fasting stomach. Although the atonic stomachs are often larger than normal, they are, with rare exceptions, empty of food remains in the fasting condition, and I would be inclined to regard any muscular insufficiency as due to a passage obstruction, kinking, pyloric spasm, arterio-mesenteric constriction, or the contraction of cicatrix or neoplasm.

Treatment: Enough has been said to emphasize the point that gastroptosis is not a morbid entity, but that it merely predisposes toward other conditions that require treatment. In general words, these propositions of treatment may be made:

1. The displaced stomach is a neurotic stomach, and subject to a variety of sensory, motor, and secretory neuroses (pains, spasms, hyperacidity).

2. In the great majority of cases, the gastric juice shows normal or increased digestive power.

3. That atony and neurasthenia progress hand-in-hand, and either one cannot be treated alone.

Treatment of Neuroses: Irritative neuroses are easily enough controlled, but if neglected almost invariably suggest to the patients the idea of over-dieting—the very worst thing they could do. Indeed, there are two chief factors in producing atony in these cases: (*a*) pyloric spasm, (*b*) over-dieting and malnutrition. One thing after another is cut off because of digestion distress until a diet is reached that is practically one of starvation. In these patients the amount of gastric distress does not seem to be dependent on either quantity or quality of food, and if the irritation of the stomach can be allayed by sedative treatment, the more they eat the better they seem to be. Early cases show the signs of nervous indigestion only, and unless careful physical examination is made, may be regarded entirely as such. This is unfortunate, because much valuable time is lost. If possible, diagnosis should be made, and treatment started before atony develops.

A combination of bromide gr. vi.-viii., chloral gr. iii., resorcin gr. iii., and chloroform water ʒ i. with gtt. vi. of spirits of anise ad ʒ iv. to disguise the taste, has seemed to be the most serviceable. Next in efficacy has appeared to me to be hyoscyamus extract.

The "Priessnitz umschlag," or Neptune girdle, is one of our most efficient means of soothing gastric irritability. Two layers of flannel, large enough to cover the entire abdomen, are wrung out of hot water as dry as possible, and covered with oiled silk. This is to be changed twice a day and can be worn constantly.

The internal application of galvanism, the anode being placed within the stomach, has been of great service. With the electrode which I have devised for this purpose, it is a simple procedure, and uniformly well borne by the patient.

Lastly, a certain amount of physical or mental rest is needed in nearly every case, amounting at times to the necessity of a thorough rest cure. It is especially important that the patient should not eat when overtired, but should rest one-half hour before meals.

To control motor spasm, (1) we reduce gastric hyperæsthesia in the lines just indicated; (2) we reduce the hyperacidity.

To reduce the hyperacidity, we may employ, in addition to the previous treatment: (*a*) Frequent feedings. It is still a mooted point whether an overabundance of nitrogenous food does not ultimately perpetuate the condition. My own preference is for mixed diet, without too large a proportion of meats. (*b*) Alkaline powders two hours after meals—bismuth subcarbonate, magnesia usta, magnesium carbonate, sodium bicarbonate, prepared chalk in varying proportions. (*c*) Nitrate of silver, either in gr. ss. doses before meals; or as spray 1:500 daily or 1:3,000 by lavage.

As cases illustrative of this treatment may be cited:

Case I.—Male, aged thirty-one years; neurasthenic, gastroptosis, mild atony, mild gastritis, subacidity, pyloric spasms, sensory derangements, spastic constipation. Diet consisted of two eggs, two pieces of toast, one cup of malted milk the day previous to examination.

On March 15th given bromide-chloral-resorcin-chloroform mixture. General diet except red meats, six meals daily, and the Priessnitz umschlag.

On April 10th, gained eight pounds, eating everything without symptoms. Bowels have been regular since the second day of treatment.

On May 10th, gained fifteen pounds more, making twenty-three pounds in eight weeks. Feels well, is able to do hard work, and has no symptoms; has not taken any medicine for three weeks.

Case II.—Female, aged forty-eight years; for ten years nausea, vomiting, pains, and general gastric distress. Gastroptosis, moderate atony, hyperacidity. Rest in bed; forced feeding, bromide-resorcin-chloral-and-chloroform mixture, Priessnitz umschlag, and intragastric faradism. Gained nineteen pounds in four weeks, and went home strong and free from symptoms.

When atony develops the abdominal belt should be constantly worn during the working hours, and great attention should be given to diet. There should be frequent small meals of concentrated nutritive power, given as dry as possible.

A sufficient amount of liquid should be given to prevent thirst, but no more. The proportions between the nitrogenous and non-nitrogenous ingredients should be determined, (1) by the amount of gastric acidity, (2) by the presence or absence of indicanuria. Exercise should be absolutely prohibited after meals. Spasm and secretory neuroses should be energetically treated. In atony, intragastric faradism has been of indispensable service; fifteen-minute séances three times a week for about a month are usually sufficient. Such treatment should be given about twice a year in advanced cases to obtain lasting results. Above all, the patient must be considered a poorly nourished neurasthenic, and treated accordingly.

Surgical treatment, from a medical point of view, is applicable only in cases of muscular insufficiency, with retention of food. Here a gastro-enterostomy is of service, as in cases of pyloric stenosis. Gastroplication and the operation for shortening the gastro-

hepatic ligaments may sound theoretically correct, but I doubt if on the whole they will prove satisfactory. Neither operation would be of the least benefit in pyloric spasm or arterio-mesenteric constriction, while gastroplication would hardly control even duodenal kinking.

Conclusions.—1. That in the great majority of cases an adequate cause for the gastroptosis is not discoverable.

2. That gastroptosis does not of itself, in an uncomplicated form, produce symptoms.

3. That the displacement of the stomach, however, is a predisposing cause of a variety of gastric neuroses, of sensation, motion, and secretion.

4. That these neuroses are usually induced by some definite mental or physical strain.

5. That the displacement of the stomach is a strong exciting cause for muscular atony; that atony is the most common cause for the symptoms presented.

6. That a complicating atony is associated with a more or less profound neurasthenia, and that a direct relation exists between these two conditions.

7. That gastric acidity is increased in direct proportion to the atony, unless counteracted by gastritis.

8. That mild degrees of gastritis are apt to occur in stomachs that are displaced, but the symptoms are neither severe nor persistent.

9. That gastritis occurring in atonic and displaced stomachs reduces the excessive acidity of these cases and seems to modify the severity of symptoms.

10. That atonic dilatation without mechanical hindrance is exceedingly rare.

11. That dilatation, or better, muscular insufficiency, may occur in gastroptosis from duodenal kinking, from arterio-mesenteric constriction, or from pyloric spasm.

12. That pyloric spasm is common in displaced atonic stomachs with hyperacidity, and may lead to a temporary dilatation.

13. That in a large number of cases, inattention to the conditions of atony, of neuroses, and of gastric secretions has led to an unsuitable, insufficient diet which reacts both on general nutrition and on local conditions within the stomach.

14. That surgical intervention is applicable only to the cases in which dilatation exists.

ON THE ANALOGY BETWEEN THE NERVOUS CONDUCTIBILITY AND THE ELECTRIC CONDUCTIBILITY, AND THEIR RELATION TO THE FUNCTIONAL NEUROSES.[1]

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The reproach of Mr. Lecky, that the medical powers of electricity, which of all known agencies bears the most resemblance to life, are unexplored, is no longer deserved.

It is true that as a remedial agent it has by no means kept pace with its unexampled development as a commercial power, and yet from the immeasurable amount of chaff that has flooded and still floods medical periodical literature both here and abroad can be winnowed many scientific facts of value, especially in the domain of body nutritive exchanges and the relation of electric to nerve conductibility. While the electric current and the nerve current are quite different in their essential characteristics, late researches have shown some very interesting and suggestive points of resemblance. The nerve tracts, which were formerly thought to be continuous, are now known to be made up of independent neurons, along which in their normal condition the nerve waves are propagated, or are arrested if there is a defect of continuity.

When the healthy nerve cell receives the stimulus of the nerve wave, energy is liberated, animating and reinforcing the nerve current. In the sick nerve cell, on the contrary, energy is not excited, much less increased. Without this reinforcement as developed in the healthy cell, the nerve wave can make no further progress. In other words, the neuron becomes impervious to it. Pathological conditions show that the conductibility of the neuron may be complete or incomplete according to the degree of permeability of the nervous tract. If the nerve current can pass it is translated into sensation, movement, intelligence. If it cannot pass and there are no gross structural changes, we get a variety of the functional neuroses, as hysteria and hysterical anæsthesia and paraplegia, forms of neurasthenia, and mental defects as shown more especially in confusion of ideas and impaired memory. In order to make clear the striking analogy between the nerve current and the electric current, it will be necessary to refer briefly to a novel and very interesting contrivance called the "coherer," an essential part of the outfit for wireless telegraphy. This coherer is simply a tube of metallic filings.

Now, although metal is the best of conductors, yet when it is divided into separate and distinct particles like the filings of iron, the coherer which is made up of these filings becomes non-conducting to a weak current. If, however, the tube containing the filings is placed in a solenoid through which course currents of high frequency, or in the range of influence of the cathodic ray, the tube immediately becomes a conductor and the current passes; or if it is placed in proximity to a static machine in operation, the electric waves set in motion by the electric sparks strike the coherer and render it immediately a conductor.

It immediately becomes non-conducting again, if subjected to any shock however slight. Removed from these influences, it gradually loses its conductibility, retaining it longer under the influence of cold than of heat. These invisible and silent waves of influence nothing can obstruct or deflect, and in the far distance —the limit of which no one can yet say—striking the tube of iron filings, are translated into signs of intelligence.

In order to study a phenomenon with advantage it is well to have a theory, and although the theory be defective, it yet gives us a point of departure, leading, it may be, to a clearer conception of the principles involved. This theory, as suggested by M. Branly, to whom we are indebted for this interesting discovery, supposes that each grain is surrounded by a sheath of condensed ether, but not in contact the one with the other. The waves of an electric discharge expand these sheaths of ether, and it is their mutual penetration that changes the tube of filings from a non-conductor to a conductor. A shock retracts these sheaths and destroys their conductibility.

On the other hand, when we study the nervous system on the basis of the neuron theory we find analogies of the most striking character.

Neuro-motor energy may be developed primarily in the nerve centres, or it may come from without, external physical energy being transformed into reflex nervous energy; in either case it overcomes the natural resistance of the independent neurons, making them conductors of energy in the same way that the electric wave generated at a distance, and striking the disconnected filings of the coherer, overcomes its natural resistance and makes it a conductor.

The neuron with its dendrites makes up the central and active part of the nerve cell, the cylinder axis

[1] Read at the annual meeting of the New York Medical Association, held in New York, October 10, 1900.

prolongations acting as conductors of the nervous current. Under the influence of external irritation the dendrites are increased and developed, and the greater the activity of the neuron the greater the tendency to produce new protoplasmic growths. Does not this harmonize very closely with the working-theory in explanation of the action of electricity on the disconnected conductors of the coherer—the expansion and contraction of the ether surrounding each metal particle corresponding to the increase and development or the decrease and obliteration of the protoplasmic prolongations of the cell? The points of contact are broken between the individual neurons, and the nervous wave is arrested in its course.

This theory of the alternating conductibility and non-conductibility of the disconnected conductor termed the coherer, and the theory of the neuron open up to us not only the possibility of understanding more clearly the gross changes of organic lesions of the brain and the invisible anomalies of structure that we term nutritional, but throw a new and brighter light on the rationale of the well-established value of electricity in the cure of so many functional diseases of the nervous system, and the relief often afforded even in diseases that are organic and structural.

Reasoning from analogy and the results of physical and physiological experiment, it is natural to conclude that conditions such as hysteria and hysterical anæsthesia and paraplegia, forms of neurasthenia, and various mental conditions, are the derangements in which electricity in some one of its manifestations is specially indicated. But long before we possessed any knowledge of these interesting facts relative to nerve and electric conduction, the clinic had assured us positively and repeatedly of the efficiency of this method of treatment in the functional diseases of the nervous system. One case bearing on this point I beg leave to offer as illustrating not only the analogy between the nervous conductibility and the electric conductibility, but as practical evidence of the power of electricity to restore the conductibility of the neuron that had become resistant to the nerve current.

Such a result as the one about to be related is sometimes spoken of as one of the brilliant results of electrical treatment. It was a brilliant result only in so far as it was a quick result. Nature was simply reinforced and was enabled to accomplish at once what she was slowly trying to do, and what she would in all probability have succeeded in doing if left to herself.

Miss ——, aged twenty-four years, whom I had treated many times some two years previously for a nervous derangement, and who had in great measure recovered, came under my care again in the autumn of 1899 in a deplorable state of mind and body, the result of a nervous shock in escaping from a burning building. Up to this date she had been for some time in better health than ever before, but evidences of her hereditary and acquired nervousness, or nervelessness, were never altogether wanting. She suffered more or less at all times from morbid fears, and had formerly been able to take an unusually large quantity of stimulants without appreciable effect.

During the worst periods of her combined hysterical and neurasthenic attacks, an ordinary claret glass of brandy would affect her seemingly no more than so much water.

As her condition improved this insusceptibility became less and less marked, until finally she was influenced by stimulants almost if not quite as readily as others. After the great shock of the fire this craving and remarkable capacity for intoxicants again returned, and was associated with confusion of ideas, impaired memory, partial paraplegia with anæsthesia, and profound mental depression relieved by violent paroxysms of weeping. Her amnesia was peculiar in that it related to a few things only. Passing events, and the ordinary occurrences of the day were well remembered; but, for example, she claimed to be unable to remember ever having been to my office. I might have ascribed this to caprice, excepting that her mental failure was distinctly pronounced in other ways, Under nerve sedatives she was temporarily quieted. and during the next ten days improved a little, but only a little, in her general and special symptoms, sufficient to be brought to the office in a carriage.

She was immediately placed in what may be termed an electro-static, vibratory field. More specifically she was placed on an insulated stool, and connected with the positive pole of the apparatus. The negative pole was grounded and the spark gap regulated at two inches, giving to the patient vibratory waves very distinct, but altogether agreeable. I lay especial stress on this point. If she had been simply placed on the usual insulating platform and given the ordinary treatment of static electrification, the nerve tracts would not have been influenced by those currents of vibratory, alternating potential that are so essential in restoring conductibility to the "coherer" in the operation of wireless telegraphy to which allusion has been made.

I must not forget to say that the tactile sensibility of the patient was carefully interrogated, but the æsthesiometer proved of little value, since the anæsthesia of the tips of the fingers and of the body generally was so profound that the prick of a pin was not felt. Only at the tip of the tongue was there any sensation. Here a prick was felt, but the two points of the æsthesiometer were separately felt only when apart some 3 mm.

A single séance of fifteen minutes resulted in a very remarkable amelioration of several symptoms, notably of the anæsthesia, and within a week, after three additional treatments, she was able to walk alone with considerable ease. She had quiet, restful nights for the first time since the accident, and arose refreshed and cheerful. Her amnesia quite passed away, the fingers were ordinarily sensitive to touch, and at the tip of the tongue she was able to discriminate the points of the æsthesiometer when but little more than 1 mm. apart.

A most interesting evidence of improvement was the disappearance of desire for and the insusceptibility to stimulants.

As a clinical fact the foregoing case by no means stands alone, and doubtless could be duplicated in its essential features by any neurologist who makes much use of electricity in medicine. Not only have there been many quick recoveries in cases of profound functional nervous disorders by placing patients within the field of the influence of currents of high potential and high frequency, but it is even true that some violent neuro-motor excitation, such, for example, as a sudden fright, anger, and even joy, has restored power to the paralyzed limbs of hysterical patients by overcoming the non-conductibility of the resistant neuron.

In order to explain the sudden change of the coherer, as the tube of iron filings is called, from a non-conductor to a conductor, recourse was had to the theory of a sheath of ether surrounding each particle, whose alternate expansion and contraction under electric influence and shock changed entirely its power of conduction. In dealing, however, with the relation of electric energy and shock to the nervous system, we find in the physiology and minute anatomy of its structure a basis of knowledge rather than theory. We are told that the nervous system is composed of independent neurons, and that the connection between them is made by simple contact of the cylinder axis of one neuron with the protoplasmic prolongation of another.

The readiness with which the nervous current flows,

translating itself into sensation, movement, and intelligence, depends upon the functional integrity of the neuron and the perfection of its collateral connections. The contact between the dendrites of one neuron with the protoplasmic prolongations of another must not only be constant, but must be constantly changing in order to make a way for new ideas and new impressions. In the normal condition of mind and body there is no severance between the dendrites and cylinder-axis fibres, but in impairment of the psychic function, whether it registers itself in the domain of sensation, movement, or intelligence, or in all these as in the case just related, these ties or points of contact become impaired or altogether broken.

Electricity and all energy are amenable to the law of the correlation and conservation of forces. As iron becomes magnetized or heated by the application of force or heat, so the electric energy applied to the human body is not lost, but in its transformation tends in a single direction, the stimulation of the living molecule and the nourishment of the nerve centres, the depository and dispensers of all vital energy. It calms the irritable cell and increases its activity when sluggish.

The modification that an organic compound undergoes when subjected to the action of a physical force varies, of course, with its intensity, and especially with the nature of the body on which it acts. When the compound is a metal, the passage of a current of sufficient power generates heat and dilates its constituent molecules. When the electrolyte is a living body, the heat generated is not primary but secondary.

Caloric is not directly absorbed as in the former case, but the elevation of temperature results from biological changes of a secondary nature, and this conservatism is indicated by a quickened circulation and an increased activity of all the excretory and secretory processes of the body. The increase in the elimination of urea and all toxic products, now so well established, through the influence of currents of high tension and high frequency, acts in two ways: First, "as a reflex of defence against the action upon the system of these toxic products suddenly set free"; second, by hastening and increasing the nutritive exchanges throughout the body.

Admitting, as has been claimed, that inherently electricity has neither curative nor destructive qualities, yet it is the bearer of energy both mechanical and chemical. It has to do with molecules and atoms, shaking them apart or permitting new arrangements, and the benefit or injury that comes to the organism through this disturbing process depends upon the rôle played in the economy by these new atomic arrangements. As to the underlying causative factor in the field of the functional neuroses, we can arrive at but one conclusion, namely, that it is an impairment or interruption of the potential energy of the cell life.

We have seen how physical shock, or the stress and strain put upon the nervous system by the dissipations and even the legitimate demands of our modern civilization, interferes with the vital function of the neuron and renders it impervious to the nerve wave.

We have seen also, on the other hand, how the subtle electric waves generated by currents of high tension and high frequency, so analogous in some respects, and yet so entirely different in nature from the nervous current, have power to restore the interrupted conductibility of the nerve tracts. The inherent energy of the nerve cells is liberated, new paths of conduction form, resulting in modification of motor, sensory, secretory, excretory, and vasomotor processes.

It cannot, therefore, be too often repeated that the fundamental idea of the therapeutic value of electricity is its influence on the nerve cell and on general and local nutrition.

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THE TREATMENT OF TYPHOID FEVER AT THE NEW YORK HOSPITAL.

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In this article no attempt will be made to deal exhaustively with the subject of the treatment of typhoid fever. It is intended to outline as briefly as possible the treatment employed at the New York Hospital. It seems convenient to consider, 1st, the treatment of an uncomplicated case; 2d, the treatment of the various complications; 3d, the subject of feeding; 4th, the management of the patient during convalescence, and 5th, the prophylactic treatment.

I. The Treatment of an Uncomplicated Case.—As the treatment is altogether symptomatic we will take up the different systems of the body, and give the treatment of symptoms arising under these heads.

1. The Nervous System. (*a*) Fever: This symptom is treated almost entirely by tub baths. The baths, as employed here, differ somewhat under the different attending physicians. One gives them every three hours for a temperature of 102.6° F. or over, the bath being at a temperature of 65° and lasting for ten minutes. The others make the bathing temperature 103° or over, starting the bath at a temperature of 80°, and diminishing it in the two or three following baths to 70°. In all cases, unless the temperature of the patient runs a high course or the nervous symptoms are pronounced, the baths are omitted at 11 o'clock P.M. and at 2 o'clock A.M. Of course these are not hard-and-fast rules, the temperature, as well as the duration of the baths, being modified to suit various cases. A child may react well to a bath at 80° lasting for five minutes, while a strong, alcoholic patient may require fifteen minutes of a bath at 65° or even 60°. Throughout the bath all parts of the patient's body are rubbed by two assistants and cold water is applied to the head from time to time. The condition of the patient is noted during the bath, and if any symptom of heart failure should appear he is taken out; moderate degrees of cyanosis or shivering, which so often follow the bath, are not considered contraindications to bathing for the full time. It is customary, after the bath, to give the patient a glass of warm milk, and even to place hot-water bottles at the feet if the blueness and shivering continue. Compound capsicum mixture (tr. capsici, ♏ iiss.; tr. zingiberis, ♏ viiss.; chloroformi, ♏ iiss.; spir. frumenti, q.s. ad ℥ ii.) is often used after the baths to "warm up" the patient. In cases in which complications contraindicate tub bathing, and often when the patient is heavy enough to be unwieldy, alcohol sponges are substituted for the baths, the alcohol being cooled by ice. A modification of the alcohol sponge, which has been used here with good effect, is to have one person sprinkle the patient's body with alcohol by means of a whisk broom, while another hastens evaporation by waving a fan. The alcohol sponges have been found

nearly as efficient as the baths, although their general stimulating effect seems less marked. In some cases, when the temperature does not react well, especially when sponges are being used, small doses of phenacetin or acetanilid are given every three hours for bath temperatures, and no bad effect upon the pulse has been noticed. One patient, who had a large granulating wound of the thigh, ran a course of typhoid very comfortably with gr. iii. doses of acetanilid every three hours when the temperature was 103° or over, an ice coil being kept all the time upon the abdomen. It is needless to say that the reduction of temperature is only one indication for the baths. They are used just as much to control the other nervous symptoms, as for their general tonic effect. The value of baths in typhoid fever is now so generally accepted that it is unnecessary to argue in their favor. After seeing them used, we can say with certainty that they rob typhoid of most of its unpleasant symptoms. Patients running bath temperatures are covered by a sheet only, unless they complain especially of cold, when blankets are added. In cases in which there is an afternoon rise of temperature during the period of convalescence, quinine sulphate is given, about fifteen grains a day, provided no obvious cause for the temperature can be found. If this does not reduce the temperature, and if it seems certain from the absence of all symptoms that the active process of the disease has ceased, the patient's food is increased, and he is gotten out of bed. Under this treatment the temperature soon subsides.

(*b*) Headache: When this symptom, which is seen usually in the first weeks of the disease, is not relieved by the baths, sodium bromide in gr. xv.–xxx. doses is given. Phenacetin and acetanilid, the latter usually in the form of the compound acetanilid tablet, are also used. Continual application of cold to the head, by means of the ice cap, is employed with relief in some cases.

(*c*) Sleeplessness: This symptom, like headache, is most common in the early days of typhoid and is often stopped by the baths. When this is not the case any of the mild hypnotics are used, perhaps most often trional in gr. x.–xx. doses, given in hot milk. Sodium bromide is used with the double purpose of producing sleep and relieving headache. Sometimes a half-grain of codeine is given with trional, a combination which has usually proved very efficient. Morphine is never used.

(*d*) Delirium: With the use of baths, except in alcoholic cases or in neglected patients who are well along in the disease, this symptom is seldom seen in other than its mild forms. In the mild cases of delirium, sodium bromide or other weak hypnotics are often sufficient. The whiskey used for stimulation has a quieting effect in many cases. In severe forms of delirium, seen chiefly in alcoholic patients, more frequent bathing is used, that is, the baths are continued through the night. In alcoholic delirium larger doses of whiskey are given, one ounce or even more, every three hours. Continuous doses of sodium bromide are also given, and if the pulse permits, small doses of chloral hydrate are added. Paraldehyde and amylene hydrate often work well, and their unpleasant taste and the danger of upsetting the stomach are overcome by giving them by rectum in warm milk, double the ordinary mouth dose being used. An alcoholic case can sometimes be quieted by substituting for an evening bath a cold pack of from fifteen to forty-five minutes' duration. Delirious patients are secured in bed by draw sheets, and when the delirium is violent their hands and feet are tied to the bed, unless they can be constantly watched.

2. The Digestive System. (*a*) The Mouth: Each patient is ordered a mouth wash, made by adding tr. of myrrh ʒ i. and sodium bicarbonate gr. xxx. to water ℥ iv. The mouth is thoroughly swabbed out with this at frequent intervals, usually after each feeding. This precaution prevents such unpleasant complications as parotitis and otitis media. The tongue, when dry, is moistened frequently with benzoinated oil or with compound syrup of hypophosphites.

(*b*) Nausea and vomiting: When nausea is complained of, the food is modified. Prepared milk, made by adding cerium oxalate gr. v. and sodium bicarbonate gr. x. to ℥ viii. of milk, or peptonized milk is given. If the nausea still persists or if vomiting ensues, the various gastric sedatives are employed, such as minim doses of dilute hydrocyanic acid, nitric acid ♏ ¼ to water ʒ i., frequently repeated, or small quantities of wine of ipecac or of tartar emetic. Frequent feedings of small quantities of peptonized milk, say ʒ i. or even less, every hour will sometimes settle the stomach. Counter-irritation over the epigastrium by means of a mustard paste proves beneficial in some cases. When all these means fail, and they often do, gastric lavage is done, food is withheld for several hours, and then the feeding is begun in small quantities, gradually increased.

(*c*) Constipation: In the early days of the disease the bowels are kept well open by means of calomel in small doses, followed by saline purgatives. In the second and third weeks, when there is danger of intestinal complications, no cathartics are given, the bowels being moved, when necessary, by means of glycerin suppositories or soap-suds enemata.

(*d*) Diarrhœa: When there are frequent small movements, the condition may be the result of constipation and is relieved by means of a large enema which washes out the lower bowel. If we are sure that the diarrhœa is not due to fecal impaction, mild astringents, such as bismuth subnitrate or tannalbin, are used. In severe or protracted cases, small doses of powdered opium are given.

(*e*) Distention: This symptom is generally treated by means of enemata containing turpentine in small quantities (ʒ ss.–ʒ i.) The rectal tube is also used, especially after the enemata. Sometimes several small doses of turpentine (♏ v.–x.) in capsules are given with benefit. Turpentine stupes are also used. Except in neglected cases, this symptom is seldom troublesome. There seems to be no doubt that the prevention of marked abdominal distention does much toward lessening the danger of such serious complications as intestinal hemorrhage and perforation.

3. Circulatory System. With the baths some cases pass through their whole course without indications for further stimulation. When the pulse becomes rapid, soft, dicrotic, or intermittent, whiskey is given in three or four half-ounce doses a day at first, increased to six or eight doses, as the pulse requires. Except in alcoholic cases, more whiskey than this is seldom used. In some persons, whose stomachs do not tolerate whiskey, brandy is substitued to advantage. Brandy might also be used for stimulation when there is diarrhœa. When whiskey or brandy alone fail to hold the pulse, strychnine sulphate is added, and if still more stimulation is needed digitalis is given either as the tincture or as the fluid extract.

4. Respiratory System. The mild forms of bronchitis, which usually accompany typhoid, are disregarded in treatments. Bronchitis is not made a contraindication for tub bathing, in fact the bathing often appears to improve this condition. If the bronchitis becomes extensive or troublesome the ordinary remedies are employed, such as brown mixture, Stokes' expectorant, or Delafield's bronchitis tablets.

5. Urinary System. During the active stage of the disease the urine is measured and a record kept. A specimen of urine is examined every three days, un-

less more frequent examination is required. When the quantity of urine passed is small, or if the specific gravity is high, patients are encouraged to drink more fluids, either water or Vichy. The ordinary mild forms of acute degenerative nephritis are disregarded in treatment. Retention of urine, if not yielding to the ordinary remedies, such as heat over the bladder, hot enemata, and sweet spirits of nitre, is relieved by catheterization, repeated if necessary.

II. The Treatment of Complications.

1. Intestinal hemorrhage: When blood appears in the stools, if it is found not to come from the rectum, the tubs are discontinued; the patient is kept as quiet as possible, Magendie's solution of morphine being used if necessary; and continual application of cold is made to the abdomen by means of the ice coil. The temperature, if high, is kept down by alcohol sponges, given without turning the patient, and by antipyretics. If the hemorrhage is severe enough to produce symptoms, the foot of the bed is raised, hot saline enemata of about eight ounces each are given at intervals of from three to four hours and stimulation is increased. If these means are insufficient, the patient is infused with hot saline solution. Hot water bottles are used to keep up body temperature if it falls below normal.

2. Pneumonia: Should a pneumonia intervene in the course of typhoid, the treatment is modified only in so far as new symptoms referable to the pneumonia arise. The tubs are kept up, unless the condition of the patient is such as to make them immediately dangerous. If tubs seem inadvisable and the nervous symptoms still need treatment, sponges are substituted. In the advent of heart failure, more active stimulation is employed. Œdema of the lungs is met as in pneumonia by nitroglycerin, dry cupping, and oxygen inhalations.

3. Nephritis: If a severe nephritis arises, appropriate treatment is added. Tension in the pulse is combated by nitroglycerin or chloral hydrate. Diminished excretion of urine is treated by diuretics, hot saline enemata, or hot rectal irrigations with the Kemp tube. The baths are stopped and the temperature is reduced, if necessary, by means of antipyretics.

4. Phlebitis: The limb affected is kept as quiet as possible. The most efficient treatment perhaps has been the application of twenty-five-per-cent. ichthyol ointment to the course of the vein involved. Wet carbolic dressings are also used. Tincture of iodine is sometimes painted over the affected vein, and dressings of lead-and-opium wash give relief to the pain in some cases.

5. Bed sores: The treatment of these is chiefly preventive. Each patient's back, shoulders, and hips are rubbed daily with a paste made from zinc oxide with fifty-per-cent. alcohol. Reddened areas are protected by dressings and by rubber rings. If these measures are inadequate the patient is placed upon a water or air mattress. If bed sores do form, dead tissue is cut away, and various antiseptic and stimulating dressings are applied. Twenty-five-per-cent. ichthyol ointment has been found efficient for cleaning up these sores and starting granulations.

It is hardly necessary in this article to give the treatment of such rare complications as intestinal perforation, neuritis, periostitis, and osteo-myelitis.

III. Feeding.—The routine diet throughout the active stage of typhoid is milk, fifty to seventy ounces being given in twenty-four hours. It is customary to keep a daily record of the amount of milk taken, so that it will not fall below what is necessary. When plain milk is not acceptable to the patient it is varied in different ways; a little brandy or a few spoonfuls of coffee or some malted milk is added; koumyss or matzoon is substituted for milk from time to time for variety. Patients who complain of hunger are given broths and beef juice. As soon as the temperature reaches normal, more active feeding is begun. The patient is given a lamb chop, or an egg boiled for twenty minutes, and finely chopped, or scraped-beef sandwiches. Proper mastication of the food is urged. Each day, as the food agrees, new articles of diet are added to the list, or those already given are increased in amount. Baked custard, bread, milk toast, and finally chicken, raw oysters, baked apple, baked potato, rice, hominy, and green vegetables are allowed, the milk all the time being cut down. The patient is kept upon this food while in the hospital and is told to continue it for several weeks after leaving.

IV. Management of Patient in Convalescence.—(*a*) Medication: Stimulants, which have been used, are cut down as fast as the pulse warrants. Two or three half-ounce doses of whiskey are usually given for some days, and then one or two egg-nogs a day, if the patient likes them. If tonics are indicated, small doses of strychnine sulphate, tincture of nux vomica, or iron, the latter often in the form of citrate of iron, and quinine, are administered; but good feeding and plenty of sleep are chiefly relied upon to build up the patient. The bowels are kept well open by means of mild cathartics such as calomel in small doses, cascara sagrada, aloin-belladonna-and-strychnine tablets, and the various saline purgatives. Calomel is used especially in the early days of convalescence to clean up the tongue. In general just as little medicine as possible is given.

(*b*) Getting the patient up: After several days of normal temperature, the head of the bed is raised, the height and time of raising being gradually increased. At the end of about ten days of normal temperature, the patient is allowed to sit up for from a half to one hour. If there are any signs of weakness the time is cut short. The time of sitting up is increased about an hour a day, until the patient can stand eight or ten hours, when he is given his clothes. Meanwhile walking has been tried and increased as strength allows. After about three weeks of normal temperature the patient is discharged.

V. Prophylactic Treatment.—All utensils used in the care of typhoid patients are marked and are employed only for such patients. Their bedding is carbolized before going to the laundry, where it is washed separately. The dejecta are treated with a strong solution of formaldehyde before being thrown into the sinks. Patients who are suspected of having typhoid are put upon individual enteric precautions until the diagnosis is cleared up. The utensils for these patients are marked with their names and are used only for them. Nurses and orderlies having the care of typhoid patients are told the danger of infecting themselves as well as others. They are instructed to disinfect their hands carefully after caring for enteric cases, especially after carrying bed pans, changing bedding, or giving tubs.

Kernig's Sign and Meningism. — Paolo Galli reaches the following conclusions: (1) Kernig's sign exists only in meningitis, whether this be of epidemic, secondary, or tuberculous origin. (2) It is a symptom of great importance, being found in 83.5 to 80 per cent. of cases. (3) As it gives us information in regard to the pressure of the cephalo-rachidian fluid, it may in regard to meningism be of value in differentiating simple dynamic disturbances from a true meningeal inflammation. Its presence, if positively ascertained, may take the place of lumbar puncture in the generic diagnosis of meningitis.—*Rivista Critica di Clinica Medica*, October 13 and 20, 1900.

A FEW REMARKS RELATIVE TO TYPHOID FEEDING.[1]

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While the subject of this paper is one on which much has been said in the past, and of which it may seem that the ground has been well covered, yet I believe that the last word has not been said, and that the rule now so commonly observed, that a patient suffering from typhoid infection should have exclusively liquid diet until the temperature has been normal for a week, will soon become the exception.

Before entering on the subject proper I wish to emphasize that my position is not one dogmatic or that I would expect the ideas advanced in this article to apply to all cases alike. I feel that no physician has the right to subject each patient to an empirical rule; rather is it his highest duty to give the most careful consideration to the personal element in each case. Pre-eminently should this be so in typhoid and notoriously have we in the past failed to observe this obligation.

It has been stated to us by one of the prominent members of the profession that the "mortality rate and the prominent symptoms of hemorrhage and distension in typhoid fever are not essentially influenced by the diet."

While we realize that the large increase in body temperature, which is usually observed in typhoid, is the result of the toxæmia—this hyperpyrexia being caused in part by the irritation of the thermic centres by the toxins which result from the growth of the bacillus typhosus—yet we believe that the toxins from the specific bacillus are only a part of the cause. We remember that many other forms of bacterial life find a fertile field of culture in a large residue of partially digested food, and that the typhoid lesions with a turgid intestinal mucus membrane offer ideal opportunities for the absorption of their toxins, and further, that the mal-decomposition of the food residue is very largely responsible for the distention so often seen in typhoid-fever patients.

I repeat that typhoid fever is a toxæmia from the growth of a specific bacillus plus other forms of bacterial life, the secondary toxæmia developing after the specific.

Another consideration in arranging the diet for a typhoid patient is the influence of food and its digestion on heat production, which though slight may be decisive.

The ordinary source of animal heat is in the potential energy of the organic foodstuffs. This energy may be converted into heat directly, as the immediate results of chemical decomposition, which is about ninety per cent., and indirectly as by the mechanical movements, such as muscular contraction, blood flow, etc., which is about ten per cent. In a direct way one gram of proteids yields 4,937 calories, and one gram of carbohydrates yields 4,116 calories, while one gram of fat yields 9,312 calories. All structures produce more heat during activity than during rest, and the glands are the greatest heat-producing structures in the body; when muscles are contracting eighty per cent. of the energy expended results in heat, while only twenty per cent. results in work.

Now if you will keep in your minds the foregoing facts, we will consider for a few moments some of the physiology of the digestive functions.

The method of production of a digestive secretion is essentially the same, whether it be saliva, the gastric, the pancreatic, or the intestinal fluid, and consists of a nerve stimulation which is followed by a production of the special fluid of the gland supplied by the nerves so stimulated. These glands are composed of cells which during rest have a granular appearance throughout their structure. When stimulation is applied to the nerves supplying a gland of this kind, whether the stimulus is direct or reflex, the cells begin to lose their granular appearance from the outer border, and if the stimulation is continued the granules almost entirely disappear, having been used up in the formation of the secretion. Now while this stimulation produces a secretion in which the water and salts maintain a more or less constant relation, the organic constituents, those parts of the secretion on which depends its effectiveness, *e.g.*, ptyalin in the saliva, pepsin in the gastric juice, etc., are dependent very largely on the condition of the gland; *i.e.*, if the gland has been inactive, is unfatigued, the stimulation is followed by a secretion in which the percentage of the organic parts rises way out of all poportion to the water and salts, while, on the other hand, if the gland is fatigued the stimulus will have very slight or no effect on the organic parts, and the result is a secretion deficient in the constituent enzymes. Khigine has published tables which show that a diet rich in proteids promotes the greatest flow of the digestive secretions, but that a rich carbohydrate diet promotes a secretion with the highest digestive power.

Time will not permit me to go into details of the chemistry of digestion. The process is both mechanical and chemical, and both processes are decided heat producers, and also during functional activity of the digestive glands the constituent enzymes, which are derived from the cell contents of these glands, are used up, and it takes considerable rest for those cells to regain a condition in which they are able to furnish an effective digestive fluid.

It has been stated that in typhoid fever the various digestive fluids are deficient in both quantity and quality. The reason for this seems plain. The toxins resulting from bacterial life are very powerful chemical irritants, and any irritant introduced into the alimentary canal stimulates the digestive glands and results in their exhaustion. The restoration of the digestive efficiency should be one of the principal objects of our therapy. Give the digestive function enough rest so that when needed it will respond. Eliminate, so far as possible, the bacterial life in the intestine which will reduce the toxæmia. Give food which has been shown to increase the quantity and power of the secretions; viz., proteid and carbohydrate. Such food will leave but little residue as a bacterial culture medium.

Overfeeding or too frequent feeding fatigues the digestive glands. The secretions are inefficient and the food is but partially digested. That portion which is not prepared for absorption undergoes mal-decomposition, ferments, distention occurs, bacteria of all kinds find a mellow soil, and the toxæmia is increased, and too often only death steps in to disturb the deplorable cycle of cause and effect.

"It is not so much solid food as the indigestible which should be eschewed, and it should never be forgotten that all foods, except such as have been predigested, are solid in the first stage of digestion." A pint of milk contains as much solid material as a mutton chop and will take as long to digest. If all food is thoroughly disintegrated before entering the intestine we need have no fear of mechanical irritation to ulcerating surfaces.

The preparation of a diet list for each typhoid patient is a problem which must be solved at the bedside; but, in consideration of the physiological facts before stated, is it not logical to give these patients a more liberal diet, rich in proteids and carbohydrates and at longer intervals than have prevailed in the past? If the food is not efficiently digested, supple-

[1] Read before the Monroe County Medical Society, 1900.

ment with artificial digestion. Give acidulated beverages, which relieve thirst and aid digestion. Water favors nutrition and the elimination of wastes and toxins, and also aids in the dissipation of heat.

A clean tongue, a soft abdomen, natural stools not too hard and without coagula of casein or flakes of fat, show that milk if taken is being well digested and is proper food; but, on the other hand, milk with its large proportion of fat is not easily digested by many people, and should be given with caution and close observation in typhoid. I think that a "typhoid stool," so called, is a partially digested milk stool. We do not observe the typhoid stool from patients not fed on milk.

During the past two years medical literature has recorded many experiments of the more liberal feeding of typhoid-fever patients, and in each instance there has been conclusive evidence of its value.

In conclusion the facts are: 1st. That the bacillus typhosus while the initial is not the prepondering factor in the toxæmia.

2d. That in ordinary cases the functions of digestion are attended by heat production, which is varied in amount by the kind of food ingested, proteids and carbohydrates giving the least number of heat units while promoting the most effective digestive fluids.

3d. That the process of digestive secretion is accompanied by a transudation of certain portions of the cell substance in the various glands, which require considerable time for restoration before they are capable of efficient work. Hence we should not feed too often.

4th. That an inefficient digestion leaves a large residue of food which undergoes fermentation, causes distention, increases the danger of hemorrhage and perforation; also forms a favorable culture medium for the various bacteria, so increasing the toxæmia, which in turn hastens the disintegration.

5th. That milk unprepared is not a liquid food and will take as long to digest as many solid foods.

A Note on the Causation of Breathlessness in Anæmic Debility.—J. Henton White says that so far the established facts of anæmia show that a considerable strain is thrown on the right ventricle and pulmonary artery, and that there is a systemic vasomotor paresis. Granted that there is a supply of vaso-constrictor fibres to the lungs, it seems obvious that under normal conditions, when venous blood stimulates the medulla, the impulses to the respiratory centre and the heart would be assisted by a dilatation of the pulmonary vessels, which would be brought about by an inhibition of the vaso-constrictor impulses which are constantly travelling along all vaso-constrictor nerves. In anæmic debility, however, the dilatation of arterioles is delayed; this being the case in the pulmonary system, all the extra blood which has to be forced through the lungs on exertion must depend on right-ventricle force, unassisted, as in health, by a dilated periphery. As supporting the explanation of anæmic dyspnœa by vasomotor failure, it is to be noted that the disease is prevalent in the female sex, whose vasomotor system is more unstable than that of the male, and also that it usually occurs at puberty, when this system is unusually active.—*The Birmingham Medical Review*, October, 1900.

Antitoxin in Cerebro-Spinal Meningitis.—Francis M. O'Gorman was called to see a child which was evidently suffering from broncho-pneumonia and laryngeal diphtheria. He injected 1,000 units of anti-diphtheritic serum. In two hours the temperature had fallen to 103° F., the respirations to 86, and the convulsions had almost ceased, but the pulse remained at 190. Five hundred units additional were injected, and the breathing became easier. The next day breathing was again difficult, and 1,000 units were injected in the morning, 500 in the afternoon, with beneficial results. For weeks the illness continued, but the child constantly improved. The pulse, however, remained between 150 and 182 for a fortnight and then fell to 140, where it stayed. For two months the child was in excellent health, and then suddenly had violent convulsions. Cerebro-spinal meningitis was diagnosed. The child died within two days. The author believes that the extraordinary pulse and respiration of the previous illness were due to a latent inherited meningeal inflammation. Antitoxin had a decidedly beneficial action upon the convulsions in the previous attack, and the author queries whether its administration might have saved the child's life in the second attack.—*Buffalo Medical Journal*, October, 1900.

Contagious Insanity ("Folie à trois" and "Folie à deux").—E. P. Chagnon says that the popular idea that insanity is contagious is true only under certain circumstances. The persons must live the same family life, possess the same ideas and sentiments, live out of the pale of external influences. Moreover, one of the two, the one playing the active rôle, must by means of superior intelligence, energy, and dominating will power, be able to impress upon the passive nature the probability of the delusions which have emanated from his or her diseased brain. The author reports a case of delirium shared by three seamstresses who had lived together for years, and another of delusions held by a brother and sister who had lived together for fifty years.—*L'Union médicale du Canada*, September, 1900.

Acute Fibrinous Bronchitis due to Influenza.—Luigi Masciangioli reports a case of this affection, which he says is rare enough as a primary disease, and altogether exceptional as a complication of any other disease. In the case under discussion the usual symptoms, cough and dyspnœa, were absent. There were sopor almost from the onset of the influenza, and a bronchial souffle at the apex of the right lung, with other indications of grave functional disturbance. The diagnosis was difficult, but was cleared by the appearance of fibrinous sputum. It was evident that a considerable number of the bronchial branches had become rapidly occluded, causing collapse of a large amount of pulmonary parenchyma, with consequent accumulation of carbonic acid in the system; hence the symptoms of depression. Treatment consisted of the usual remedies, followed by pulmonary gymnastics with the inhalation of disinfectant and balsamic preparations.—*La Riforma Medica*, September 27, 1900.

Delirium in the Course of Infective Diseases.—Luigi Silvagni thus concludes his study of this subject: The appearance of delirium during the course of infective diseases is a frequent symptom to which certain individuals are predisposed through hereditary nervous taint, concomitant functional neuroses, alcoholism, or extreme physical or mental fatigue. The differential diagnosis between infective or temporary toxic delirium and a true psychosis is extremely difficult, but we must bear in mind that real insanity is most rare in the course of febrile diseases; that the origin of the delirium in these cases is very complex (hyperpyrexia, intoxication, inanition, etc.), and that infective delirium being under no special rule, but able to assume any form of the disorder, may be more under the influence of special mental tendencies on the part of the patient than that of the infective process.—*Rivista Critica di Clinica Medica*, September 22 and 29, and October 6, 1900.

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THE NEED OF A FILTRATION PLANT FOR OUR WATER SYSTEM.

Now that the grand jury has taken up the question of a purer and more abundant water supply for Greater New York, there is a reasonably good prospect that some very necessary reforms along desirable lines will be instituted. Up to the time of the recent rainfall, the higher portions of the beds of the water-sheds have been exposed and the lighter showers have washed decaying vegetation and other forms of organic débris into the general currents of the entire water system. As a natural result there has been a public clamor for some guarantee against what is of almost constant occurrence under the usual conditions of prolonged drought. It is useless for the authorities, in view of their present helplessness in fighting against natural causes, to urge that there is no marked increase of sickness as the result of the state of affairs in question, inasmuch as it is extremely difficult to persuade the people that filthy water as such, because it may not carry with it typhoid germs, is a tolerable infliction which must be complacently borne. The cry is not only for safe water, but for pure water.

Much of the trouble in the districts supplied directly from the larger mains is due to the stagnation deposits in what are styled the "dead ends" of the fire plugs. These cul-de-sacs not only afford favorable conditions for the accumulation of sediment, but indirectly contaminate the water circulation in all the neighboring pipes. Obviously a ready remedy for this part of the difficulty is the periodical and systematic cleansing of the dead ends by what is called the "blowing-off" process, whereby all the offensive sediment is effectually washed out through the various hydrant vents.

Although such measures produced good results in a way, the supply from the house faucets was still more or less turbid, bad smelling, and of foul taste, forcing the consumers either to use filters, or to boil the water, or to drink bottled waters altogether.

The necessity for this form of filtration has naturally turned public attention to the advisability of adopting it on the larger scale as applied to the entire supply. From every sanitary point of view it goes without saying that a large and comprehensive filtration system is now a public necessity. It is estimated that the cost for the work will approximate fifteen million of dollars. Large as this sum appears, it will certainly be a cheap investment for the present and future generations.

When such a plant is in effective operation, the question can be practically answered once and for all as to its necessity, utility, and far-reaching influences upon the general health of the public. There is abundant testimony to the effect that it is the only remedy for the constantly recurring befoulment of our water after every season of drought. It is comforting to know that the municipality has absolute control of our extensive water-sheds, and can guarantee so far as such is possible against all apparent dangers of typhoid infection of the river beds or reservoirs. Already the health board with commendable zeal is inspecting the entire area with the laudable intention of quieting public concern on that point, and of still further elim inating the future possibility of disease contamination.

Thus it would appear that with a proper filtration plant, every opportunity can be seized for making the water supply of New York what it ought to be, the best and purest of its kind the world over. It only remains now for the grand jury to add its powerful influence in the right direction.

THE ETIOLOGY OF ACUTE ARTICULAR RHEUMATISM.

ALTHOUGH much study has been devoted to the etiology of acute rheumatism, there is as yet a want of unanimity of opinion with regard to the ultimate causative factor. The disorder was formerly believed to be due to metabolic disturbances resulting in the presence of an excess of lactic acid in the blood, but with the advances in our knowledge of disease causation, coincident with the development of bacteriology, acute rheu matism has come to be looked upon as a specific infectious disease. A number of observers have isolated micro-organisms from the lesions and the tissues, but, as indicated, there are wide differences between their results. Thus, staphylococci, streptococci, diplococci, and bacilli have been severally found, and, with some of these, lesions have been excited in lower animals comparable to those of acute rheumatism. Now it is to be borne in mind that inflammation of one or of many joints may occur as a complication of numerous infectious processes, as, for instance, scarlet fever, smallpox, influenza, pyæmia, septicæmia, but such a condition represents merely a secondary or complicating or symptomatic manifestation of the primary disturbance, due to different etiological factors, and not, as acute articular rheumatism probably is, to a definite specific micro-organism yet unidentified. An analogy may here be made between the several varieties of angina due to any one of a number of micro-organisms, and that specific variety that we know as diphtheria and due to the diphtheria bacillus alone. With the object of reaching an independent conclusion in the matter, Poynton and Paine (*Lancet*, September 22 and 29, 1900) undertook an elaborate investigation, with the result of finding in eight suc-

cessive cases of acute rheumatism a diplococcus growing in liquid media in streptococcal chains. The organism did not thrive upon ordinary agar or upon serum-agar, and though it could be grown upon blood-agar, it appeared to grow best in a liquid medium of milk and bouillon rendered slightly acid with lactic acid. On three occasions the organism was isolated in pure culture, during life, from the blood of patients suffering from acute rheumatic pericarditis. It was obtained also after death from the pericardial fluid, from the heart-blood, from the valves, and from the throat of a rheumatic patient, as well as from a rheumatic nodule. In five of the eight cases the diplococcus was present in pure culture. Intravenous inoculation of rabbits with pericardial fluid and with pure cultures was followed by polyarthritis and endocardial and pericardial complications; and from the lesions, as well as from the kidneys and from the liver, diplococci were isolated. The micro-organisms were found also in the heart valves or pericardium in eight other cases of undoubted rheumatic fever, and in the pia mater and brain in a fatal case of chorea. The organisms are believed to be identical with those previously described by Triboulet and by Wassermann, but the opinion is expressed that while they are probably the cause of all cases of rheumatism that conform to the usual type of the disease, they cannot be claimed to be the only cause.

SEPARATE PRISON FOR CONSUMPTIVE CONVICTS.

Dr. W. H. Blake has been indefatigable in pleading the cause and untiring in his efforts to better the conditions of those unfortunate prisoners who are suffering from pulmonary tuberculosis and of those who are compelled to live in close association with them. Dr. Blake, who is physician on the board of inspectors of convicts for Alabama, is able to speak with authority on the subject, and, moreover, his views are in accord with those of all persons who have studied the hygiene of prisons. The statistics of deaths among convicts in the Alabama State prisons for the past twenty years show that for the first half of this period consumption caused 20.3 per cent. of the total mortality; for the last half it caused 42 per cent. In the penitentiaries of the different States, of the total deaths, the percentage caused by consumption reads thus: Mississippi, 20 per cent.; Arkansas, 20 per cent.; Florida, 30 per cent.; Ohio, 31 per cent.; Michigan, 33 per cent.; Alleghany County workhouse, Pa., 33⅓ per cent.; Virginia, 41 per cent.; Kentucky, 42 per cent.; Joliet, Ill., 70 per cent.; Huntsville penitentiary, Texas, 66 per cent.; Rusk penitentiary, Texas, 33 per cent.; Washington, 16 per cent.; Connecticut (1898), 60 per cent., and in 1897 every death that occurred in the penitentiary of Connecticut was caused by consumption. These are appalling figures and speak for themselves. It is now universally admitted that under certain conditions tuberculosis is a contagious disease. Living with and breathing the same air as a consumptive person is a method eminently calculated to spread the disease. Prison management in Alabama and in most if not all the other prisons mentioned is especially favorable to the propagation of consumption. In the Alabama convict institutions, for example, the inmates are not kept in separate cells, but from fifty to one hundred are confined together in a single large cell. Consumptive convicts, unless in an advanced stage of the disease, are shut in with the healthy convicts. The consequence is that the prison is, to a large extent, a death trap, and the mortality from consumption is increasing. Dr. Blake urges the cause of the convict in the following words: "There is only one remedy for this condition, and that is, to separate the consumptive convicts from the non-consumptive. We need something more than separate wards in the same building, or separate buildings on the same grounds. We need a separate camp for consumptive convicts, the further from the other prisons the better, in order to give the non-tuberculous prisoners the greatest possible immunity from this disease. With the organization of such a camp, and the exercise of painstaking care in detecting consumption in its early stages, and the prompt removal of such convicts to said camps; in doing this, we shall have accomplished all that our present knowledge of this disease points out as our duty in the premises. This would give the consumptive better treatment, and the well man a chance to remain well. In this matter, the duty of the State is plain. It has the right to deprive the offender of his liberty, but it has not the right to deprive him of his health." The foregoing is the weighty opinion of an expert as to the best means of improving the condition of the consumptive convict and of removing him when a probable source of infection to others. There is no need unduly to coddle prisoners, but at any rate they should be treated with ordinary humanity.

DOCTORS IN POLITICS.

The London *Practitioner*, referring to the paucity of medical men in the British parliament, makes some very apt remarks on the matter. The journal in question then quotes the following paragraphs from *St. Paul's Medical Journal*: "The Legislature committee of the Minnesota State Medical Society has undertaken the task of organizing the profession of the State into a body which will exert its influence politically upon the legislature. It is intended to exert this influence in such a manner that candidates for legislative honors shall fully understand the desires of the medical profession in the matter of legislation. . . . Perhaps no individual in a community can exert more political influence than the physician; the humblest among us daily meets and talks with many whom he can influence in a political way. The doctor who favors a certain candidate can sway scores of votes for his benefit, and equally he can sway those votes against an undesirable candidate. His power is practically unlimited in that direction." Commenting on the foregoing pronouncement of opinion, the writer in the *Practitioner* says: "Whatever may be the case in

the United States, the power of the doctor in political elections is very far from being unlimited in this country. Unquestionably he can often 'sway scores of votes,' but the majority of medical men would probably think it not politic and perhaps not strictly professional to be known as active canvassers. English statesmen have sometimes used physicians as intermediaries, and Lord Palmerston, in particular, found them very useful as collectors of political gossip. But it is not many members of the profession that have such opportunities of directly helping in the conduct of public affairs." There can be no doubt that both in Great Britain and this country the medical man is not the force in politics he is entitled to be by his numbers and education. However, it is the opinion of the *Practitioner* that the medical man in Great Britain is not likely to be anything but a negligible quantity. so far as ordering the affairs of the nation is concerned, in the near future, if ever. Here the position of the physician is somewhat different—he is not so bound down by the traditional precedents of his profession as in England, his numbers are proportionately greater, and the system of government is more in his favor. Undoubtedly the medical practitioner should have more to say in the ordering of public affairs than is at present the case, but at the same time whatever power he may gain should be strictly devoted to furthering the best interests of his profession and not as a means of feathering his own nest.

News of the Week.

Yellow Fever and Mosquitos. — According to a press despatch from Havana, Dr. Finlay is reported to have declared his belief that mosquitos are the only propagators of yellow fever, and that if Havana could be kept absolutely free from yellow fever for two or three months all the infected mosquitos would die, and then the only way the city could again become infected would be through the importation of a fresh case from another place. This is what appears to have occurred in Santiago, which has enjoyed a long period of immunity from its former scourge.

Plague Precautions in New Orleans.—The New York *Times* states that the Louisiana board of health has adopted some important changes in the rules governing coffee ships from plague-infested ports, and now uninfected vessels will be detained only five days, so far as the cargo is concerned, instead of fifteen as in the past. The vessels are to be disinfected in midstream, will anchor one hundred feet from shore at night, and forty-five feet from shore in the daytime. Metal funnels will be used on the hawsers attached to the shore, to prevent rats from leaving the ships, and a corps of men armed with shotguns will be stationed on shore and in skiffs to shoot any rodent that may attempt to get away. All dead rats are to be handled with rubber gloves and cremated. Long stage planks closely guarded will be used to get the cargo ashore.

The St. Louis Academy of Medical and Surgical Sciences.—At a recent meeting of this society the following officers were elected for the year 1901: *President*, Dr. Emory Lanphear; *Vice-presidents*, Drs. Carl Pesold and H. S. P. Lare; *Secretary*, Dr. O. L. Suggelt; *Treasurer*, Dr. G. M. Phillips; *Orator*, Dr. William Porter; *Librarian*, Dr. H. G. Wicks.

A Reception to Dr. S. Weir Mitchell was tendered at Philadelphia by the Penn Club on November 17th and was attended by many men distinguished in the professions and in commerce.

Sanitation Needed in Peking.—According to reports from Peking the sanitary condition there is becoming serious. Since the foreign occupation many Chinese have died of smallpox and other infectious diseases. Fearing that their funerals would be interfered with, they have kept most of the coffins containing their dead in their houses and courtyards. The question of removing garbage has become one of grave importance. As the natives are forbidden to deposit refuse in the streets there is now an enormous accumulation in their dwellings and yards. Smallpox, which is always prevalent, is much more malignant during the winter season, and the conditions are favorable for the rapid spread of epidemic disease among the foreign troops and the natives.

A Hospital for the Insane in Palestine.—A few years ago Mr. Theophilus Waldmeier, the founder and superintendent of the Friends' Mission on Mount Lebanon, directed his attention to the needs of the insane in the Holy Land, and, though advanced in years and identified with his particular mission field, consecrated the remainder of his life to an effort to establish a modern institution for their relief. He visited Europe and America, appealed to the charity of all nations, set forth plainly the facts which impelled him to take the step, and described the methods of treatment prevailing in the East, which were based upon the theory of demoniacal possession and were crude and cruel in the extreme. He wished to construct a modern cottage hospital, the blocks of which were to be provided by the different nations, and he asked of Great Britain an appropriation for the land and administration house, and of America, Germany, Switzerland, and Syria that they construct cottages for patients. The *American Journal of Insanity* now announces the success of Mr. Waldmeier's scheme, and the formal opening of the Lebanon Hospital for the Insane on August 6, 1900. The director, Dr. Wolff, is an accomplished specialist in nervous diseases, with a European education. The nursing staff consists of deacons and deaconesses from Europe and some young men and women from Brumana who will learn to nurse the insane. On the 16th of August there were nine men and five women under treatment.

Medical Inspection of Schools.—The physicians in Philadelphia engaged in the medical inspection of schools have decided to form a permanent organization and to petition the board of education and councils for compensation commensurate with the service

rendered. The inspections have thus far been tentative and experimental, and the services of the physicians have been rendered gratuitously. It is claimed that a large amount of the decrease of contagious diseases among children since the establishment of the system of daily medical examinations is due to this cause.

The Pan-American Medical Congress.—The following is a list of the American secretaries of section at the approaching Havana Congress: Medicine, Dr. Judson Daland, Philadelphia; therapeutics, Dr. Hobart A. Hare, Philadelphia; pædiatrics, Dr. I. N. Love, New York City; mental and nervous diseases, Dr. C. H. Hughes, St. Louis; medical pedagogy, Dr. Otis K. Newell, New York City; medical jurisprudence, Dr. H. A. West, Galveston, Tex.; dermatology and syphilography, Dr. A. Ravogli, Cincinnati; surgery, Dr. W. P. Nicolson, Atlanta, Ga.; gynæcology and abdominal surgery, Dr. H. P. Newman, Chicago; orthopædic surgery, Dr. John Ridlon, Chicago; railway surgery, Dr. Duncan Eve, Nashville, Tenn.; dental and buccal surgery, Dr. Eugene S. Talbot, Chicago; anatomy, Dr. Arthur D. Bevan, Chicago; physiology, Dr. A. P. Brubaker, Philadelphia; pathology, Dr. Hunter McAlpine, New York City; ophthalmology, Dr. John E. Weeks, New York City; laryngology and rhinology, Dr. G. H. Makuen, Philadelphia; otology, Dr. James T. McKernon, Philadelphia; obstetrics, Dr. Gustav E. Zinke, Cincinnati; general hygiene and demography, Dr. Alvah H. Doty, New York City; military medicine and hygiene, Major Jefferson Kean, U. S. A., Quesnados, Cuba; marine hygiene and quarantine, Dr. R. M. Woodward, U. S. M. H. S., Washington, D. C.

Yellow Fever in Havana.—On November 24th there were fifty-seven cases of yellow fever in Havana. During October there were seventy-four deaths from the disease. Of the entire number of reported cases sixty-two patients were Americans and two hundred and twenty-five Spanish immigrants. During ten months of the current year there have been twenty cases with six deaths among the troops, officers and men, stationed in Havana, as compared with twenty-six cases and seven deaths during the twelve months of 1899. Dr. W. C. Gorgas, U. S. A., chief sanitary officer of Havana, in a recent report to the adjutant-general says that during the past month many exaggerated reports of the yellow-fever situation have been published in the United States. . Out of a population of two hundred and forty-two thousand there have been since the first of January nine hundred and sixty-eight cases. The correspondent of the Associated Press published very widely the statement that every block in Havana had from one to seventeen cases. Major Gorgas says, however, that there are eight hundred and fifty-seven occupied blocks in the city, and of those three hundred and ninety-seven have had cases of yellow fever. Of the blocks which have had cases, two hundred and twenty-four had only one case, and only one or two blocks in the city approximated the numbers given by the correspondent referred to. In Havana there are sixteen thousand and four hundred and eighty houses, of which seven hundred and nine have had cases of yellow fever. Dr. Gorgas also calls attention to the good results of the present system of disinfection and isolation. In the five hundred and fifty-three houses in which one case occurred the sanitary methods employed were apparently successful and prevented a further spread of the disease.

A Woman Medical Graduate at Budapest.—The degree of doctor of medicine has recently been conferred on Fräulein Charlotte Steinberger by the University of Budapest. She is said to be the first woman to have been graduated with the degree of doctor of medicine in Hungary.

The Plague in South Africa.—A despatch from Cape Town, dated November 22d, announces that Sir Alfred Milner, the British high commissioner, has proclaimed that all the east coast ports of South Africa between the tenth and fortieth parallels are infected with the bubonic plague.

Nurses' Home for the Woman's Hospital.—At the forty-fifth annual meeting of the Woman's Hospital in the State of New York, held last week, it was announced that Mrs. Frederick F. Thompson, who recently resigned the office of treasurer, had offered to build a nurses' home in connection with the hospital, the home to cost between $100,000 and $150,000. The home will be built on the hospital grounds. This gift of Mrs. Thompson is in addition to another of $55,000 which she made in the early part of the year.

The Sanitary Condition of Chicago has very markedly improved since the opening of the drainage canal. For the first ten days of November the monthly death rate was .85 a thousand, which, turned into annual death-rate figures, is 10.56 a thousand. This is about the normal death rate for small towns and villages, and far below most city death rates. The low death rate is especially marked as regards typhoid fever. There were only eight deaths from that disease during the first two weeks of this month, which is at the rate of twenty-three a month, as against a November average of seventy a month during the years 1865 to 1899.

The Craig Colony Prize for Original Research in Epilepsy.—Dr. Frederick Peterson, president of the board of managers of the Craig Colony for Epileptics, at Sonyea, N. Y., offers a prize of $200 for the best original unpublished contribution to the pathology and treatment of epilepsy. Originality is the main condition. All manuscripts should be submitted in English. The prize is open to universal competition. Each essay must be accompanied by a sealed envelope containing the name and address of the author, and bearing upon the outside a motto or device which is to be inscribed also upon the essay. All papers received will be submitted to a committee, consisting of three members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the board of managers of the Craig Colony, October 8, 1901.

Manuscripts should be sent to Dr. Frederick Peterson, 4 West 50th Street, New York City, on or before September 30, 1901. The successful essay becomes the property of the Craig Colony and will be published in its annual report. The committee has made no award for the years 1899 and 1900, for the reason that the essays submitted have failed to come up to the necessary standard of originality. The prize calls for original research as to the pathological anatomy, chemistry, symptomatology, etiology, nature, or treatment of epilepsy—in short, anything that will add to the sum of knowledge regarding this disease.

New Operating-Theatre at Bellevue.—A new operating-annex in connection with the surgical division, recently erected at Bellevue Hospital, was formally opened and dedicated last Saturday afternoon. The dedication exercises were conducted by the Rev. Dr. Huntington of Grace Church.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending November 24, 1900. November 17th.—Passed Assistant Surgeon A. W. Dunbar detached from the *Monongahela* and ordered to the *Vermont* for temporary duty with the crew of the *Wisconsin* and then to naval hospital, Mare Island, Cal. November 22d.—Assistant Surgeon R. B. Williams appointed assistant surgeon from November 17, 1900. November 23d.—Assistant Surgeon J. T. Kennedy detached from the *Monocacy* and ordered to the Cavite naval station.

The Harvard Veterinary School is to be discontinued, it is said, because there are not enough students to pay the running expenses. For several years there have been successive annual deficits in the accounts of the veterinary department of the university; the corporation of Harvard has decided to receive no more students for that department, but the students already in the school will be given sufficient instruction to obtain their degrees.

No Free Treatment for Inebriates in Minnesota.—The legislature of Minnesota last year passed what was called the "jag-cure law," which provided that indigent inebriates, upon proper petition, might be treated at a private institution, and the expense would be borne by the county. The consent of the inebriate must have previously been obtained. The supreme court of the State has, however, decided that the law is unconstitutional, because it applies only to counties of over fifty thousand population, and is limited in its benefits to a certain number in each county—one per year to each ten thousand of population.

Against the Spitting Nuisance in St. Paul.—An ordinance was recently passed by both branches of the St. Paul city council and signed by the mayor, forbidding expectoration on the sidewalk under penalty of a fine of from $1 to $50, or imprisonment from one to sixty days. The duty of enforcing the law and arresting offenders against it devolves upon the police. The throwing of fruit skins and cigar stubs on the sidewalk is also forbidden. The ordinance was passed at the suggestion of the health commissioner. We trust it will be less contemptuously treated than is the health board's prohibition against spitting in street cars in New York.

Declining Birth Rate in France.—According to the official statistics recently published, there were 847,627 children born in France in 1899, which is nearly ten thousand below the already low average for the past decade. The number of marriages increased during the year, which perhaps presages an improvement in the birth rate for this year. There were 816,233 deaths reported in 1899.

Salutary Inconsistency.—A Denver Christian Science "healer" has published a statement to the effect that he always reports to the health department all cases of contagious disease that he meets in his practice. This must indeed be a wonderful science if its votaries can so read the thoughts of their clients that they can declare which are contagious and which not. The inconsistency is absurd, but nevertheless most salutary.

A Sanatorium at Mentone, Cal.—The Pacific Hospital at Los Angeles, Cal., will erect a large sanatorium at Mentone, San Bernandino County, Cal. It will consist of a two-story and attic building with forty bedrooms, a parlor, and dining, smoking, and reception rooms. There will also be a central pavilion, 100 by 150 feet in size. In addition to the main building there will be ten cottages for the use of patients, and a stone power house for electrical and steam plants. The buildings will be in the centre of a tract eleven hundred acres in extent.

New Medical School Buildings at Yale.—A block of ground on Cedar Street and Congress Avenue, New Haven, has been purchased by Yale University, and on it will be erected new and commodious buildings for the use of the medical department. The plans for the buildings are nearly completed and work will be begun in a few weeks. The entire Medical School will be removed to the new site in a year or two, and laboratory buildings, clinical buildings, and recitation rooms will all be clustered about it as a centre. The new school will be opposite the New Haven General Hospital.

Red Cross Celebrations.—It is announced that on the night of December 31st, the last of the year and the century, the American Red Cross Society will hold a number of watch meetings in this city to see the old century out and the new one in. There will be, according to the plans of Miss Clara Barton, thousands of other such meetings all over the country, arrangements for which are being made with various State and city authorities all over the land. The Red Cross plans to have its big meeting in this city in Madison Square Garden, where music will be furnished by a band of one hundred pieces and a chorus of one thousand voices.

Obituary Notes.—Dr. Samuel J. Pearsall died suddenly at his home in Saratoga on November 19th. He was seventy years of age, and was graduated in

medicine from the Hahnemann Medical College of Philadelphia in 1858.

Dr. Romaine J. Curtis died at Joliet, Ill., on November 20th, aged fifty-eight years. He was born in Huron County, Ohio, and studied at Hillsdale, Mich., and Buffalo. During the Civil War he became a cadet on a hospital boat. He was graduated from the Ohio Medical College in 1864. Later he was assistant surgeon on the United States flagship *Burnside*. He was said to have been one of the first railroad surgeons ever appointed in the United States. He was an attending surgeon to St. Joseph's Hospital in Joliet for ten years, and previously had been professor of pathology, bacteriology, and hygiene in the College of Physicians and Surgeons of Chicago.

Dr. Robert Acton died at the Presbyterian Hospital in this city on November 27th, at the age of thirty-two years. He was born at Kinsale, Ireland, and came to this country in 1891. He was a graduate of the Harvard Medical School, and was licensed at the Regents' examination in this State in 1899. He was visiting physician to the House of Correction on Blackwell's Island.

Dr. Frederick Cornell De Mund died at his home, in Brooklyn, on November 20th. He was seventy years old, and was born at Millstown, N. J. He was a graduate of Rutgers College and of the College of Physicians and Surgeons in this city in the class of 1855, and practised in New Utrecht from that time until his retirement in 1895. He was at one time health officer of the old town of New Utrecht.

Dr. Rufus P. Lincoln, of this city, died on November 27th from appendicitis, at the age of fifty-nine years. He was a graduate of the Harvard Medical School in the class of 1868. Early in his professional career he turned his attention particularly to the treatment of diseases of the throat, and speedily attained eminence in his chosen specialty.

Progress of Medical Science.

Journal of the American Medical Ass'n, Nov. 24, 1900.

Syphilis of the Upper Air Tract; Some Remarks on its Diagnosis and Treatment.—George L. Richards states that no case of primary syphilis of the upper air tract has been met in his private practice during the last four years. Secondary and tertiary manifestations are common, the areas most frequently involved being the pharynx and tonsillar region, the nose and larynx. The primary chancre is usually found on the tonsil and soft palate. The secondary manifestations occur in the upper air tract from three to nine months after the primary lesion, and are at first those of a simple catarrh with no particular diagnostic characteristics apart from the history, except that recovery is much slower than in ordinary simple inflammation of the region. The manifestations of the tertiary stage appear from three to fifty years after the primary lesion. All histories are in the main apt to be unreliable, and a diagnosis should never hang on the presence or absence of a satisfactory history, but should be made on the symptoms as positively as though a clear history were obtainable. It may be stated as practically an absolute rule that necrosis of the bony framework of the septum, in the absence of history pointing to phosphorus or some irritant poison as a cause, is of syphilitic origin. In the writer's experience the pharyngeal lesions have been the most troublesome, especially when occurring high enough up on the pharyngeal wall to result in adhesions between the pharynx and the pillars. An important diagnostic point is the almost total absence of pain in syphilis, whereas in carcinoma and tuberculosis, the diseases most likely to be confounded with syphilis at the tertiary stage, there is considerable pain, while the disturbance of nutrition and general constitutional dyscrasia are very marked. The writer believes in the combined treatment of mercury and potassium iodide for the third stage. The hereditary type is briefly considered at the close of this paper. The writer concludes by saying that in general syphilis is a disease to be treated with constitutional measures and not with the knife or curette.

Differential Diagnosis between Abdominal Typhoid and Appendicitis by Means of Iodine Reaction; Report of a Case.—Siegfried Weiss declares that the clinical value of the iodine reaction of the blood has an established place among the clinical methods of examination. In the case reported the following staining solution was used:

℞ Iodi sublim. 5
Potass. iodid. 1.5
Aquæ destil. 50.0
Muc. acaciæ. ..... ad consist. syruposam
M.

The patient was a girl nine and three-fourths years old. There seemed to be at first a type of influenza with a form of bronchitis, and intestinal symptoms—constipation, diarrhœa, and colicky pains. But when typhoid symptoms—splenic tumor, roseola, typhoid tongue and lips, the Widal reaction 1:40, and also the diazo reaction in the urine—appeared, then the diagnosis of abdominal typhoid was made. The fever was remitting and subfebrile in character, but typhoid symptoms in children are either atypical or irregular. The diagnosis was uncertain when the blood gave the iodine reaction and the presence of pus was shown. The tumor argued against the presence of typhoid, and the disappearance of the same was noticeable. The case proved to be one of suppurative local perityphlitic inflammation with adjacent peritonitis which subsided in the course of a few days. The iodine reaction disappeared with the disappearance of the tumor. The rapid convalescence which followed the tumor's disappearance, and the absence of the Widal reaction were against the diagnosis of typhoid, so that the iodine reaction was the important factor in establishing the diagnosis of suppurative perityphlitis as against abdominal typhoid.

The Value of Blood Examination for Diagnostic Purposes.—Julian Walter Brandeis first considers the diseases in which blood examination is essential to diagnosis. These he enumerates as: chlorosis, secondary anæmia, pernicious anæmia, leukæmia (both myelogenous and lymphatic), Hodgkin's disease, anæmia infantum, pseudo-leukæmia, malaria, relapsing-fever, and filaria sanguinis hominis. As characteristic of the blood of children the writer mentions the following points: A leucocytosis, polycythæmia, and increased percentage of hæmoglobin are characteristic of the blood of the new-born, but gradually disappear. Any influence retarding the child's development causes a leucocytosis, a large percentage of the corpuscles being lymphocytes, and the appearance of nucleated erythrocytes without necessarily the coexistence of an anæmia. Also, in the anæmias of infants and children the red cells are destroyed to a greater extent, and degenerative changes are more marked than in like cases in adults. Nucleated erythrocytes and myelocytes are more common than in anæmias of corresponding severity in adults. In certain cases the discovery of the etiological germ in the blood has rendered the diagnosis of the following diseases positive: Typhoid, tuberculosis, tetanus, ulcerative endocarditis, anthrax, grippe, glanders, septicæmia, pyæmia, and pneumonia. The writer then speaks of diseases in which blood examinations are an important aid to differential diagnosis and prognosis. For example, both in pneumonia and diphtheria the absence of leucocytosis in any but the mildest cases is a bad sign. Neusser is quoted as stating that in deciding whether a case of hysteria, neurosis, or psychosis would be benefited by castration, the presence of a eosinophilia suggests the affirmative.

The Treatment of Adenoid Vegetations of the Naso-Pharynx.—Otto T. Freer declares that it seems logical to conclude that, though a proportion of cases with adenoid vegetations of limited extent can be successfully operated on without general anæsthesia, nevertheless the operation is apt to be incomplete, haphazard, and imperfect, with a large element of lucky chance in its successful performance, and that consequently general anæsthesia is necessary to insure the thorough removal of the entire hypertrophy of the pharyngeal tonsil. It is important for the operation to be complete and thorough, for if any lymphoid tissue is left in the child it will not only not atrophy, but will often prove the nucleus of a new set of vegetations. Another reason for thoroughness is deafness, which is often caused by adenoids that produce no, or but little, obstruction to breathing. Some authorities believe that entrance of tuberculous infection through the lymphatic structures of the fauces and pharynx is the most frequent

source of pulmonary tuberculosis in later life. Freer believes that ether narcosis is to be preferred to any other. The most advantageous position for the patient is the one where he lies on his side and chest, close to the edge of the table, with the left arm placed behind the back. As to instruments used, the writer declares that a thorough operation with the Löwenberg and Ingals nasal-bone forceps removes the hypertrophied adenoid tissue for all time.

The Danger of Spinal Anæsthesia.—John V. Shoemaker, in reviewing this subject, states that he has seen a single injection give rise to alarming symptoms of respiratory failure. The procedure is likewise productive of marked pain. In order to avoid this effect, Bier and others have employed Schleich's infiltration anæsthesia as a preliminary measure. In some cases chill and fever have followed the injection. Severe and long-continued headache is not uncommon. Distressing nausea and vomiting have also been excited. Exceptionally staggering gait and sharp spinal pains were experienced on the day following the injection. In some patients profuse sweating, and in others marked debility have been noted. Numbness and tingling have occurred. In certain cases anæsthesia was not produced by the operation. It need not be mentioned that the operation should be undertaken with the most rigid aseptic precautions. Great caution in the use of this method should certainly be exercised.

Tuberculosis of the Testicle with Special Consideration of its Conservative Treatment.—By John B. Murphy (continued).

Post-Operative Treatment of Abdominal Section in Women.—By Walter B. Chase.

A Plea for Greater Simplicity in Therapeutics.—By Louis Faugères Bishop.

Modes of Infection of the Maxillary Sinus.—By M. H. Cryer.

The Physician as a Scientist.—By N. Senn.

Therapeutic Progress.—By J. Tracy Melvin.

Appendicitis.—By Joseph Price.

New York Medical Journal, November 24, 1900.

Post-Operative Hemorrhage.—A. H. Cordier advises against the use of catgut for ligatures in abdominal work, preferring silk instead. Secondary hemorrhage, under the circumstances indicated, calls for the most rapid intervention possible, and is one of the most appalling accidents in the whole realm of surgery. He advocates the use of a drainage tube when bleeding is feared, for if the wound is closed up tight blood in an air-tight abdomen will not coagulate, and thus nature's great hæmostatic—a firm clot—is removed. He lays down the following propositions: (1) In diagnosticating post-operative hemorrhage, the operative history will aid much. (2) The symptoms of shock and those of hemorrhage are very similar. (3) In suspected cases the cutting of a single stitch in the incision will tell. (4) The surgery must be quick and decisive in these cases. (5) In cases in which bleeding is expected the tube should be used. (6) Large quantities of decinormal saline solution will save many patients. This should be used both *per rectum* and by injection into the veins. (7) Strychnine, belladonna, etc., will not control bleeding from a uterine or ovarian artery any better than from any other artery. (8) The surgeon should do what his surgical conscience tells him is right. Late researches in hæmatology make it appear that an internal concealed hemorrhage may be demonstrated by a careful blood count. This, it is stated, will show a decrease in the red cells and an increase in the white. Very similar symptoms accompany shock from various causes, such as internal hernia, etc., none of which produces a change in the red cells. If an operation was performed for the relief of an inflammatory process, this test would lose its value in part, as there would exist at the time of operating a leucocytosis. Saline infusions apparently increase the white cells at first.

Spasmodic Wry-Neck and its Treatment; Report of Two Cases with Recovery.—W. M. Leszynsky's patients were women, aged thirty-six and twenty-four years respectively. His plan of treatment was to inject atropine into the substance of the affected muscles, in combination with massage, and the methodical education of the muscles and their co-ordinating centres. He adds, that while the atropine treatment may prove exceedingly beneficial, nay, even curative in some cases, it is evidently unsatisfactory in many others, and should be considered only as an adjuvant to absolute rest and general management. He further states that it is universally recognized that the prognosis in these cases is always unfavorable, unless suitable treatment is adopted early in the course of the disease. Recovery essentially depends on the duration of the trouble and the persistency in the treatment. In old-standing cases that have existed for several years and have received only desultory treatment, or in those patients who have been unsuccessfully subjected to the customary routine methods of management, the prospect as to ultimate recovery is always very discouraging. Surgery should not be resorted to until the foregoing measures have been given a thorough trial.

The Etiology of Eczema with Reference to Recent Views as to its Parasitic Origin.—L. Duncan Bulkley enumerates the various causes which have been assigned for this common skin malady, and calls special attention to the views of Unna. Concerning seborrhœa he says that the scientific world has practically accepted it as an entity with a micro-organism as a probable etiological factor, though there is really no unanimity in regard to the character of the parasite. All that Bulkley admits as to the question of parasitic origin is that some of the organisms which exist abundantly on the skin do, when it has taken on disease, cease to be saprophytic and exercise more or less of a baneful influence in heightening the eruption.

The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Middle Ear.—By Seymour Oppenheimer.

Rational Physical Training for Women.—By G. A. Saxe.

Medical News, November 24, 1900.

The Operative Treatment of Ugly Ears.—John B. Roberts believes this subject particularly worthy of attention since the operative treatment for the correction of these conditions is free from risk and generally unaccompanied by confinement to bed or even absence from business pursuits. A lacerated or incised ear may be so carefully sutured that the shape of the organ may be well preserved even after considerable loss of structure. After the removal of tumors, or the occurrence of sloughing from burns or traumatism, it may sometimes be necessary to alter the shape or size of the uninjured ear to make it correspond with the injured member. If new tissue is demanded to replace that which has been lost, it may be transferred from the neck or cheek or transplanted from the hand, abdominal wall, or thigh. Orthopædic measures are applicable in some cases—pads, springs, or repeated use of collodion. Artificial ears of celluloid, papier maché, or platinum, properly tinted, may replace an absent member; or repeated plastic operations may suffice to restore some semblance of the original ear. Congenital nodules are to be excised as a rule. Very large ears may be reduced by excising a wedge-shaped piece or by taking a crescentic piece from the central part of the auricle and a horizontal strip outward from the centre of the convex margin of the crescent. Flaring ears are corrected by excising a vertical ellipse of skin and fascia from the posterior surface of the auricle and the adjacent part of the skull, and then cutting a vertical wedge-like strip from the exposed cartilaginous structure of the ear. The auricle is then sewed close to the skull. In lap ears the suggestion is made of stiffening the auricle by inserting a thin sheet of metal in the tissues, after which it might be bent to the normal shape of the organ.

The Nature Treatment of Tuberculosis.—R. O. Beard says that the study of the warfare waged between the human tissue cells and the bacillus tuberculosis teaches us the lesson that the task of the public sanitarian and the physician is largely one of prevention, and that cure—a secondary and short-lived possibility in the course of the disease—is best accomplished by extending the principles and methods of prevention to the assistance of the tissue cells. Only now are we learning that but two prime factors are essential to make localities favorable to the tuberculous patient—purity and dryness of atmosphere, in whatever latitude, at whatever altitude, on plain or mountain, in forest or on ranch. Consumptives should be isolated. Tuberculosis should be quarantined in our towns as effectively as yellow jack. As to the creation of the Minnesota park, the nature treatment of tuberculosis in this available region will repay the nation in men more than it can gain in timber by its destruction or in navigation by its saving. As nearly complete physiological rest as possible should be attained by the consumptive. Forced feeding is also an important element in treatment. The gradual increase of food is well endured even in advanced cases. The combination of all these measures should brighten the hope of control of this most destructive of the diseases of civilization.

Absorption, Motility, and Digestive Power of the Stomach.—By A. E. Austin.

The Hydriatic Treatment of Tuberculosis.—By J. H. Kellogg.

Œdema Bullosum Vesicæ.—By Frederic Bierhoff.

The Boston Medical and Surgical Jour., Nov. 22, 1900.

Diphtheria Bacilli in Healthy Throats and Noses, with Report of Cases.—Francis P. Denny thus sums up the points which he specially wishes to emphasize. (1) Diph-

theria bacilli are seldom found in the throats of those who have not been exposed to diphtheria. (2) The bacilli are more frequently found in those who have been exposed, especially in those living under poor hygienic conditions or in institutions. (3) The conditions of institution life which favor the growth of the bacilli in healthy throats are the living together of a large number of persons in a limited air space. (4) Healthy individuals with virulent bacilli in their throats can spread the disease. They are just as dangerous as mild or convalescent cases of diphtheria, and ought, therefore, to be detected and isolated. (5) Cultures ought to be made among those who have been exposed to diphtheria—(*a*) by physicians among the members of a family who have been exposed, (*b*) by inspectors in the schools, (*c*) by health officers under any circumstances when they think the disease is being or may be spread by such individuals.

Some Observations on Renal Casts.—Walter E. Tobie says that since the centrifuge has come into more general use hyaline casts are found in many instances in which neither clinical history nor chemical examination would seem to point to their presence. Certainly there is no good reason for believing kidney disease to be increasing to the alarming extent that microscopical examination of urine might imply. Inasmuch as hyaline casts may be present for many years without symptoms pointing to their existence, these questions naturally suggest themselves: Is the mere presence of hyaline casts necessarily a grave omen? May not the disease be checked or even of itself cease to advance? May not hyaline casts be present in urine from kidneys whose excreting functions are practically normal?

Chronic Diffuse Interstitial Nephritis.—By Charles J. Enebuske.

A New Spinal Jacket.—By Edward A. Tracy.

Philadelphia Medical Journal, November 24, 1900.

Conveyance of Yellow-Fever Infection.—J. O. Cobb concludes his discussion of this subject by saying that, although he has the highest respect for Drs. Sternberg, Reed, and their assistants, still he cannot accept their mere negative positions as disproving the validity of the Sanarelli germ as the cause of yellow fever or as establishing the identity of this germ with Sternberg's bacillus X. These workers have not disproved the work of Wasdin and Geddings and others. The writer states that he is prepared to believe that mosquitos, and even bed-bugs and fleas, may convey this disease. He adds that it is discouraging to think that the mosquito may be the sole conveyor of the disease, for if it is we cannot expect to confine the disease to each infected house as has heretofore been attempted. Undoubtedly some infected mosquitos will certainly elude us and escape to other nearby houses. Yet this is not the practical experience of Marine-Hospital officers, for they have shut up the disease and prevented its spread under the most discouraging circumstances, even in the presence of mosquitos. In the midst of speculation the practical should be kept in mind, for it is well known that the disease can be confined to narrow limits by the *cordon sanitaire* when under the watchful care of trained quarantine officials.

The Occurrence of Malta Fever in Manila.—This report is made by Richard P. Strong and W. E. Musgrave. Four laboratory infections with the micrococcus melitensis are noted. One case in the Army medical laboratory, Manila, was inoculated through the conjunctiva, which is a comparatively rare portal of entry. The micro-organism of Malta fever was discovered by Bruce in 1887, since which time, cases have been reported in various localities. It is not confined to the Mediterranean basin. India, Hong Kong, Secunderabadin, the Deccan, Porto Rico, Corsica, England, and the Philippines are all reported as localities where this fever has been contracted. The attention of the physicians was first called to the existence of Malta fever in Manila in the post-mortem work. After being impressed from discoveries made in necropsies that Malta fever is not a very uncommon disease in Manila, a clinical search for the cases was begun, which has been rewarded by the discovery of several cases which give marked reaction with micrococcus melitensis in high dilutions. One of these cases had been diagnosed malarial fever, while two others were thought to be typhoid fever with relapse. The Widal reaction was absent, as were also the malarial parasites.

History of a Case of Removal of a Retro-Bulbar Lympho-sarcoma with Preservation of Normal Vision.—By Charles A. Oliver.

Traumatic Aneurism of the Left Internal Carotid Artery; Death; Autopsy.—By Burton S. Booth.

A New Aseptic Ether and Chloroform Inhaler.—By Ernest Laplace (illustrated).

A New Phimosis Forceps.—By W. T. Baird (illustrated).

The Lancet, November 17, 1900.

The Treatment of Sprains and of Some Fractures.—A. H. Tubby says that in a sprain numerous small vessels are ruptured at the moment of injury, and that there is an instantaneous out-pouring of a certain amount of blood and lymph, and that this effusion goes on for three or four hours. It is quite rational to apply cold during this period, and it is the best resource at our command. It constringes the vessels, lessens the amount of exudation, etc., so that the duration of symptoms is shortened and there is little liability of stiffness afterward. Furthermore, the amount of effusion may also be lessened by application of pressure and the placing of the joint in such a position that its potential cavity is lessened. During the period of quiescence the same line of treatment should be adopted, for there is some quiet effusion still going on. But when the second attack of pain ensues and it is becoming more severe, the application of cold is not of much value, since by this time the tissues are distended with blood and with lymph and effusion has now ceased to be poured out. The right thing to do is to apply heat, as hot applications not only diminish the pain but exercise a permanent effect upon the duration and the amount of swelling in this way. When the vessels which have been injured have recovered their tone, the application of hot water or of heat in other forms promotes absorption, so that the effused blood and lymph are as rapidly as possible taken up into the blood-vessels and lymph channels. During this time the joint should be kept at rest and pressure should be maintained on it by cotton-wool and a bandage, since well-directed pressure also assists absorption. When the amount of swelling is very considerable, hot applications and rest are not sufficient. The best thing is properly applied friction. In regard to fractures the writer lays down the following rule as to cases occurring about the elbow: "In all injuries about the elbow joint, except fracture of the olecranon, the forearm should be forcibly extended, then supinated, then acutely flexed—that is to say, the limb should be placed with the ball of the thumb of the affected limb resting against the neck on the opposite side. No splint is needed, and, indeed, is harmful, for the position can easily be secured by means of a sling passing round the neck and round the wrist." In separation of the lower epiphysis of the femur, the separated portion is usually dislocated forward and not backward, unlike the displacement which occurs in a transverse fracture of the lower end of the femur; the displacement is backward almost always in the latter case. Forward displacement of the lower epiphysis is accounted for by this circumstance—the epiphyseal line is directed from the front downward and backward so that the epiphysis more readily glides forward on to the shaft. In transverse fracture the line of fracture usually passes above the attachment of the gastrocnemius; hence the fragment is tilted backward. Reduction and retention in proper position can be accomplished by division of the tendo Achillis and forcible extension, or the limb may be put up with the heel touching the buttock, or the joint may be opened and the epiphysis fixed with a steel nickel-plated screw.

The Micro-Organisms of Vaccine Materials.—J. B. Buist records his experiments made in the course of the last fifteen years to determine the cause of opacity of vaccine lymph. All he is prepared to say is that this opacity was due to spores from unknown sources, of a yellow, brown, white, or orange color, even in specimens which had been kept fifteen years. These he regards as the active ingredient of the lymph. Some authorities have isolated these spores and inoculated them into calves, the virus from which would "take" in children, but direct inoculation of the spore products into the human being were failures.

Complete Inversion of the Uterus.—A case is reported by David Durran in a woman aged twenty-five years, in her third confinement. Improper methods of pressure on the abdomen were suspected as the exciting cause, but the midwife in attendance denied that such methods had been used. Symptoms and treatment were along the usual lines. The patient did well until the eleventh day, when delusions began to appear and ran on to puerperal mania, requiring institution treatment. Cure resulted after several months' stay in the asylum.

Unusual Conditions at Birth.—By A. J. Rice Oxley. Case I. was one of fracture of the clavicle with normal presentation. It occurred in a very rapid labor. Case II. was one of "congenital thickening of the sterno-mastoid." The case was one of forceps delivery, but the tumor was not a hæmatoma. Such swellings clear up of themselves.

Remarks of Ten Cases of Enteric Fever in which the Blood was Examined Periodically for Agglutinative Purposes.—By W. G. Savage.

Acute Emphysematous Gangrene; a Clinical and Bacteriological Digest with Details of a New Case.—By E. M. Corner.

A Case of Acute Rheumatism with Previous Mitral Regurgitation followed by Pericarditis.—By A. R. Henchley.

Fibroid Tumor as a Complication of Pregnancy and Labor.—By J. E. Gemmell.

Remarks on Two Cases of Landry's Paralysis.—By T. W. Griffith.

French Journals.

Treatment of Acute Mucous Colitis and Dysenteric Colitis by Sulphate of Sodium.—Aviragnet divides acute colitis into two varieties: mucous and dysenteric. He outlines his treatment of these cases as follows. (1) Rest in bed; diet of water and milk. (2) The application of cataplasms or warm wet compresses for the abdominal pain. (3) Avoidance of large intestinal injections, which by producing distention cause great pain (sometimes intolerable), besides often increasing the inflammatory process. (4) Small laudanum injections to diminish the extreme frequency of the stools and the rectal tenesmus. This treatment is to be preferred to suppositories. (5) In order to combat the inflammation of the mucosa of the large intestine several measures have been suggested: (*a*) Introduction into the large intestine of medicinal substances; (*b*) administration of ipecac by the mouth; (*c*) purgatives. The writer much prefers to use sulphate of sodium or magnesium. With the employment of sulphate of sodium his results have been most remarkable. The drug has a marvellous action on the secretions of the large intestine; in a large dose it exaggerates them like all purgatives, but in a small dose it diminishes them and causes the disappearance of glairy and bloody hypersecretion. (The hæmostatic properties of sulphate of sodium have been well shown by the experiments of Reverdin, of Geneva.) The doses used are as follows: 10 to 15 gm. the first day, small doses for the following days; 5 gm. for example, in a child of twelve to fourteen years; 2 gm. in a child of two years. The writer believes that sodium sulphate given in small doses is a remedy of the first order in acute mucous or dysenteric colitis.—*Journal des Praticiens*, November 10, 1900.

Acute Intoxications.—Among other acute intoxications, Lemoine speaks of cocaine. The only cases known of acute intoxication by this drug are due to its surgical employment for producing local anæsthesia. The physician will surely be held responsible for these accidents, and so must know how to prevent and combat them. The first two signs of the intoxication are the vascular contraction which is shown by pallor of the face and peripheral tissues, and the nervous symptoms, such as delirium and incoherent speech. Arterial tension is raised, and convulsions both tonic and clonic soon appear. If death occurs it is caused by adynamia. In giving cocaine the patient should always assume the dorsal decubitus to prevent cerebral anæmia, and the dose should never pass the maximum of 10 cgm. At the first danger signal the patient should be immediately reversed. Amyl-nitrite inhalations are efficacious. Chloral hydrate, morphine, and bromide of potassium are good to combat the phenomena of cerebral excitation. If there is collapse, ether and caffeine hypodermically are indicated. The patient should be warmed by friction, hot applications, etc., to prevent the cooling of the body.—*Le Nord Médical*, November 1, 1900.

Therapeutic Value of Peroxide of Hydrogen.—Marcel Rifaux states that peroxide of hydrogen was discovered by Thérard in 1818. This substance is a colorless, odorless, liquid, having a piquant taste. It can be mixed with water in all proportions. Its oxygenizing power is considerable, for it gives up its oxygen with the greatest ease, which is the basis of its real antiseptic character. It is also a hæmostatic. Clinically it is of the greatest service in all fetid, suppurating wounds. Old chronic otorrhœa, for example, with fetid suppuration is rapidly deodorized by its use. It has been employed with some success for disinfecting the uterine and vaginal cavities. In epistaxis it is used as a hæmostatic. The writer concludes from the study of peroxide of hydrogen that it merits an important place in therapeutics, as it is non-toxic, inodorous, a powerful deodorizer, an antiseptic of value, and a hæmostatic of the first order.—*Lyons Médical*, November 4, 1900.

Prophylaxis of Tuberculosis.—E. Malvoz believes that various social measures ought to be taken to ameliorate the condition of consumptives. There should be opportunity afforded for education in hygiene; the physician should give public lectures on proper dwellings, food, and conditions suitable for workmen; an examination should be made of suspects. The earliest possible diagnosis of tuberculosis should be made, facilitated by bacteriological laboratories which should give gratuitous service. There should be associations to support the invalids, giving all the comforts which they ought to have. Physicians should receive both a clinical and bacteriological education which would enable them to make a very early diagnosis of this disease, and to understand its prophylaxis and treatment.—*La Presse Médicale*, November 7, 1900.

Münchener medicinische Wochenschrift, Nov. 6, 1900.

The Significance of Oliver's Sign in Aortic Aneurism and Thoracic Tumors.—F. Jessen reports two cases in which the tracheal tug, which is usually said to be absent in tumor and present in aneurism, gave positively misleading evidence. The first of these is that of a young girl, who, with no physical signs other than a left recurrent-nerve palsy and absence of the Oliver-Cardarelli symptom, succumbed to what appeared to be a deep-seated tracheal stenosis. Ulceration with subsequent cicatrization, due to syphilis or tuberculosis, was excluded from the history, the freedom from congestive conditions was against mediastinal tumor, and the absence of circulatory disturbances and of the tracheal tug was thought to rule out aneurism. The autopsy revealed a high degree of aortic endarteritis, together with an aneurism of the arch as large as a walnut and closely adherent to the trachea. The second case is that of a middle-aged woman, who presented a rather complex syndrome of pulmonary and other symptoms, among which the Oliver-Cardarelli sign was easily obtainable. Under urgent dyspnœa the patient died, and contrary to expectation was found to have had a mediastinal sarcoma and not an aneurism. In this instance the simulation of the aneurismal signs was due to the intimate relation of the new growth to trachea and aorta, both of which it partially surrounded. In the author's opinion, therefore, tracheal tug is not a diagnostic sign between aneurism and neoplasm, and simply indicates the presence in the thorax of an abnormal mass in close relationship to the aorta and trachea.

A Little Known Pupillary Reaction and its Therapeutic Value.—Hans Kirchner describes an apparently hitherto unnoticed ocular phenomenon which, although as yet too little studied to be of much practical value, may perhaps be developed into a useful diagnostic or therapeutic measure. The reaction which with few exceptions is found in all healthy individuals consists in a contraction of the pupil following voluntary closure of the lids, and is more marked the more energetically the muscular act is performed. The same effect may be even more strikingly produced by holding the eye open with the fingers while the effort is made to close it against resistance. Considerable difficulty may be experienced in eliciting the reaction owing to various interfering factors, such as the light reflex and Bell's phenomenon. It is interesting to note that a pupil which fails to react to light or accommodation may be brought to contract by this manœuvre, and, furthermore, that the reaction may be increased by practice.

The Occurrence of the Demodex Folliculorum in the Eyelid and its Relation to Conjunctivitis.—Karl Hunsche found this organism present in the eyelids of seventy-nine per cent. of the heterogeneous dead-house material investigated, and believes that in individuals over forty it is always to be found. Its occurrence with such frequency in the lids of those unaffected by any ocular disorder leads to the conclusion that it is unable to produce any lesion of the parts in question, and that especially the conjunctivitis acarica of Joers does not exist. The author's observations were conducted by epilation, with microscopical examination of the roots of the cilia, and by the preparation of sections of the lids, by which he was able to demonstrate the parasites *in situ* after hardening in formalin-alcohol and double staining with eosin-hæmatoxylon.

The Effect of Nutrient Enemata on Gastric Secretion.—Ludo Metzger, in order to settle the question as to whether the stomach is really at rest when feeding is done only by rectum, or whether gastric secretion goes on even under these conditions, has made a series of observations on men and animals. Briefly summed up his conclusions are that an enema of milk and eggs produces in the stomach only a small quantity of a faintly acid secretion which does not appear till one and a half hours after the injection. The bouillon-claret enema, however, is speedily followed by a highly acid secretion, which disappears within an hour after the feeding. Control experiments showed that this increased secretory activity was due to the presence of the claret.

Further Contributions to the Disinfection of the Hands.—By Schenk and Zaufall.

The Use of Reindeer Sinew as Suture and Ligature Material.—By A. Schiller.

Berliner klinische Wochenschrift, October 29, 1900.

Four Cases of Disturbance of Equilibrium.—Rieken reports four cases which came on suddenly during a period of damp weather during which influenza and rheumatism had been specially prevalent. The symptoms simulated in certain respects those of Ménière's disease, and are analyzed in

detail in the original article. The author admits that similar symptom groupings are seen under various circumstances, such as seasickness, vertigo from various stomach and uterine disorders, galvanization of the head, loud noises, alcoholic poisoning, etc. He thinks it very possible that toxic poisoning from a disordered gastro-enteric state is the underlying factor in some of these cases.

The Treatment of Callous, Resilient Stricture.—H. Lohnstein has devised an apparatus (figured in the original) for the purpose suggested by the title. The stricture is enlarged as much as possible by dilatation and then the special apparatus employed. The principle utilized is that of the Bottini electric knife, modified so as to form a urethrotome running in a proper cannula.

The Clinical Value of A. Schmidt's Methods of Testing Intestinal Functions.—By H. Phillippsohn.

Rose's Diabetic Milk.—By Dr. Sandmeyer.

Urinary Calculi.—By C. Posner.

American Journal of the Med. Sciences, November, 1900.

Biological Studies with Reference to Pathology.—Theo. Klingmann experimented with spirogyra threads by placing several in water in which was immersed a piece of copper foil. A control of plain water was used. In the copper water the first change noted in the spirogyra was the cessation of the protoplasmic streaming, the protoplasm becoming granular, while the division of the protoplasmic cylinder and the granular evolution in the protoplasm followed, together with retraction of the outer part of the tube and destruction of the chlorophyl bands. The same pathological conditions can be brought about by the action of various bacterial toxins and toxic blood-serum. Of one hundred and fifty cases about one-third of the patients were in perfect health, the other two-thirds being patients suffering from various disorders, such as epilepsy, neurasthenia, hysteria, mania, pyæmia, pneumonia, syphilis, tuberculosis, erysipelas, typhoid fever, diphtheria, measles and other infectious diseases, alcoholism, gout, and rheumatism. After the blood has been obtained it is dilated with 20 c.c. of water and thoroughly mixed; a few drops of the liquid are placed on a clean glass slide; a thread of spirogyra is put into this, and is observed under the microscope with about a No. 3 Leitz objective. The water which is used for diluting the blood is tested by placing a few threads of spirogyra in a glass dish containing some of the water, and is allowed to stand a short time. If the water is non-toxic, the specimen is not altered. The time in which the alteration takes place varies directly with the amount of toxin and the species of spirogyra. While changes in the spirogyra take place in the toxic blood solution, the blood of healthy individuals yields negative results.

The Rôle of the Alloxuric Bases in the Production of the Cardio-Vascular Changes of Nephritis.—Alfred Careno Croftan states that the alloxuric bases are, unlike uric acid and urea, very readily soluble in the tissue fluids, and are highly toxic. Their chief representatives are xanthin, hypoxanthin, adenin, and guanin. Xanthin and hypoxanthin are capable of producing the cardio-vascular changes in those forms of nephritis in which retention of excrementitious substances precedes the lesions of the heart and arteries. The author believes that the alloxuric bases are the primary factor in the causation of "gouty" kidney. In the "lead" form of interstitial nephritis, the toxic action of this metal is either the same as that of the alloxuric bases, or it can cause changes in the organism which lead to the formation of these bases. The same toxins may simultaneously produce both nephritis and arteriosclerosis (lead, gout, etc.). From his investigations the author concludes that the alloxuric bases have an important rôle in the production of the cardio-vascular changes observed in all forms of nephritis excepting the chronic indurative form sometimes seen as the result of senile arteriosclerosis.

A Report of Cases of Pernicious Anæmia, with Special Reference to the Blood-Findings.—By Frank Billings.

Aneurism of the Arch of the Aorta, with Rupture into the Superior Vena Cava.—By Alfred Stengel.

A Report of Two Cases of Filariasis.—By Howard A. Lothrop and Joseph H. Pratt.

Recurrent Vomiting in Children (Cyclic Vomiting).—By J. P. Crozer Griffith.

Subpectoral Abscess.—By John Herr Musser.

Medicine, November, 1900.

The Blood in Neurasthenia.—Theodore H. Romeiser and Joseph Collins give a study of thirty-three cases, based on a differential leucocyte count, and give a detailed report of the conditions found. As regards the general features they record the following observations. Many cases showed a leucopenia—that is, a decreased ratio of leucocytes to erythrocytes, often quite marked. In connection with this they note that one of the therapeutic measures considered most efficient in the treatment of neurasthenia, namely, hydrotherapy, has the effect of removing this condition of the blood, for cold baths cause a physiological leucocytosis. Some patients, chiefly those well nourished and physically in perfect health so far as appearances went, showed a normal count; a few showed a slight leucocytosis, associated perhaps with a slight local inflammatory process otherwise unobserved, as would be the case had the patient an infection. Nearly all had a more or less marked oligochromia, often with many microcytes and a few poikilocytes. In one case a normoblast was observed. It is to be observed that in neurasthenia there is often a striking lack of correspondence between the intensity of the subjective symptomatology and that of the objective, and in general it may be stated that the hæmatological abnormalities both in kind and in degree correspond more with the objective than with the subjective clinical picture.

Multiplied Ossified Ecchondrosis and Exostosis of the Trachea and Larger Bronchi.—I. B. Diamond describes the gross and the microscopical findings in a case which involved the entire trachea and larger bronchi of a man aged forty-eight years. There were, on the one hand, seemingly true exostoses arising from the perichondrium, and on the other ecchondroses. He believes the bony rings to be ossified ecchondroses, and describes the process of their development. Very little can be said as to the clinical significance of these growths. They are rarely, if ever, recognized during life, except when situated at the upper portion of the trachea and when they grow to such size as to interfere with respiration. When situated in the larynx they are readily recognized and even successfully removed. It is remarkable that nearly all the patients have died from some pulmonary affection, as tuberculosis, abscess, or gangrene of the lungs. It would seem that as a result of the condition the respiratory tract is weakened against the invasion of microbes, especially since the epithelial cells are changed, even destroyed.

Examination of the Stomach Contents with Respect to Digestive Ferments and Digestive Products.—By Frederick A. McGrew.

The Journal of Tropical Medicine, October 15, 1900.

A Holiday in the Mosquito-Proof House in the Roman Campagna.—D. C. Rees visited Drs. Sambon and Low and gives an interesting account of his stay with them. The hut is situated in probably the most malarious spot in the whole Campagna, practically on the banks of one of the main canals which in September is literally swarming with Anopheles claviger. The days were spent in scientific work and in entertaining eminent scientists and other visitors. The resident party turned indoors before six o'clock, at which time the door was locked and no one allowed to enter. The Anopheles would appear outside as regularly as clockwork. They do not bite in the daytime. The windows were wide open all night, so that marsh air came in freely, but in spite of that, in spite of their being out constantly in the daytime, and getting soaked to the skin in the rainy season, no one of the party contracted malaria. The peasants of the Campagna and the inhabitants of Ostia were practically all down with it, and the picture of woe and misery.

A Case of Blackwater Fever in Trinidad.—R. C. Bennett reports a case of ordinary chronic intermittent malarial fever in which there was a sudden onset of urgent, dangerous hæmoglobinuric symptoms, in a region where blackwater fever had never been heard of before. No parasites were found in the blood. Many of the red cells were crenated and buckled. The patient had been taking much quinine. The author, however, does not believe that the condition was due to quinine, for he says that practical experience renders Koch's theory untenable. It would be more in keeping with the maximum amount of reasonable possibility to consider blackwater fever a "post-malarial condition"—occurring in cases that have been saturated with malaria—whose resisting-powers have been gradually lowered, and in whom an abnormal amount of malarial toxin has been accumulated and suddenly explodes, as it were, into acute hæmoglobinuric symptoms (rapid destruction of red blood corpuscles and loss of albumin).

Circumscribed Cutaneous Œdema.—A. B. Dalgetty describes an affection which is occasionally seen among tea-garden coolies in India. The patient comes to the dispensary complaining of stiffness and swelling in one hand, which has come on during the night. The dorsum of hand and wrist are found to be considerably swollen and to pit slightly on pressure, but there are no other symptoms. The patient cannot account for the condition. The author's patients were not noticeably anæmic, nor had they been suffering from malarial fever, nor from any constitutional

affection. The œdema disappears in from two to twenty days. Iodine ointment seems to aid absorption. The etiology of this affection is a complete puzzle.

The Etiology, Symptoms, Diagnosis, and Treatment of Round-Worm Infection.—By J. Preston Maxwell.

An Address on Some Problems of Tropical Medicine.—By Sir William Macgregor.

Anchylostomiasis in the Leeward Islands.—By H. A. Alford Nicholls.

Observations of Mosquitos.—By P. W. Bassett-Smith.

Russki Arkhiv Patologii, etc., No. 2, Vol. x., 1900.

Koumyss as a Therapeutic Agent—C. Fleuroff has during the past six years noted the following action of koumyss, or fermented mare's milk: (1) In anæmia, neurasthenia, and hysteria, amelioration of general condition and all symptoms; (2) in some cases of hepatic and renal colic, increase of the pain; (3) in diseases of heart and blood-vessels, negative results; (4) generalized tuberculosis, negative results; (5) in incipient and early phthisis, improvement of appetite, of digestive functions and of the general condition, increase of weight, diminution of cough, amount of sputum, fever, etc.; (6) treatment by koumyss should be long continued; (7) diseases in which it is contraindicated are: Atheroma of blood-vessels, heart diseases, abdominal plethora, rheumatism and gout, cerebral hyperæmia, the later stages of pulmonary phthisis, hæmoptysis, hepatic and renal colic.

Acquired Lesions of the Valves of the Pulmonary Artery.—M. Fisch reports a case of ulcerative endocarditis, localized on the valves of the pulmonary artery. The heart was increased in size, especially on the right. In the second left intercostal space, auscultation revealed systolic and diastolic murmurs of a rasping quality; at the apex there was merely a soft systolic murmur. The second aortic sound was slightly accentuated. The urine contained albumin. The temperature was high; a diaguosis was made of mitral insufficiency, and insufficiency and probably stenosis of the valves of the pulmonary artery. The author cites twelve cases of acquired lesions of the pulmonary artery found in literature, in addition to those mentioned by Barié in his work on insufficiency of the pulmonary artery.

The Pathogenesis of Acute Yellow Atrophy of the Liver.—N. T. Baïmakoff found in the liver of a patient who died from this disease diplococci which were situated among the red blood cells. They were stained blue by methylene blue, and were in groups of from five to ten, or twenty, or thirty. An aureole resembling a capsule was around them. They were found in every part of the organ. No success followed the attempt to cultivate diplococci taken from the blood during life, nor from blood taken after death from heart, liver, gall bladder, spleen, and kidneys. Diplococci may possibly be the cause of acute yellow atrophy, which is an infectious disease in which the liver shows more degeneration than do the other organs.

Spinal Affections in the New-Born and Nurslings with Hereditary Syphilis.—By R. Peters.

Chemical Examination of the Fluid in Milky Non-chyliform Ascites.—By D. Sherbatcheff.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE WAR HOSPITALS COMMISSION—TYPHOID AT BLOEMFONTEIN—SIR WALTER FOSTER—NATIONAL HOSPITAL DISPUTE—THE BRADSHAW LECTURE ON URINARY PIGMENTS—SIR MICHAEL FOSTER ON EXPERIMENT—PLAGUE—DEATH OF PROFESSOR HUGHES.

London, November 9, 1900.

The South African hospital commission concluded the taking of evidence on Monday. The last witness examined was Mrs. Richard Chamberlain, as the reporters officially style her, or Mrs. Dick Chamberlain, as she prefers to be called. She is generally known as a woman who seeks a certain sort of notoriety, and on this occasion has succeeded in advertising herself beyond her usual circle. Some of the reporters say she threw about twenty thousand words at the commission in less than two hours. One of the more sprightly, as if despairing of finding the gist of her talk, gives himself up to describe her dress, her face, her eyes, her lips, and so on. This may, perhaps, gratify her vanity but cannot conduce to confidence in her statements. "Not so fast, please, my dear madam; not so fast," cried the president from time to time, but he was unheeded. When direct questions were put to her she exclaimed pettishly, "You are doing what every one did in South Africa, trying to make things as awkward as you can. You are behaving not as if you were judges, but as if you were counsel for defence of the army doctors." To this reckless impertinence the learned judge contented himself with saying: "You are quite mistaken, but we want you to understand that this is the end of the inquiry. We have taken an enormous quantity of evidence, and what we want is not opinions, but facts, madam; facts, facts, facts!" But what were facts to a woman with a grievance and determined to vent her spite on the whole department which failed to appreciate her proffered help—from the heartless director-general down to the dressers and orderlies? She repeated her former statements that the hospitals were filthy and had nothing for use, that plenty of fresh milk could be had if the doctors were not too lazy to get it, that many of the doctors were drunken, and the drunkards sent home with the care of the invalids on the voyage. Asked for names, she seemed non-plussed. "Write them down," said the judge, "we will treat them in confidence." At length she wrote down one and said she had forgotten another, but they could ask Lord Lansdowne: "He'll tell you, you know; and as to another, he is such a very, very nice little man, I don't like to tell his name—you must take my word for it." Many more unsupported assertions were made, but the president's appeal for facts, not opinions, remained disregarded.

At length the president asked: "Do you really mean to tell us that you consider your opinion better than that of the trained army medical men?" To this, with all the assurance of ignorance, if not impertinence, she replied: "Why, of course; if not, what is the use of my being here?" Could feminine logic go further?

What may be the report of the commission it is not worth while to conjecture, as it will probably not be delayed longer than is necessary to collate and digest the voluminous evidence. Meantime, some journals are drawing attention to the folly of the War Office in keeping the medical corps below the necessities of the army. The corps was estimated to supply fifty thousand men with medical aid, and by March it had to attend to five times as many. As late as June, Surgeon-General Hamilton wrote: "For years the condition of short-handedness of the R.A.M.C. both in officers and men has been urged upon the War Office with but little effect, the view of the authorities being limited to 'drugs and doctors,' the former to be purchased, the latter hired, when necessity arose."

With regard to the epidemic of typhoid at the front there is in a certain quarter a disposition to blame the government for declining Sir Walter Foster's offer to take charge of the sanitary arrangements. It is even asserted by some that the education of the army surgeon is imperfect as to sanitary matters. This is disingenuous. Netley has been in the van on these matters ever since the late Professor Parkes taught there. The Royal Army Medical Corps knows more about military hygiene and the requirements of camps than do civilian doctors. Sir W. Foster's work at the British Medical Association and in Parliament affords no guarantee that he knows much about sanitation, and if he had gone to Africa he would probably have had to read up the subject in Parkes and other Netley teachers. Events have happened which the most distinguished army surgeons foresaw as likely, and Sir W. Foster should be glad he had not the responsibility of meeting them.

The dispute at the National Hospital for the Paralyzed and Epileptic has advanced another stage, and a most important one. On Saturday *The Times* published a letter signed by fifty-eight prominent members of the profession, headed by Lord Lister. The signatures are those obtained by submitting the letter to the two seniors on the acting staff of every London hospital having over one hundred beds, and also to those gentlemen who have been presidents of royal colleges. In order to add weight with the general public the signatures were also obtained of those who hold court appointments or who are knights or baronets. The letter expresses a firm conviction that the demand of the staff for representation on the board is perfectly reasonable, and one which in other hospitals has conduced to harmonious working and efficient administration.

Will the board give way? If not, will the governors meet and dismiss them, or let the hospital fall from the position described by this document as "more than national?"

Dr. Archibald E. Garrod delivered the Bradshaw lecture at the Royal College of Physicians on Tuesday. He took for his subject "The Urinary Pigments in their Pathological Aspects." It would not be possible to consider in a lecture all the colored substances met with in the urine, or even all those which may have more claim to the name "urinary pigments." The lecturer accordingly attempted to deal only with a small group which may be met with, if only in traces, in the urine of persons in normal health; urochrome, urobilin, hæmatoporphyrin, and urocrythrin constitute such a group, and Dr. Garrod confined

his attention to them and gave as full an account of them as he could in the time at his disposal. The most abundant is urochrome, to which probably the yellow color of normal urine is due. Urobilin occurs only in small quantity in normal urine, and that in the form of chromogen. It does not influence the color, but in some morbid states it appears in much larger amounts, and to a great extent as formed pigment, when it has a distinct effect on the color and can be shown by the spectroscope without the addition of any reagent. Hæmatoporphyrin is found only in traces in normal urine, but is often increased in disease, though very rarely enough to affect the color. Uroerythrin is perhaps not a strictly normal constituent, but it may appear in merely trivial deviations from perfect health. It is often abundant in morbid urines, and is the coloring-matter of pink urate sediments.

Dr. Garrod put forward no extravagant estimate of the importance of his subject. Such as it possesses, he said, is derived from the light it throws upon processes which are at work in the body both in health and in disease, especially upon those which are concerned with the disposal of effete blood pigment. Yet there are cases in which examination of the urinary pigments may afford information of diagnostic value and which may not be easily obtained in other ways. He therefore claimed that their study is not merely of academic interest. With this claim he concluded a very able review of this branch of chemical pathology.

Sir Michael Foster distributed the prizes at St. George's Hospital on Tuesday, on which occasion he gave an address defending experiment, and urged that every touch of the surgeon, every counsel of the physician, was in its very nature an experiment. An element of uncertainty was always present, although sometimes it might be almost insignificant. The hospitals ought all to be provided with thoroughly equipped clinical laboratories.

The last plague patient in Glasgow has been discharged from the hospitals. No fresh cases have occurred for six weeks, and unless a recurrence takes place the city and port will be declared free of the disease on the 13th. The epidemic has extended over three months, the cases numbering twenty-eight, the deaths only eight. Altogether Glasgow is greatly to be congratulated. A fatal case is reported from Bremen, and elsewhere suspicious cases are under observation.

Another victim to South Africa from our ranks—Professor A. W. Hughes, who went out with the Welsh hospital, died on Saturday, aged thirty-eight years. He carried through his work at the hospital and returned, but developed typhoid on the voyage, and a fortnight after reaching home the end came. He had the chair of anatomy in Cardiff University College for about four years, and then took that at King's College on the resignation of Professor Curnow. Here he won golden opinions and became dean of the school. He seems to have inspired esteem and affection in all his positions, and most remarkably in South Africa, where all ranks who met him lament his loss.

MOSQUITOS AND YELLOW FEVER.

To the Editor of the Medical Record.

Sir: It is with mixed feelings—of deepest regret at the untimely and almost heroic death of Dr. Lazear, of admiration for Dr. Carroll's self-devotion to the cause of science, and of satisfaction, seeing that my own experiments are being repeated and confirmed—that I have just read the preliminary notes of the United States Yellow-Fever Commission.

I am not in a position to express an opinion as to the importance of the experiments therein described, but I do feel bound to rectify some erroneous statements in which I am personally concerned, specially with regard to an experiment which I had commenced several weeks before I was honored by the visit of Drs. Lazear and Carroll. I had in my possession a small bowl in which several generations of mosquitos had been bred, and upon the sides, a little above the level of the water, there were numerous ova laid in the peculiar manner which the Culex mosquito so often adopts, namely, forming a ring all around the bowl, above the water. It occurred to me that, if mosquitos developed from the eggs of a contaminated mother are capable themselves of transmitting yellow fever, it would be important to determine how long the dry ova might retain the faculty of hatching. I, therefore, emptied the bowl of all the water and live wrigglers which it contained, leaving only the ova which adhered to the sides of the bowl. After having allowed the ova and the sediment to dry in the open air, I placed the bowl inside of a small, shallow kettle, into which it fitted nicely, and by fastening the lid on the kettle made sure that no other ova would be deposited. This was done on the 29th of June, so that when the United States commission called on me the dry ova had been kept isolated over one month. Dr. Lazear having expressed a wish to obtain some of my mosquitos I spoke to him about the experiment which I had in progress, and proposed that he should undertake to bring it to a close. As the means of procuring a good supply of those insects, I would hand over to him the bowl enclosed in its kettle, he might pour into it some water (preferably rain-water) on reaching his laboratory, and would kindly let me know whether my experiment had succeeded. Dr. Lazear eagerly accepted my proposal and carried off with him the whole contrivance. That the experiment had given a positive result I subsequently heard from Dr. Agramonte, and the fact is confirmed in Dr. Read's preliminary notes, but (in consequence, no doubt, of Dr. Lazear's death) the conditions of the experiment are entirely distorted and its object is completely ignored.

There is another statement which I beg emphatically to contradict, viz., "that I have not, as yet, succeeded in reproducing a well-marked attack of yellow fever, attended with albumin and jaundice." I assert most distinctly that I obtained every one of those symptoms in my very first experiment with a contaminated mosquito in July, 1881, that the patient had also bleeding from the gums, and that during the four years which the patient subsequently spent in Havana he never had another attack of yellow fever. In my subsequent experiments the conditions were such that I was in honor bound not to run the risk of developing an attack which might endanger life.

Finally, I should like to know whether the entomologist who identified my mosquito as the "Culex fasciatus" had taken into consideration the very remarkable manner in which the "Culex mosquito" lays its ova; for unless both present that important peculiarity their identity must be considered very doubtful.

Charles Finlay, M.D.
110 Aguacate Street, Havana, November 7, 1900.

A RACE-TRACK HOSPITAL.

To the Editor of the Medical Record.

Sir: Having to-day witnessed what to me, and as far as I can learn to others, is an entirely new departure, I think it wise that I should make it known; hence the present letter.

While in no way a "racing man," I received a courteous invitation from Mr. Thomas Williams, the president of the Pacific Jockey Club, to visit the course. While there we were invited to visit the hospital. I must confess that I was somewhat surprised, and that I expected to find a dirty room, poorly equipped, and redolent with odors which one is accustomed to find about stables; in fact, the very existence of an hospital in connection with a race course was novel.

What I really did find astounded me—a clean modern operating-room with sterilizers, instruments, operating-table, and such apparatus as one would expect to have in a well-conducted cottage hospital; a ward with beds completely equipped; a dispensary well stocked with drugs, and a storeroom containing splints, crutches, and surgical dressings.

On inquiry I was informed that a regular surgeon is employed, whose duty is to be present during the racing and give his undivided attention to any one who might be injured or ill.

This goes to show that there are thoughtful and kindly men in all walks of life, and that a too ready tendency to condemn the owners of large corporations, on account of their lack of interest in the physical welfare of their employees, is liable to lead us into error.

During the past decade it has been my experience to have treated quite a considerable number of jockeys who had been seriously injured, and whose condition was made infinitely worse by crude and imperfect primary treatment, followed by poor and unskilful transportation over long distances. Had hospitals existed such as that described above, there would have been a great saving to life and limb, for primary treatment has all to do with the subsequent course of the case, as any one who has had an army experience, or a large surgical practice in civil life must know.

I trust that this letter may be read by your subscribers, who may in turn be able to suggest a similar innovation to the owners of like institutions throughout the country. Jockeys are mostly lads of tender years, and it is indeed a kindly act to provide for their care when injured in the fulfilment of their work.

I might add that this corporation not only looks after the physical welfare of its employees, but goes a step further and interests itself in their mental advancement, which is evidenced by a night school with a staff of instructors.

George Franklin Shiels, M.D., C.M., F.R.C.S.E., etc.,
Professor of Surgery, Medical Department, University of California; Surgeon, San Francisco Polyclinic.
San Francisco, November 9, 1900.

Society Reports.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Proceedings of the Thirteenth Annual Meeting, Held in Atlanta, Georgia, November 13, 14, and 15, 1900.

The association met in the ballroom of the Kimball Hotel, under the presidency of Dr. A. M. Cartledge, of Louisville, Ky.

Governor Candler, of Georgia, delivered an eloquent address of welcome, which was responded to by President Cartledge.

Medullary Narcosis.—Dr. W. L. Rodman, of Philadelphia, read a paper in which he discussed the points of most practical value in connection with this method of anæsthesia. Would it displace ether and chloroform in operations below the diaphragm? In answering this question the author said that no one, however optimistic he might be concerning this new method of producing analgesia, would think of abandoning ether and chloroform. These trusted agents would continue to enjoy the confidence of the profession, and the Corning method would be held in reserve for certain cases in which there was seemingly a clear contraindication to chloroform or ether. Medullary narcosis should be induced in subjects suffering from bronchial, pulmonary, and renal diseases; in patients affected with fatty or dilated heart and cardiac diseases in general. It might also be induced in old people in whom the shock of general anæsthesia was oftentimes great, and from its action in one case the author believed it to be safer than chloroform or ether in drunkards.

The place where the spinal canal was entered was of some importance. Tuffier, Murphy, Matas, and others, who had had the largest experience with the method, preferred the fourth lumbar space. In the opinion of the author any of the lumbar spaces could be punctured with safety. The fifth interspace between the last lumbar and the first sacral vertebra was in some respects the easiest route.

The author considered the primary dangers of simple puncture without injection. It had not been shown that secondary changes, either inflammatory or degenerative, had taken place in either membranes or cord, leading to chronic disease. Theoretically, one might fear some form of sclerosis. Simple puncture of the spinal cord, if aseptically done, was unlikely to be followed by serious changes in the cord or its membranes. If to simple puncture was added the injection of some chemical substance by which anæsthesia was produced, a new element of danger was undoubtedly incurred. Therefore the choice of a local anæsthetic became of paramount importance. Cocaine was difficult to sterilize, as it could not be boiled without impairing its anæsthetic properties. Raised to a temperature above 180° F., it was decomposed into ecgonin, and became comparatively inert. Some had found it practical to boil cocaine and then to introduce it into the spinal canal, without impairing its anæsthetic properties. By raising it to a temperature of 180° F., and repeating this twice, thrice, even six times, as recommended by Tuffier, it should be sterile, and therefore safe, and yet a dose of ℥xxx. of a two-per-cent. solution of cocaine was too large, in the judgment of the essayist. He recommended half of this amount. A small dose of a two-per-cent. solution was better than a larger one in greater dilution. He had reduced the number of minims of a two-per-cent. solution each time he had practised the method, and thus far he had not failed to obtain complete analgesia. In his first case he had injected ℥xviii., in the second ℥xv., and in a third ℥xiii., and hoped still further to reduce the amount to ℥x. We should aim to get complete anæsthesia with the smallest amount of the drug. The primary and secondary effects of the injection of cocaine into the spinal canal were those of a simple puncture exaggerated. Shock was increased; headache, restlessness, delirium, and other symptoms were necessarily more pronounced. The speaker referred to the method of injection, and to the length, size, shape, and composition of the needle. He recommended an irido-platinum needle. He described the technique of the method, which was similar in many respects to that outlined by Tuffier and others. He blindfolded the patient and filled the ears with cotton to avoid psychical pain.

Dr. Lewis S. McMurtry, of Louisville, predicted that medullary narcosis would not take the place of the established methods of anæsthesia, and said that its field of usefulness would be restricted to the class of cases outlined by the essayist.

Dr. Willis G. Macdonald, of Albany, mentioned the case of a man forty-two years of age, who had suffered from hemorrhoids and fissure of the rectum. The patient had always been a hard drinker. Granular and hyaline casts were found in the urine, as was a small amount of albumin. The patient likewise had a fatty, dilated heart. The speaker had injected ℥xviii. of a two-per-cent. solution of cocaine in the subdural space, and when he was about to begin the operation the patient had become cyanotic; a profuse, cold perspiration had begun, so that it had become necessary to give the patient gr. $\frac{1}{60}$ of strychnine, and gr. $\frac{1}{30}$ of nitroglycerin, when the respirations had run up to sixty or eighty. No pulse had been discernible at the wrist. The pupils had been dilated; the patient had become unconscious. More than two hours had elapsed before the speaker felt safe as to the condition of his patient. The man had suffered severely from headache and projectile vomiting during the entire afternoon, and had had two or three involuntary bowel movements. Two days later Dr. Macdonald had administered nitrous oxide and ether, and operated on the hemorrhoids. The patient recovered. During the summer, while on a visit to Europe, he had seen a similar experience in the practice of Professor Kocher.

Dr. A. M. Cartledge, of Louisville, said his experience was limited to eight cases in which he had used this method of anæsthesia, the results having been satisfactory. In two patients severe headache, which soon disappeared, had followed its use. Analgesia was complete in all cases. In one case he had operated for the removal of pus tubes; in a second he had removed an enormous fibroid tumor of the uterus, and in a third a large intraligamentous cyst. Some of the patients had come off the table in much better condition than if chloroform or ether had been employed.

Dr. E. P. Mallett, of New York City, detailed a case of retroverted adherent uterus in the practice of Dr. Grandin, for which an abdominal section had been made. At first, much difficulty had been experienced in finding the subdural space or medullary canal, so that the patient complained of intense pain. It had been finally found, cerebrospinal fluid had escaped, and cocaine had been injected, the analgesia having been apparently complete in eighteen minutes. So much pain had been experienced while the operator was making the incision, that it had become necessary to administer a few whiffs of chloroform to complete the operation. He also detailed another case of posterior vaginal section for pelvic abscess. In this case the needle had been introduced more quickly and with better success; but slight vomiting as well as other

symptoms had occurred. The subsequent course of both patients had been uneventful.

Dr. Beverly Macmonagle, of San Francisco, spoke of two cases which he had seen in the practice of Dr. Barbat, of San Francisco, in which medullary narcosis had been used successfully. However, he had been told by both patients afterward, and by Dr. Barbat, that they had suffered a good deal from vomiting after they had been taken to their rooms, but had subsequently recovered without any marked incidents.

Dr. Seneca D. Powell, of New York City, did not think the time was ripe for this method to be presented to the profession at large. The results should be worked out by experienced hands. He pointed out the dangers of cocaine, referred to the susceptibility of some patients to the drug, and cited two cases that had occurred in his own practice in which he had used cocaine, saying that both patients had come very near dying from its effects.

Dr. J. W. Long, of Salisbury, N. C., referred to a discussion that took place before the Asheville meeting of the Mississippi Valley Medical Association, the consensus of opinion having been that the method was attended with danger except in the hands of experts.

Dr. Rodman, in closing the discussion, said he had used medullary narcosis on a man forty-five years of age, who had a bursa in the popliteal space, with marked kidney trouble. The result was satisfactory in every respect. The next case was one of advanced kidney trouble in which he had done a suprapubic cystotomy, with satisfactory result. He would use medullary narcosis in cases in which there were positive contraindications to ether or chloroform. The surgeon should always obtain the consent of the patient before using the method, on account of any medico-legal complications that might subsequently arise.

The Removal of Pelvic Inflammatory Masses by the Abdomen after Bisection of the Uterus.—A paper on this subject was read by Dr. Howard A. Kelly, of Baltimore. Recently the author had pointed out the great advantages which accrued from bisection of the myomatous uterus in an abdominal enucleation in certain complicated cases. In previous contributions he had described his method of enucleation by a continuous transverse incision from left to right, or from right to left. He now called attention to the great value of a somewhat similar procedure in certain cases of pelvic inflammatory diseases. The steps of the operation were these: If the uterus was buried out of view, the bladder was first separated from the rectum and the fundus found. Then, if there were any large abscesses, adherent cysts, or hæmatomata, they were evacuated by aspiration or by puncture. The rest of the abdominal cavity was then well packed off from the pelvis. The right and left cornua uteri were each seized by a pair of stout Museaux forceps and lifted up, the uterus was incised in the median line in an antero-posterior direction, and as the uterus was bisected its cornua were pulled up and drawn apart. With a third pair of forceps the uterus was grasped on one side of its cut surface, as far down in the angle as possible, including both anterior and posterior walls. The Museaux forceps of the same side was then released and used for grasping the corresponding point on the opposite cut surface, when the remaining Museaux forceps was removed. In this way two forceps were in constant use at the lowest point. He commonly applied them three or four times in all. As the uterus was pulled up and the halves became everted, it was bisected farther down into the cervix. If the operator preferred to do a panhysterectomy, the bisection was carried all the way down into the vagina. The uterine canal must be followed in the bisection, if necessary using a grooved director to keep it in view. The Museaux forceps were then made to grasp the uterus well down in the cervical portion. If it was to be a supravaginal amputation the cervix was bisected on one side. As soon as it was divided and the uterine and vaginal ends began to pull apart, the under surface of the uterine end was caught with a pair of forceps and pulled up, and the uterine vessels, which could then be plainly seen, were clamped or tied. As the uterus was pulled still farther up, the round ligament was exposed and clamped, then finally a clamp was applied between the cornu of the bisected uterus and the tubo-ovarian mass, and one-half of the uterus was removed. The opposite half of the uterus was also taken away in the same manner. The pelvis then contained nothing but rectum and bladder, with right and left tubo-ovarian masses plastered to the sides of the pelvis and the broad ligaments, affording abundant room for investigation of their attachments, as well as for deliberate and skilful dissection. The wide exposure of the cellular area over the inferior median and anterior surfaces of the masses offered the best possible avenue for beginning their detachment and enucleation. The operator would sometimes find, on completing the bisection of the uterus, that he could just as well take out each tube and ovary together with its corresponding half of the uterus, reserving for the still more difficult cases, or for a most difficult side, the separate enucleation of the tube and ovary after removal of the uterus. The operation just described was not recommended to a beginner in surgery. The surgeon who undertook it must be calm, deliberate, and must bear in mind at each step the anatomical relations of the structures. He had had abundant opportunity to demonstrate the practical value of this method of treatment in his clinic this year. The advantages of a bisection and enucleation of the uterus as a preliminary to a complete enucleation of uterine tubes and ovaries for pelvic inflammatory and other diseases by the abdominal route were briefly recapitulated: 1. Additional space for handling adherent adnexa was afforded by the removal of the uterus. 2. Great increase in facility for dealing with intestinal complications was secured. 3. There was better access by new avenues from below and in front to adherent lateral structures. 4. Elevation of structures to or above the pelvic brim, or even out into the abdomen, brought them within easy reach of manipulation and dissection. 5. Some advantage was gained in approaching both uterine vessels by cutting from the cervix out toward the broad ligament over approaching one of them in the continuous transverse incision. In general, the time of the operation was shortened; its steps were conducted with greater precision; surrounding structures were far less liable to be injured. In this way there were fewer troubles and sequelæ, and the mortality was lessened.

Dr. Willis G. Macdonald said his experience in bisection of the uterus, as an operative procedure, had been very largely associated with tumors of the uterus deeply situated in the pelvis, attended with great tension upon both broad ligaments. In dealing with fibroids of the uterus it had been his custom to follow the method improved by Dr. Kelly, and the only objection to the operation lay in a certain class of cases in which the tumor was deeply situated in the lower segment of the uterus, or extended to one side or the other in the broad ligament, or was associated with microcystic and adherent ovaries, so that when the operator lifted the tumor out of the abdomen to begin preliminary ligation on one side or the other, he caused considerable tension upon the broad ligament, and when the ligature was placed upon one or the other ovarian artery there was more or less danger of its giving way when the tension was released. He

had seen many cases in his own practice, and that of other surgeons, in which this accident had occurred.

Dr. J. Wesley Bovée, of Washington, D. C., said he had occasionally removed the body of the uterus previous to the removal of the appendages in pus cases, also in fibroid tumors of the uterus, but in some instances he had followed the method of Kelly, after he had read his paper before the Washington meeting of the association on the removal of fibroids of the uterus by going down on one side, as he had described it, and going up on the other. He had recently modified this plan in dealing with pus cases; namely, he cut off the tube and ovarian ligaments from the uterus on one side, clamped the round ligament, went down to the cervix, clamped the uterine artery, cut through the cervix and uterine artery on the other side, went up and removed the appendage on the other side with the uterus.

Dr. W. E. B. Davis, of Birmingham, Ala., expressed the opinion that the method outlined by Kelly would be of great assistance in the severe cases of inflammatory pelvic disease. The removal of the uterus for inflammatory disease had its origin in the difficulties which beset French surgeons in removing the appendages by the vaginal method, so that it became necessary for them to remove the uterus in order to have a route by which they could reach the adnexa. Dr. Kelly, therefore, had accomplished by operating from above what French surgeons had so frequently done through the vagina.

Dr. Beverly Macmonagle said he had seen Dr. Kelly operate on two cases by the method he had described, with very satisfactory results.

Dr. George J. Engelmann, of Boston, considered the method a step in advance, and said it was really amazing that no one had thought of doing this work by the abdomen before it had been done by the vaginal route.

Report of a Case of Osteofibroma of the Uterus.—Dr. George Ben Johnston, of Richmond, Va., narrated this case. The patient, Mrs. S——, aged thirty years, was the mother of three children, the youngest being three years old. About two years after the birth of the youngest child she had noticed an enlargement of the abdomen, and at times experienced difficulty in voiding her urine. She believed herself pregnant, but on account of the continuance of her menses and increasing difficulty of micturition, she consulted her physician, and an examination of the genital organs was made. This examination disclosed a tumor which filled the pelvic cavity, growing from the posterior wall of the uterus, and so displacing the uterus forward that it pressed upon the bladder. Six months later she missed her menstrual period, and by this time her size had greatly increased and her ability to void urine normally was almost lost. About the middle of March, 1900, after being all day upon her feet, a severe hemorrhage occurred, and the next day she passed a fœtus of six or eight weeks' development. Hemorrhage was promptly checked, but her size did not reduce and the pressure symptoms continued. He operated upon her April 10, 1900. Bimanual examination, made before the operation, revealed two tumors, one a large fibromyoma, situated posteriorly and to the right of the uterus; the other a small tumor, anterior and to the left. Complete hysterectomy was performed. The smaller tumor was found to be intramural and situated at the junction of the body and the neck. On liberation the macroscopical examination showed a tumor about the size of a small orange, and of firm consistence. Held between the thumb and fingers, it gave the sensation that was produced by pressing a hard-boiled egg, the shell of which had been broken. Plates, apparently of bone, surrounded the surface, and on opening it a substance resembling medullary tissue was found. This was unfortunately lost, so that no subsequent histological study of it could be made. Attached to the lower part of the osseous tumor was a small fleshy mass, which contained a body about an inch in length resembling a heart in shape. On opening the uterus a recent placental site was found near the uterine opening of the right Fallopian tube. Microscopical examination of the tumor developed the following characteristics: It was covered by a fibrous capsule, scattered through which were plates, rounded nodules, and irregular jagged masses, which, when decalcified, proved to be dense laminæ of bone, with their included bone cells. These bone cells were not so numerous as in normal bone, while the lamellæ were irregular in their arrangement, although showing a general tendency to lie parallel to frequent openings in the bony tissue. These openings were larger and more irregular in shape than the Haversian canals of normal compact bone, and were filled with a connective-tissue stroma supporting blood-vessels. The softer parts of the tumor were found to be composed of involuntary muscle fibres, arranged in groups and bundles, which were supported by loose connective tissue. Dense masses of fibrous tissue occurred throughout the tumor, independently of the muscular tissue. Microscopical examination of the tumor verified the diagnosis made macroscopically — osteofibroma. The patient recovered.

Dr. Howard A. Kelly said he would be loath to accept diagnoses that had been made twenty-five years ago in regard to tumors of this kind, when the difference between calcified tumors and teratomata was not clearly understood, and even pathology itself was in a vague condition. Of five hundred and sixty-one myomectomies, he had met with twenty-seven calcified myomata.

Dr. J. Wesley Bovée mentioned three cases that had come under his observation. In one the tumor was removed through the vagina, it being a submucous fibroid. The tumor pressed down the cervix, so that it required only slight slitting of the latter to remove it. Around the base of it he had found considerable bony structure in the body of the uterus near the fundus. Two other interesting cases were detailed.

Appendicitis in the Female.—A paper on this subject was presented by Dr. F. W. McRae, of Atlanta, Ga. At the outset, the author referred to an exhaustive article by Edebohls as to the relative frequency of appendicitis in the two sexes; also to the work of Einhorn, who had found in eighteen thousand successive autopsies perforating appendicitis in fifty-five per cent. of males, and fifty-seven per cent. of females. Robinson, in one hundred and twenty-eight autopsies, found evidences of past peritonitis in or about the appendix in sixty-eight per cent. of females, and fifty-six per cent. of male bodies. Clinically, Edebohls found that four per cent. of all women had appendicitis. On the contrary, Deaver believed that eighty per cent. of all cases occurred in males. Of fifteen hundred and seventy-seven cases of appendicitis collected from the annual reports of the city hospitals of Berlin, nine hundred and forty-nine were males, and six hundred and twenty-eight females. The speaker quoted eminent authorities to show the divergence of opinion as to the relative frequency of the disease in the male and in the female. In practically all of the cases that had come under his observation in females, mistakes in diagnosis had been made either by himself or by the attending physician. Almost all of the attacks had occurred at or about the menstrual term, and most of them had been diagnosticated "inflammation of the tube or ovary." In two cases of his own series the appendix and the right

tube and ovary were involved; in two others the appendicular trouble was complicated with dieased kidneys. Two patients suffered with recurrent appendicitis, and attacks of renal colic before or after operation for the removal of their appendices. He had records of forty-nine cases of appendicitis seen within the last sixteen months, twenty-nine of them being in males, and twenty in females. During this period he had operated on seventeen males and fourteen females. The author then detailed thirteen cases. Of this number Cases VIII. and XIII. were the most interesting, which we give herewith.

Case VIII.—Mrs. W. C. T——. First operation, October, 1899, for ruptured tubal pregnancy. Recovery with persistent fistula where drainage had been left. Second operation, May 10th. The fistulous tract was dissected out; a cyst of the broad ligament removed, together with a chronically inflamed and very much enlarged appendix, surrounded by dense adhesions and adherent to the broad-ligament cyst. The diagnosis at the time of the first operation was "acute appendicitis, with abscess," and the recovery from the first operation was tedious. The patient, who was profoundly septic at the time of the operation, recovered slowly, with characteristic septic temperature and pulse for several weeks. Whether appendicitis existed at this time or not, he was unable to say. Recovery from the second operation was tedious, but uneventful and complete.

Case XIII.—Miss B. C——, aged twenty-one years; seen in consultation with Dr. Summerfield. There was a history, extending over a period of about two years, of indefinite abdominal pain involving the whole right side from the liver to the pelvis. No definite diagnosis was made, and an exploratory operation was advised. Operation, September 7, 1899. The appendix was chronically inflamed, adhesions extending from the cæcum to the liver upward and down into the pelvis, involving the right tube and ovary. The right ovary was as large as a lemon, and the tube thickened and distended. The appendix, tube, and ovary were removed. The patient made a tedious recovery, developing a left saphenous phlebitis about ten days after the operation.

The cases were reported to emphasize the difficulties attending diagnosis. In several of them systematic treatment directed to the genitalia had been carried on without giving any benefit whatever, while the removal of the appendix effected a cure. In others, the ovaries and tubes had been removed, and still the symptoms persisted until relieved by appendectomy. The author was convinced that the great disparity in the statistics as to the relative frequency of appendicitis in the male and female was due, in a great measure, to mistakes in diagnosis. It was much more difficult to make a diagnosis of appendicitis in the female than it was in the male. Sufficient stress had not been laid upon the fact that appendicitis in women usually occurred at or about the menstrual period.

Dr. J. B. S. Holmes, of Atlanta, detailed three interesting cases of appendicitis in females, which illustrated forcibly the necessity of always examining the appendix when the abdomen of a woman was opened for any cause.

Dr. Hal C. Wyman, of Detroit, cited a case of extra-uterine pregnancy in which he removed a fœtus that had apparently died at about the end of the seventh month of pregnancy. The operation was done thirteen months after the appearance of the first symptoms of pregnancy. The appendix was found intimately blended with the fimbriæ of the right tube. The left tube had also suffered some disease, so that he doubted its perviousness. It was not removed because there was no particular indication for its removal. The right Fallopian tube, however, was involved with the appendix by dense inflammatory adhesions, and it occurred to him that in consequence of that blending the impregnated ovum had escaped. With this experience we might justly charge some of the cases of extra-uterine pregnancy possibly to adhesions between the fimbriæ and the appendix. The appendix was three and a half inches long; it had a number of scars; it was much hardened at its end, and at the point where union with the fimbriæ had occurred.

Dr. Howard A. Kelly stated that for four years past he had made it a rule at the Johns Hopkins Hospital to have the exact condition of the appendix stated on a slip. During this period he had removed one hundred and fifty appendices. Of this number sixty were involved in pelvic inflammatory disease. He had found the appendix adherent to myomata in twelve; adherent to ovarian tumors in nine. He had found carcinoma of the appendix secondary to ovarian carcinoma without any traceable macroscopical relation in one case, and primary carcinoma in one other case. He had found tuberculosis of the appendix secondary to tuberculosis in the tubes and ovaries in three cases; in the remainder of the cases calculi, cystic disease, and uncomplicated appendicitis. If, in an abdomen, opened for any pathological condition, the incision was sufficiently large, he would examine the appendix.

Dr. Lewis S. McMurtry mentioned a case in which he had enucleated an ovarian cyst in a woman of thirty years. She had had a typical acute perforative appendicitis, followed by septic symptoms, which was quite limited in the area of peritoneal involvement. When the abdomen was opened, it was found that the appendix, instead of perforating the general peritoneal cavity, pierced the ovarian cyst, in that manner limiting the infection to the ovarian cyst and saving the life of the patient.

Dr. Willis F. Westmoreland, of Atlanta, spoke of the practicability of stitching the kidney back through the same incision after the manner described by Dr. McRae in one of his cases.

Dr. William. P. Nicolson, of Atlanta, called attention to the coincidence of disease of the appendix and uterine adnexa, and cited cases in which symptoms for years had been ascribed to uterine or ovarian trouble, but operation had disclosed the fact that the appendix was solely at fault.

Dr. George Ben Johnston expressed the conviction that chronic appendicitis was quite as frequent in the female as in the male. He believed, however, that fewer cases of the fulminating form of the disease were seen in the female than in the male. He had observed numerous cases of chronic appendicitis associated with movable kidney in females, and it was sometimes difficult to determine which was the cause of distress for which the patient consulted a surgeon—the diseased appendix or movable kidney, or both. The coexistence of the two conditions was so frequent in his practice that oftentimes he kept patients under observation for days, perhaps weeks, to determine which was the more distressing condition.

Drainage in Abdominal Surgery.—The author of this paper, Dr. J. W. Long, of Salisbury, N. C., said that the chief purposes for which drainage was employed were to drain away existing septic material; to afford an exit for the sepsis when the operator feared he had possibly infected his patient; to provoke adhesions and thereby wall off weak spots from the remainder of the abdominal contents; to keep the peritoneal cavity free of blood and other fluids; to allow of a more certain knowledge of the conditions present in the abdomen. Gauze drains were sometimes employed as tampons to control hemorrhage.

These features of drainage were discussed in the order given. After referring to the work of Wegner, in 1877, and that of Muscatello, in 1895, and others, regarding the histology and physiology of the peritoneum, the author passed on to the consideration of objections to drainage, and these were enumerated as follows: 1. Dainage was deceptive. 2. Cases not drained did better. 3. Drainage was neither scientific nor workmanlike. The last statement was made with an apology and due deference to those distinguished gentlemen who drained most of their cases.

Dr. Manning Simons, of Charleston, S. C., agreed in the main with the observations of the essayist, but said there were some surgeons who would not admit that draining in suppurative cases was an evidence that something had been left which ought to have been removed, or that the surgeon had done something that he ought not to have done. He apprehended that there were many cases in which suppuration was not confined to the tubes, but had diffused itself more or less over the pelvic and abdominal cavities. The surgeon's conscience would scarcely, in such a case, prompt him to close up all avenues for the escape of reaccumulated fluid from the cavity. Drainage was applicable to such cases.

Dr. Howard A. Kelly believed that there was a tendency on part of the profession to drain entirely too many cases. Of his first one hundred cases, eleven years ago, he had drained in over eighty per cent. Of his last one hundred cases, he had drained in about one or two per cent. He would drain cases of localized sepsis, when he could not remove the entire septic area.

Dr. W. E. B. Davis referred to drainage in general septic peritonitis, and said it was impossible to lay down any fixed or definite plan of treatment because results were uniformly fatal. Reports in the past showed the percentage of recoveries to have been small. Much good could be accomplished by first using peroxide of hydrogen in the abdomen in this class of cases, and following it with infusion of decinormal salt solution, injecting, say, a quart under the skin every three hours. This accomplished even more than multiple drainage in cases of general septic peritonitis.

Dr. Beverly Macmonagle called attention to drainage in connection with surgery of the gall bladder and gall ducts. When the gall bladder was opened, it was absolutely essential to drain it. In all cases in which he had operated on the gall bladder, he had found it in such a condition that it was necessary to drain the gall bladder itself. In so doing it was almost impossible to drain it in such a way that a certain amount of fluid would not escape into the peritoneal cavity, hence the necessity of using a small drain of gauze in the peritoneal cavity itself.

Atresia of the Vagina.—Dr. George H. Noble, of Atlanta, described a flap operation for the relief of this condition, saying that he had operated successfully in several cases by the plan he had outlined.

Recent Technical Improvements in the Surgery of the Stomach for Carcinoma.—A paper on this subject was read by Dr. Willis G. Macdonald, of Albany, N. Y. Reference was made to the early history of operations for the relief of this disease. The technique employed by Billroth in his first pylorectomy was the technique of operations done by most surgeons for a number of years, with very slight modifications. This earlier operation presented many technical difficulties in its performance. The matter of the adjustment of the resected stomach and the duodenum at the completion of the operation was frequently defective. Secondary perforation at the line of suture with subsequent peritonitis had been a frequent cause of death associated with this earlier form of operation. Before giving a more accurate description of the preferable forms of surgical intervention in carcinoma of the stomach, the author considered the limitations of early and late exploratory abdominal section in the treatment of this condition.

Any one or a combination of the following symptoms was a sufficient indication for operation: 1. A chronic gastritis which was progressive in character under proper dietetic, medicinal, and physical treatment. 2. A loss of gastric motility. 3. Progressive diminution of gastric peristalsis. 4. A diminution of free hydrochloric acid, progressive in character. 5. Emaciation of the patient under forced diet. 6. Reduction of the hæmoglobin in the blood, progressive to sixty-five per cent. or under, and a moderate leucocytosis. The widest extirpation was demanded in carcinoma of the stomach.

The author called attention to the careful investigations of Cunec and Most with relation to the distributions of the lymphatics and lymph nodes as associated with carcinoma of the stomach. All surgery for carcinoma involved the removal, as far as was compatible with adjacent anatomical structures, of lymph nodes. In a complete pylorectomy, it was desirable to remove the lymphatics along both curvatures of the stomach, as well as those lying behind the pylorus. As a rule, the duodenum was not extensively involved in pyloric carcinoma, although a few observers had found infiltration of Brunner's glands in the upper portion of the duodenum. There was little justification for the total extirpation of the stomach in the majority of cases, and the probability of cure would not be greater than surgical resection. The old rule of cutting one centimetre beyond all evidences of carcinomatous infiltration was not wide enough. Personally, the author felt that the line of excision in the stomach should be at least three centimetres from the border of the last palpable infiltration, and in the duodenum at least two centimetres from the most dependent portion of the growth. The recently devised clamps of Kocher were presented for inspection, also diagrams showing their mode of application. By the application of these clamps to the stomach and duodenum, with a little care, all dangers of sepsis from the stomach and duodenum were avoided, and the rapidity with which a pylorus might be resected was greatly increased. Very little time was required to close the ends of the stomach and duodenum with a running catgut suture involving all the coats. This again was invaginated within the stomach and the calibre of the duodenum, and the stump buried by rows of Lembert sutures. The manner of performing the subsequent gastro-enterotomy lay largely with the preferences of the surgeon doing the operation. The speaker's earlier gastro-enterotomies had been done by the Woelfler method of attaching the jejunum to the anterior wall of the stomach. It appeared to him that the two fatal cases in which he applied that method were due to regurgitation of bile into the stomach and persistent vomiting following operation. Some two years ago he began employing von Hacker's method of attaching the jejunum to the posterior gastric wall with a reanastomosis between the duodenum and the jejunum. The results of this method of operation had been most satisfactory. During the past year he had employed it eight times, with seven recoveries. For the most part, the anastomosis between the jejunum and stomach had been made by the suture method, although a number of surgeons had been quite as successful in the employment of the Murphy button. For the secondary anastomosis the author had uniformly used a Murphy button of moderate size. The anastomosis by this method requires very little time for its performance and could be readily completed in five minutes When an operation had been carried out by this method

to its completion, the following advantages were claimed for it: 1. Freedom from contamination of the wound by stomach contents. 2. Accessibility of the neighboring lymphatic nodes for extirpation. 3. No subsequent danger from suture perforation. 4. Freedom from loss of blood. 5. The great saving of time required for the operation.

Lateral anastomosis could be readily accomplished by a variety of methods, including the button. Practical experience had shown through the more recent statistics of Mikulicz, Maydl, Kocher, and others that an operation of this form presented far less immediate dangers to the patient than did the older method of Billroth. The immediate mortality for the operation of pylorectomy was an interesting study. Ewald condemned the operation because of its great mortality, seventy-three per cent., and until 1888 the mortality had been somewhere in the neighborhood of sixty per cent. The mortality of Billroth was forty-five per cent., of Mikulicz thirty per cent., of Krönlein twenty-five per cent., of Maydl sixteen per cent., and of Kocher 8.7 per cent. Mayo Robson in a study of five hundred and seventy-two cases, collected from various sources, found an average mortality of 30.4 per cent. Guinard found that in one hundred and forty-eight cases of pylorectomy with end-to-end anastomosis, the deaths numbered fifty-six, or 37.8 per cent., and in sixty-four cases of pylorectomy with subsequent lateral anastomosis there were ten deaths, or 15.6 per cent. This showing had been equally favorable in the experience of others.

Menstrual Condition of the Average Girl in Average Health.—Dr. George J. Engelmann, of Boston, presented an interesting statistical paper on this subject, and the facts presented by him were culled from the records of forty-eight hundred and seventy-three cases from high and normal schools, colleges, and department stores. The girls were between fifteen and twenty-six years old, the majority between eighteen and twenty-two, in rather better than average health—in good health—and in numbers sufficient to admit of positive deductions as to what may be termed normal or average menstruation. In brief, the menstrual period proper was intensified by the increase of all vital energies, followed by a depression which appeared with the coming of the flow. Under ideal conditions, and in perfect health, the physiological status was such that this epoch, preceded by a day or two of heightened activity, was marked by a moderate lassitude, mental and physical, the flow persisting for from four to five days, and recurring at regular intervals of about twenty-eight days. It was a period of heightened susceptibility that quickly recorded any variation from the normal; excitement or exertion, or fatigue, mental or physical, were promptly reflected by variation in the function, and in our every-day life such disturbing elements constantly occurred, so that conditions actually existing varied greatly from this ideal. The average period of the average girl in average health presented very different features: Regularity in fifty per cent. of the cases only; recurrence every twenty-eight days in thirty per cent., varying most frequently from twenty-six to forty-two days, forty-five per cent. being over twenty-eight. The duration varied from two to seven days, average 4.6. From sixty-six to seventy per cent. suffered more or less, the number of sufferers varying, according to age and nature of occupation, between thirty and ninety per cent. Lessened ability for exertion, mental or physical, was admitted by sixty per cent. Some few were habitually incapacitated from work, and thirty per cent. occasionally. The function of the girl in good health, under modern conditions of life, was by no means an ideal one in the judgment of the essayist, and in fact the functional health of the American girl, the coming mother of American men, was far from what it should be by right of inheritance and surroundings. This fact physicians must recognize, and upon them and educators devolved the duty of study and correction of the evil.

Operation for the Treatment of Marked Prolapse of the Rectum in Women.—Dr. J. Wesley Bovée, of Washington, D. C., described an operation for the relief of this condition. In his case marked prolapse of the uterus was associated with hemorrhoids and great procidentia of the rectum in a woman to whom the uterine appendages were of little value. No simple operation would have relieved the rectal condition while the uterus was in such a state of prolapse, and vice versa. These conditions caused him to resort to the unique radical procedure which could be best described by narrating the following case:

Sister V——, thirty-five years of age, had been treated unsuccessfully a number of years for prolapse of the rectum, uterus, and hemorrhoids. When she came under the speaker's care she was suffering from large internal and external hemorrhoids, and a protruding roll of fully three inches of the rectum that was thickened and much discolored. The uterus was of normal size, with its cervix just behind the pubes, and the fundus very low posteriorly. A few days later, March 6, 1900, operation was done. The hemorrhoids were first removed, then the abdomen was opened by the usual subumbilical median-line incision. The left ovary was about three times its natural size, and largely consisted of numerous cysts. The appendages were removed and the uterus was firmly fixed to the abdominal wall by four interrupted, strong catgut sutures that passed through a considerable portion of the uterine fundus at the top, and the principal fascia of the abdominal wall on either side of the incision. The rectum was now drawn upward until it was fairly tense, and so held by an assistant until it was sutured to the cul-de-sac and posterior wall of the uterus up to the abominal wall. This was done by a running catgut suture. It completely divided the retro-uterine pelvic cavity into two equilateral ones.

Carbolic Acid in Surgery.—Dr. Seneca D. Powell, of New York City, read this paper. In 1894 he first became convinced that he could control the action of carbolic acid under all circumstances. At that time he used it in its full strength of ninety-five per cent. in an abscess cavity upon a patient suffering from suppurative appendicitis. Since then he had extended its use to all cases in which he had to fight disease due to microbic infection, and he was now prepared to assert its safety and reliability when properly brought in contact with an infected surface. He based his statements on the results of treatment of hundreds of cases which had come to his clinic at the Post-Graduate Hospital, New York. The essayist quoted Phelps, of New York, as saying that to him (Dr. Powell) the profession was indebted for one of the most useful discoveries ever made in surgery, namely, the antidotal effect of alcohol to carbolic acid. The speaker had used carbolic acid for years in the treatment of infections and bone diseases in various parts of the body. He recommended its use likewise for erysipelas and abscesses. During the past six years he had treated every phase of microbic disease with this agent, and as early as 1894 hip-joint cases were treated by him with pure carbolic acid and with a large glass drainage tube. Abscesses, wherever located, could be speedily treated by the injection of, or swabbing with, pure carbolic acid. The size of the abscess, or the amount of surface covered, was not a factor. Only thorough drainage and complete removal of the pyogenic membrane need be considered. The essayist dwelt upon its use in diseases in other parts of the body.

Early Excision for Dislocations not Reducible by Manipulation.—This subject was discussed by Dr. Willis F. Westmoreland, of Atlanta, who reported two cases. The first one was an arthrotomy, with excision of the head of the humerus, for old dislocation of the shoulder joint. Miss A. W——, white, aged twenty-four years. The patient was thrown from a buggy, the right shoulder and the elbow joint being injured. A physician saw the patient but made no diagnosis. On account of continued pain and lack of motion, she consulted a second physician, who recognized dislocation of the shoulder. An effort was made to reduce it, but he failed. Upon examination, the essayist found a subcoracoid dislocation of shoulder joint, and a badly treated fracture of the external condyle of the humerus. The patient was anæsthetized, and an unsuccessful attempt to reduce by Kocher's method was made. Any legitimate force completely failed even to move the head of the humerus. The patient was held for operation, which comprised a vertical incision, begun just below the acromion process, and carried along the inner aspect of the deltoid for about five inches. When the capsule was reached, it was split transversely; the head of the humerus was released from its attachments by dry dissection. The head of the bone was then turned out and excised close to the attachment of the capsule. The upper portion of the humerus was pushed up against the glenoid fossa, and the capsule shortened sufficiently to hold it there. In shortening the capsule all excess was inverted and helped to fill the cavity, leaving a very much smaller space to be filled in by adventitious tissue. In this case the slack of the long tendon of the biceps was excised, and the tendon united by mattress and coaptation sutures. The incision was closed except a small central opening for drainage. There was primary union, and the patient made an uneventful recovery. She was discharged with full movements.

Case II.—E. D——, male, white, aged twenty years. The shoulder had been dislocated two months before while boxing. Immediately after the injury a local physician had attempted reduction, but failed. Four days later the patient was anæsthetized, and Dr. Westmoreland made an unsuccessful attempt to reduce by Kocher's method. On the same day the same operation as previously described in Case I. was made, and the patient made an uneventful recovery.

A Plea for the Better Appreciation of the Limitations of Operative Work.—This was the title of the president's address, delivered by Dr. A. M. Cartledge, of Louisville. Every surgeon, he maintained, must be his own arbiter in deciding questions, and the judgment he displayed would depend upon his professional learning and wisdom. Methods of surgical diagnosis had undergone striking modifications within the past decade, and had influenced operative work. The older surgeon made his diagnosis of abdominal and pelvic lesions slowly; his skill at that time consisting largely of a delicate sense of touch, a trained eye to detect asymmetry, keen ears to differentiate sounds elicited by percussion, and methodical investigation of all symptoms both subjective and objective. The result was, his diagnosis having been made, he next carefully, and with abundant time before him, considered the advisability of operative intervention. It was as much a part of the knowledge of surgery to know its limitations, or what it could not do, as to be justly proud and ready to perform that which one had very good reasons to believe would be productive of relief and cure to the thousands of unfortunates who sought its aid. From every standpoint there was much to be gained by a better appreciation of operative limitations. A plea was entered for more careful diagnoses with an especial view to the detection of attending visceral disease, in short, for surgeons to try to become more expert prognosticians. There were two phases of surgical practice alone, the careful observance of which would reduce the mortality of surgical operations so low as to cause us to believe that exactness had almost been reached. He referred to greater care in the detection of kidney lesions and the institution of measures to correct this frequent cause of unfortunate operative terminations, and the still prevalent practice of operating upon hopeless cases of cancer. In reviewing the field of abdominal and pelvic surgery it would seem that surgical limitation was most often exceeded and mortality unnecessarily increased in operations for the following diseases: general septic peritonitis, extensive carcinoma of the ovaries, uterus, and intestine, and in operations upon the gall passages in long-continued and profoundly cholæmic patients without adequate preparation. He protested against the too frequent practice of operating in these affections. As to laparotomy in cases of general diffuse septic peritonitis, with irrigation and drainage, reports of such cases had appeared in literature from time to time, but the mortality up to the present time of such operations in exaggerated types of the disease was so great, in his opinion, as to make it an unwarranted procedure. He was strongly impressed with the belief that the successful cases reported had been cases of beginning general peritonitis, or of wide-extending, yet circumscribed, peritonitis. In closing, the author emphasized the importance of carefullfy preparing cholæmia patients before subjecting them to operation, with a view of lessening mortality. Another class of cases amenable to the same course of preliminary treatment were those of inefficient renal action.

Excision of the External Carotid Artery in Cases of Inoperable Malignant Diseases of the Face.—Dr. William P. Nicolson, of Atlanta, Ga., reported two cases upon which this operation had been recently done. The first case was one of sarcoma of the nose which had begun apparently as a polypus about eight months before. This was removed several times, but recurred promptly after each removal. When seen a few weeks before the operation, this had extended sufficiently to obstruct the nose completely and cause great pain by constant pressure. At the time of operation this had progressed in only a few weeks so that the growth pressing under the orbit had forced the right eye out of position, and there had been also an extension upon the forehead upon the left side. The patient suffered intense pain which required the constant use of morphine for its relief. The right common carotid was excised on October 3d, and the wound healed promptly. The enlargement upon the left side of the forehead broke down, and the large abscess was opened a few days after the operation. The pus from this, or the discharge from the nose, set up a violent ophthalmia, from which the patient suffered for a week or ten days. Two weeks from the day of the first operation the carotid upon the left side was removed, and very soon the symptoms improved in every respect, the patient was relieved of suffering, and the growth was not only checked, but it apparently began to recede, with the prospects of a material improvement in his condition. The second case was one of inoperable sarcoma of the upper jaw of three months' duration, and of very rapid growth. In this case the interval between the operations was longer than in the first, on account of the occurrence of a severe secondary hemorrhage on the seventh day, which was due to tying of the vessel too close to the bifurcation. The first operation in this case relieved the patient of all symptoms caused by the rapidly increasing pressure, and the growth apparently subsided materially. The second operation had not been per-

formed long enough to give much idea as to how much permanent decrease there would be in the tumor. In commenting upon the operation, it was claimed that in these cases the patient was simply doomed if nothing were done, and the operation performed appeared to be the only recourse that offered any hope of benefit. He had performed various operations upon the external carotid artery in cases of malignant diseases, having tied the vessel twenty-six times, four of these being cases of double ligation. The operation had not been accompanied by any mortality. Little could be accomplished by simply ligating even both carotids, because the circulation was re-established so rapidly that the nutrition could not be cut off with any degree of permanence. The operation of excision, as recommended by Dawbarn, seemed to be the only procedure that offered any hope, and while this would not perhaps produce much permanent effect, yet it seemed undoubtedly true that the lives of patients could be much prolonged and their sufferings greatly lessened. The operation was one of considerable magnitude, and dealt with structures of great importance anatomically, yet the results demonstrated that there was comparatively little danger in the performance of it.

Auto-Intoxication from Renal Insufficiency with or without Disease of the Kidneys.—By Dr. James T. Jelks, of Hot Springs, Ark. The author's attention was called to this subject several years ago by reading Bouchard on "Auto-intoxication," and later by papers from Etheridge, of Chicago, and L. Duncan Bulkley, of New York. For years he had made it a point to examine the urinary output for twenty-four hours of every patient who consulted him. This had been a revelation to him, and therapeutics based thereon had enabled him to accomplish what he described as marvellous results. Abundant evidence was adduced to show that as the result of faulty elimination by the kidneys, without the presence of disease in these organs, patients might have vertigo, contracted capillaries, cold skin, especially of the extremities, so-called sick headache, which was now recognized as uric-acid headache, melancholia, palpitation of the heart, interrupted heart beat, various forms of skin diseases, rheumatism, gout, hysteria, epilepsy, and even genuine insanity. Among the remedies used to correct this faulty elimination were squills, milk, rectal or hypodermic injections of decinormal saline solution, digitalis or its derivatives, sodium phosphate, sodium salicylate, Vichy water, etc. All of these were used in connection with baths, when it was possible to give them, and the patients were ordered to drink from one-half to one gallon of hot water daily. Twenty-five cases were detailed as having been treated along the lines mentioned, with the most gratifying results.

Dr. George S. Brown, of Birmingham, made (*a*) a supplementary report regarding a case of litholopaxy previously presented to the association, and (*b*) a supplementary report with reference to a case of vesico-rectal fistula.

Dr. James A. Goggans, of Alexander City, Ala., reported one case of strangulated femoral hernia in a woman forty years of age; three cases of extra-uterine pregnancy; one case of thoracotomy for empyema, and one case of ovarian cyst.

Some Life-Saving Measures in Obstetric Work.—By Dr. R. R. Kime, of Atlanta. Leaving out of discussion instrumental deliveries, Cæsarean section, symphyseotomy, etc., the author considered the most important life-saving measures to be saline infusions, medicinal remedies, orrhotherapy, hydrotherapy, and drainage. All of these topics were taken up and discussed in consecutive order. In cases of placenta previa and post-partum hemorrhage saline infusions or intravenous injections were of prime importance, not only to save life, but to lessen susceptibility of infection and hasten recovery. The report of one or two cases would illustrate some of the points brought out in the paper.

Case I.—Mrs. L——, primipara; her husband had had gonorrhœa before marriage. The patient had vaginitis and cervicitis, which were relieved by local treatment. At the fourth month of pregnancy the essayist removed by a continuous strip a lot of warty growths surrounding the posterior three-fourths of the vaginal outlet. The labor was normal. No lacerations occurred. Twelve days after labor there were a slight elevation of pulse, some headache, and a temperature of 99° F. The next day the symptoms slightly increased. The third day the patient had two chills, and the temperature was nearly 105° F. The uterus was found large and containing half a pint or more of pus; he irrigated, inserted double uterine drainage, and administered the usual remedies. The drainage tube collapsed and bent at the cervix, obstructing drainage, hence there was but little improvement the first twenty-four hours. After this rapid improvement took place, the temperature reaching normal in a few days. The patient recovered with normal pelvic organs.

Case II.—Mrs. L——, aged twenty-one years; primipara. Miscarriage occurred at about the fourth or fifth month. Two physicians in charge tried to empty the uterus with instruments, causing great pain. Some four or five days afterward a third physician took charge and called the essayist in consultation. He found the patient in a markedly septic condition, with a temperature of 103°–104° F.: pulse, 120 to 140; abdomen distended, tender, tympanitic, with abundant pelvic exudate. The uterine wall and cervix were sloughing. He removed some débris from the uterine cavity with forceps (not the curette), irrigated, and instituted double drainage, giving the usual remedies. The patient's general condition improved. The uterus rapidly assumed a healthy condition, it being practically normal in a week. At this time a vaginal incision was made, and the abscess cavity drained. The patient made a good recovery, was stout and healthy at the present time, and complained only of some pain during menstruation.

Pseudo-Membranous Enteritis and its Relation to Abdominal Surgery.—Dr. Frank A. Glasgow, of St. Louis, Mo., was the author of this paper. He called attention to this very common disease, and urged physicians to study its relations to appendicitis.

Solid Ovarian Tumor.—Dr. John G. Earnest, of Atlanta, Ga., reported a case of solid tumor of the ovary. The patient, Miss M——, aged thirty-two years, unmarried, was seen June 24, 1900. She was a very small woman with a narrow pelvis, and had been gradually losing flesh for several months, until she had become greatly emaciated. For months the patient had had fever every day. There was constant pain in the pelvis; she was very despondent, worn-out, and exhausted. She had a constant watery diarrhœa, which was occasionally interrupted by a few days' constipation, and accompanied by great abdominal distention. This condition, when occurring, was relieved with difficulty, requiring active purgatives and the free use of enemas. Nausea was a distressing factor. When the abdomen was inspected, a mass reaching above the umbilicus was observed. It stood out prominently in the median line, was symmetrical, smooth and hard. It was so firmly fixed that it could not be moved. The dark line down the centre of the abdomen was unusually pronounced. Examination by the vagina was somewhat hampered by an unruptured hymen, and tenderness due to the local peritonitis; but he found the cervix pointing forward, low down, and twice its normal size; the uterus was retroverted, firmly fixed, and apparently continuous with the superim-

posed tumor. Rectal examination disclosed that the uterus and tumor were parts of the same body. The fundus uteri could not be reached through the rectum. He believed it to be a uterine fibroid. The patient declined operation until she could go to her home and build up under the care of her family physician. This she did, returning August 1st. On August 3d, he opened the abodmen and evacuated a small amount of light yellow ascitic fluid. The abdominal peritoneum was mottled with dirty brown. The tumor showed the pearly lustre of an ovarian tumor. It had so grown that it seemed to be caught under the promontory of the sacrum, and was adherent to the pelvic wall. It was enucleated with some difficulty. The pedicle was from the right side, and comparatively small. The tumor, when removed, was found to be ovoid in its general outline, with an indentation corresponding to the promontory of the sacrum. It measured 20 cm. in length, and about 14 in breadth at the widest point. When cut open its appearance was very much like that of an ordinary uterine fibroid, and the tissue was quite dense. The cortex was united to the tumor by a thin layer of cellular tissue infiltrated with serum. No microscopical examination was made. At first it was supposed to be a sarcoma, but careful examination showed the fibres to be distinct and arranged in irregular whirls, as in uterine fibroids, and the tissues were quite as hard as those of any fibroid, and absolutely solid without a break. The recovery was uninterrupted.

Histogenesis of Ovarian Dermoids.—Dr. W. D. Haggard, Jr., of Nashville, Tenn., gave a verbal abstract of a paper on this subject. He stated that dermoid cystomata of the ovary differed essentially from dermoids in the orbit, pharynx, mediastinum, scrotum, coccyx, and elsewhere. The latter were unquestionably from inclusions or nipping off of the ectoderm in the development of the embryo, which was similar to the "healing in" of skin in wounds and the subsequent development of a dermoid growth. These structures all contained sebaceous material, hair, plates of bone, teeth, etc., and purely dermal derivates. Ovarian dermoids contained derivatives of all the mesoderm and entoderm as well, and hence some adequate explanation other than the inclusion of the skin-forming layer must be forthcoming. All sorts of curious theories had been successively advanced. The virginal pregnancy idea was succeeded by one which ascribed the origin of these growths to prolonged ungratified sexual desire on the part of the woman. A man who jested at his wife during travail was afflicted with a pregnancy (dermoid) of the thigh. Dermoids of the ovary, however, were akin to the teratomata, and it was to the ovum itself that we must look for a solution of the vexed problem of their etiology. Wilms was the first to claim the ovulogenous origin of these growths. Some pathological activity on the part of the ovum in the Graafian follicle was responsible. Bland Sutton found a dermoid of the ovary in a mare when the growth was undoubtedly in the ovum suspended in a large cystic Graafian follicle. Similar cases have been reported in women. Kraemer had recently gone over the entire field and amassed an amazing amount of material that went far to settle the question, and prove that ovarian dermoids contained products of all the blastodermic tissues; that they could not spring from an evolutional inclusion simply, as dermoids elsewhere undoubtedly did; that they were of ovulogenous origin, a sort of parthenogenesis. In evidence an attempt at formation of nearly all the organs of the body had been found in the lawless development of these benign growths—retinal pigment, more or less complete optical vesicles, a rudimentary pharynx, with an attempt at the formation of an œsophageal tube; the sympathetic nerves in the alimentary canal, and curiously enough a rudimentary uterus, with branching cells of the cervix and the glands of the fundus; mammæ (one case of which underwent carcinomatous development). An easily recognized heart provided with valves was found by Johnston; and many other more or less perfectly formed organs and tissues other than dermal had been reported by investigators too numerous to individualize. These data had, as remarked by Clark, dealt a telling, if not fatal blow to the inclusion theory of ovarian dermoid evolution. The researches of Kraemer and others seemed to establish convincingly the ovulogenous theory of their development.

The following papers were likewise read and discussed: "Removal of Cystic Gall Stones," by Dr. Howard A. Kelly, of Baltimore; "Osteo-Arthritis of the Spine," by Dr. Michael Hoke, of Atlanta; "Epi- and Hypospadias, with Special Reference to the Operative Treatment," by Dr. W. F. Parham, of New Orleans, and "Retroflexed Incarcerated Gravid Uterus," by William A. Quinn, of Henderson, Ky.

Much to the regret of the members, Dr. W. E. B. Davis resigned the secretaryship, owing to the pressure of other duties, after having served the association ably and efficiently from its organization to the present time. A resolution was offered and unanimously adopted, thanking Dr. Davis for his efficient services, tireless efforts, and faithful devotion to the interests of the association during a period of thirteen consecutive years.

Officers Elected for 1901.—*President*, Dr. Manning Simons, of Charleston, S. C.; *Vice-Presidents*, Drs. George H. Noble, of Atlanta, Ga., and L. C. Bosher, of Richmond, Va.; *Secretary*, Dr. W. D. Haggard, Jr., of Nashville, Tenn.; *Treasurer*, Dr. F. W. McRae, of Atlanta, Ga.

Richmond, Va., was selected as the place for holding the next annual meeting; time, third Tuesday in November, 1901.

Twenty-nine new members were elected at this meeting. After the installation of officers, and the adoption of resolutions of thanks, the association adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, November 6, 1900.

Frederick Peterson, M.D., President.

A Case of Paralysis Agitans without Tremor.—Dr. M. G. Schlapp presented this case. The chief features were the rigidity of the muscles, the expressionless face, and the position of the arms, body, and hands. The flexor muscles were more contracted than the extensors. There was no tendency to fall in any particular direction.

A Case of Paralysis of the Duchenne-Erb Type.—Dr. Schlapp also presented a man who, six weeks ago, had fallen from a bicycle, striking his shoulder. He had been unconscious for five hours. The case was interesting because the anterior pectoral muscles were affected. There was complete degeneration reaction of the pectorals, biceps, and the coraco-brachialis, and it was incomplete in the triceps and supinators. There was a peculiarly distributed area of anæsthesia showing involvement of the musculo-spiral and musculo-cutaneous nerves chiefly. The lower part of the pectoral muscle showed some slight response to the faradic current. The lesion evidently took in the fifth and sixth roots of the cervical plexus. As the anterior thoracic nerves were involved it was not a perfectly typical case.

Drs. C. L. Dana and M. Allen Starr said that they had each seen a similar case.

A Case for Diagnosis.—Dr. J. Fraenkel presented a man forty years of age, a tailor by occupation, who claimed to have been well up to one year and a half ago. There was no family history bearing on his condition, nor was there any history of any previous acute trouble. About eighteen months ago the man had been pushed roughly off a street car. On awakening the next morning at home he had been absolutely helpless, having been unable to move his upper or lower extremities. After six months he had been admitted to the Lebanon Hospital, but had left there, according to the history, unimproved. On coming under the speaker's observation, there had been noted at once the presence of an extensive eczema. On a second examination the shoulder joints had been found partially ankylosed, and the muscles surrounding them had appeared atrophic. There was also atrophy of the supraspinatus and infraspinatus, and slight atrophy of the serratus muscle. The electrical reactions were not changed. A thorough examination of his nervous system had proved absolutely negative. There were a peculiar atrophic condition of the skin and a condition of cyanosis on the peripheral parts. There was slight valvular disease of the heart. The diagnosis seemed to rest between rheumatism, a general trophoneurosis, and general syphilis.

Dr. B. Sachs said that he had examined this man previously and had been led to think of symmetrical muscular atrophies such as occurred after arthritic processes. It was not usual, however, to have them quite so symmetrical. The case did not seem to him to correspond to any of the dystrophies or any of the spinal forms of progressive muscular dystrophy. He had had a suspicion that the case might be one of leprosy.

Dr. M. Allen Starr said that, when travelling in Norway some years ago, he had seen a number of lepers, and had had his attention called to the existence of muscular atrophies in them. The peculiar appearance of the man's face had led him to think of leprosy without knowing Dr. Sachs' view on the case.

Dr. Fraenkel said that very careful inquiry had failed to elicit anything but the most positive statements that the man had been in perfect health up to the time of being thrown from the car. The man had come from the southern part of Russia. A dermatologist had seen the case and had been told that leprosy was suspected, but he had replied that the thickening of the face was due to the previous eczema.

Dr. Schlapp said that Bechteroff had described somewhat similar cases of "stiff back." There was a possibility of some of the roots being affected.

Dr. C. L. Dana thought this case was one of rheumatoid arthritis and the condition of the skin the result of an eczema.

Dr. F. Peterson thought it was an anomalous type of chronic rheumatoid arthritis. The fact that the muscles reacted normally would tend to confirm this belief. It was certainly not a spondylose rhizomyélique. This might, of course, be a case in which the spinal-cord symptoms were developed later.

Dr. B. Sachs presented the spinal column and the shoulders from a case of spondylose rhizomyélique. The heart also showed previous rheumatic disease.

Spasmodic Torticollis and its Treatment; Report of Two Cases with Recovery.—Dr. M. W. Leszynsky read a paper with this title. He said that wry-neck must be classified among the musculo-nervous disorders. The first case reported was that of Mrs. X——, thirty-six years of age, seen by him in 1895. About seven years ago she had suffered from pain and stiffness in the muscles of the back of the neck for several days. She had been greatly worried for a number of years by a protracted lawsuit. There was no family history of nervous disease. In February, 1895, after a fall on the ice, she had begun to suffer from nervous attacks, and in June she had first noticed a tendency of the head to turn toward the left. On examination, she appeared fairly nourished but anæmic. There was frequent and well-marked tonic spasm of the right sterno-mastoid muscle. Her eyes had been examined and found normal. Her general condition was that of neurasthenia of the lithæmic type. She was advised to rest in bed for three months, and was given the usual tonics. After two weeks atropine had been injected into the affected muscles, the daily dose being increased slowly up to gr. $\frac{1}{30}$. At this time the symptoms of atropine poisoning had been so severe that it was discontinued. For a few days after this the spasm of the muscles was decidedly worse. The convulsive attacks lasted about twenty minutes, were very violent, and were associated with marked impairment of respiration. Under the use of morphine and potassium bromide the paroxysms had gradually subsided in the course of two weeks. Subsequently various remedies had been employed, but without benefit. The urine was always acid and of high specific gravity. After four months there had been considerable improvement in her general condition but not in the spasm of the muscles. The rest treatment had been continued for some time longer under the advice of the late Dr. E. C. Seguin, but she had finally rebelled and had gone home. Some months later a brace had been applied, and this had gradually controlled the convulsive movements. The brace had then been discarded, but some tonic spasm in the muscles had still continued. Although there had been no return of the clonic spasm, there was still slight occasional tonic spasm of the upper segment of the trapezius muscle. This case pointed to a strong hysterical element, although the patient did not present the usual stigmata of this affection. There was undoubtedly also a lithæmic condition. The second case was that of a woman aged twenty-four years whom he had seen on October 24, 1897. At that time there had been a marked spasm which had existed for nearly eight months. She had suffered from migraine for a number of years, and there was no history of trauma. She was kept in bed and the usual rest-cure methods were employed for two months. The atropine injections had been used for about two weeks, and they had temporarily controlled the spasm. They had been discontinued after two weeks. She had made a complete recovery at the end of six months, and had remained well since that time. The speaker said that in 1884 he had recommended the use of atropine in this class of cases. Since then he had employed it in twelve cases, and had found that in many cases it was unsatisfactory, and he now believed it should be looked upon as simply an adjuvant to other measures. The prognosis depended upon the duration of the disease and the persistence of treatment. The principal therapeutic feature in every case should be the use of massage and the methodical education of the muscles and their co-ordinating centres. His attention had first been directed to this valuable method by Dr. Coggeshall, of Boston. It was a mistake to resort to surgical measures in the early stages of this disorder.

Dr. C. L. Dana said that in his experience if the wry-neck were pretty closely limited to the spinal accessory and sterno-mastoid an early resection would often check the disease and prove most useful. He quite agreed with the reader of the paper concerning the treatment of the older cases.

Acute Ataxia.—Dr. C. L. Dana read this paper, classifying acute ataxia as: (1) The acute bulbar and cerebellar ataxia; (2) acute spinal ataxia, and (3) acute peripheral ataxia due to multiple neuritis of the sensory type. He said that Ebstein had reported a case of acute ataxia with autopsy, and as patches of

sclerosis had been found the case had been looked upon as one of multiple sclerosis in an early stage. The peripheral type included the cases due to the sensory form of multiple neuritis. Up to recent times there had been no definite description of acute ataxia of spinal origin not due to tabes. In 1897 Dr. Strauss had, however, reported two cases occurring in men about thirty-four years of age without history of syphilis or other infection. The description seemed to the reader suggestive only of locomotor ataxia. The cases of acute ataxia first described by Leyden, and still referred to by him as acute bulbar ataxia, certainly had a strikingly characteristic clinical course, so that the name might have some clinical value. Special attention was called to five cases of non-tabetic spinal ataxia which were reported in the paper. The following is illustrative: A man aged sixty years on January 9, 1890, had begun to feel numbness in the feet, and in a few hours this had extended to the mid-dorsal region. He soon developed a tight sensation around the waist. Ten days later, on coming under observation, he had a staggering ataxic gait, and soon became tired. He could not stand with the eyes closed. He showed distinct loss of muscular sense, but no impairment of the functions of the rectum or bladder. The patient had gradually recovered, and was now well. In another case, that of a man seventy-six years of age, syphilitic infection had occurred one year previously. Just after recovering from an attack of iritis he had developed a type of ataxia like that described in the preceding case. In two other cases the disease had been in old people, but in neither of them had there been a history of syphilis. They both were victims of overwork, and both had presented symptoms of marked senility. It would seem that these cases were due to senile arterial changes, or due to syphilitic changes in the blood-vessels of the spinal cord, causing hemorrhages or blocking of the vessels, or both. It was possible that in old age the syphilitic virus might lead to attacks on the posterior rather than on the lateral columns, so that the type would be ataxic rather than of the spastic paraplegic type. All of his patients had recovered from the ataxia. The differential diagnosis must be made from an acute onset of a locomotor ataxia.

Dr. Joseph Collins said that his clinical experience had been somewhat different from that of Dr. Dana, so that he had been led to a very different conclusion regarding the etiology. Some of his cases had been in persons of about forty-four years of age without evidence of syphilitic infection. Sometimes there had been inability to walk in the course of a week. This had been associated with slight incontinence of urine at times, and with sexual impotence. In these cases there had been none of the cardinal symptoms of multiple sclerosis, and no evidence of cardiac or vascular degeneration. This was a type of case which he had been accustomed to call "acute ataxia." A second class of acute ataxia was acute bulbar ataxia. One of these was in a woman thirty-five years of age, who, about August 14th, had begun to complain of dizziness and blurred vision. Shortly afterward, while dancing, she had become ataxic, and then had lain in bed for a long time with marked ataxia and with slight anæsthesia of the face. The sense of position had been lost. Later, the symptoms of bulbar involvement—regurgitation through the nose and bulbar speech—had appeared. The cases of acute ataxia with which he was familiar clinically were those presenting similar features to the ones reported by Dr. Sanger Brown, of Chicago, recently, in *The American Journal of the Medical Sciences*. Dinkler had come to the conclusion that the lesion must be somewhere in the corona radiata or in the large basal ganglion.

Dr. S. Ely Jelliffe said that he had had under his observation for three years a gentleman thirty-six years of age, who had been infected with syphilis. He was a politician, and at the crisis of a campaign he had suddenly found himself unable to walk. On either side there had been ataxia confined to the lower limbs, and associated with some trouble of the bladder. He had been put on antisyphilitic treatment, and had been practically well in three weeks. He had remained well for a year, and then had had a sudden attack which had resulted in a typical spastic paraplegia. He had eventually died from this, and his spinal cord had exhibited the usual lesions of that affection. In the first attack there had seemed to be an acute ataxia due to involvement of the minor blood-vessels.

Dr. Schlapp reported the case of a man aged fifty years, an intemperate longshoreman. Three years ago he had developed ataxia and now had a disturbance of tactile and pain sense in the feet. Electrical reaction was diminished. The case looked to him like a neuro-tabes peripherica. The Romberg symptom was present. The knee jerks were slightly exaggerated. The case might perhaps be classed as an acute ataxia of the peripheral type

Dr. Fraenkel said that from the pathological standpoint the condition probably occurred quite frequently, and was often overlooked. He would like some points on the differential diagnosis between organic and functional conditions. The symptoms given by Dr. Dana were not sufficiently objective.

Dr. J. F. Terriberry commented upon the fact how these old people reported by Dr. Dana could have recovered so readily if the vascular system had been so damaged. For this reason he doubted if the vascular system had been especially at fault. Ataxia was a symptom rather than a disease, and the attempt to regard it as anything but a symptom was likely to lead one astray. He was in favor of considering the cases that ended in recovery late in life as of neuritic origin.

Dr. Dana said he had not met with the class of cases described by Dr. Collins. Dr. Brown's cases did not seem to be exactly cases of pure ataxia, and hence he had not referred to them. One must distinguish between an ordinary unilateral ataxia such as occurred from acute softening of the pons or medulla and the acute bulbar ataxia of Leyden, which is bilateral. It was a common experience to see old people with hemiplegia and hemorrhage recover in spite of the degenerated condition of the blood-vessels.

Medical Items.

Death Rebuking the Doctor.—Dr. X. B. Haynie writes that a Gallatin, Tenn., physician attended a funeral the other day, and after the burial services were over he with a number of people strolled among the graves of the colored population in a portion of the cemetery laid off for them. He noticed that the children's graves were decorated with almost anything and everything—a little chair, a broken top, and numberless toys that the departed pickaninny had possessed while living. Over one little grave the people lingered, and a variety of vials and boxes freshly labelled, "Take one teaspoonful every two hours till relieved. Take one powder every three hours till quiet," attracted their attention. What was the doctor's consternation to see his own name on every label!

Leprosy in Germany.—Some particulars are given in a recent number of the German Imperial Health Office Reports as to the prevalence of leprosy in the empire. On December 15, 1899, there were in Prus-

sia 22 undoubted cases of leprosy known to the authorities. Of these 16 belonged to the Memel district and 1 to the Rossel district; 1 was infected in Livonia, 2 in Brazil, 1 in Burmah, and 1 in the island of Penang. Of the 22 cases 10 were under treatment in their own homes and 11 in the leper house at Memel. In addition to the 16 recognized cases there were 4 doubtful cases in the Memel district. In Hamburg there were at the end of last year 10 cases known to the authorities. In 5 of these the patients, who were of German origin, were under treatment in private houses. The rest, who were foreigners, were in hospitals. In all of them the infection had been contracted abroad. In the middle of January, 1900, there was a case in the state of Mecklenburg-Schwerin. From the other federated states of the German empire no report has been received. The Memel district is the only native focus of leprosy in the German empire. Whenever leprosy has occurred elsewhere the infection has been contracted abroad. There appears to be some ground for suspicion that as regards Memel the total number of cases is not set forth in the official statistics.—*British Medical Journal.*

Typhoid from Shell-Fish.—The medical officer of health for Newington—one of the poorest and most crowded districts of London—has had several cases of typhoid or enteric fever reported to him, and having carefully inquired into them, believes the outbreak to be due to the eating of mussels and other shell-fish. He has accordingly issued notices cautioning the public against eating shell-fish, especially mussels, during the month of October.

Mosquitos and Malaria.—Laveran's discovery of the plasmodium of malaria was long ignored; then the credit was given to some one else. In the same way the mosquito theory has been claimed for Americans, Italians, and others; and, of course, for the noble savage, whose untutored mind seems not infrequently to see things hidden from the bespectacled eyes of science. In Koch's extraordinary reports from German New Guinea no mention is made of any other investigator; the subject is treated as if he were the Columbus of an unknown continent of knowledge. Koch has been a great scientific conqueror, and is fully entitled to his triumph. But the way in which he drags at his chariot wheels the discoveries of other men is ultra-Germanic in its insolence of self-assertion. In this particular field of research our German friends have done nothing at all. Laveran proved that malaria is a parasitic disease; Manson and Ross have shown how the parasite is conveyed to man. The Italians have worked out certain details of the problem by following the course indicated by the British workers. But the credit of the solution belongs to our countrymen.—*The Practitioner.*

Therapeutics and Hygiene of Obesity.—At the recent International Congress at Paris, Deschamps read a paper with the above title (*Le Bulletin Médical*, August 8, 1900). We should not content ourselves with a mere momentary reduction of weight, but should aim at securing physiological equilibrium between the ingesta and egesta. Diet, calorification, and muscular exercise are the most important elements to consider in the hygiene of obesity. The dietetic regimen should guarantee the patient sufficient food for all his needs, which includes the maintenance of all the gastro-intestinal functions. The regimen of choice is one in which vegetables predominate, and from which farinaceous and feculent articles need not be excluded. Water, pure or slightly alkaline, is the only drink to employ, and enough should be taken to quench the thirst. In certain cases it may be necessary to recommend an excess of water. Physiological calorification plays the chief rôle in reducing the weight of the corpulent. This is effected by prolonged bathing, the temperature of the water ranging from 33° to 36° C., and the duration one to two hours. The static-electric bath is an adjuvant of incontestable utility, as it also favors organic combustion. Muscular exercise cannot be imposed on the obese beyond a certain point. It is useful when regulated, but dangerous when it goes beyond the endurance of the individual. The temporary loss of weight obtained by its agency is more than offset by disorders of function which are set up.—*American Medical Review of Reviews.*

A Cure for Insomnia.—Dean Ramsey, the witty Scottish divine of the last century, used to relate an amusing tale about one of the earls of Lauderdale. His lordship was taken very ill, the worst symptom being insomnia in an aggravated form. His little son, hearing that recovery would be impossible without sleep, said: "Send for the preaching mon frae Livingston, for fayther aye sleeps when that minister is in the pulpit." The doctors considered that to act on the suggestion would be judicious; so the minister was immediately brought. He preached a sermon; sleep came on—and the earl recovered.

Athletics and Practical Physiology in Medical Schools.—Dr. Bayard Holmes (*The Plexus*, October) says: "Medical schools are now provided with lecture rooms, laboratories, libraries, and clinical conveniences, but with hardly an exception they are destitute of gymnasia, athletic fields, and lavatories. Before our education reaches that efficiency which the subject demands, these equipments must be added, and probably at the same time the feeding and social necessaries of the student will be improved and provided for, either from the student initiative or by the co-operation of the college and student."

Physicians' Beards.—According to an exchange, the Emperor of Germany says that all German physicians must cut off their beards. There are some physicians in the United States who would be glad to have beards to cut off; and there are others who would be seized with consternation should such an order go forth in this country, since their whiskers are their principal stock in trade, and the proper care of them seems to be their chief concern in life.—*The Stylus*, October.

Lord Lister and Vivisection.—The London *Pall Mall Gazette*, referring to the Huxley lecture recently delivered by Lord Lister, says that he can hardly be considered as a supporter by the anti-vivisectionists. In the course of the said lecture, the eminent founder of the system of antiseptic surgery gave details of certain experiments he had made on frogs, bats, and other animals. We have no doubt that, as Lord Lister himself put it, some people would consider that by these experiments, which he said caused no pain to the victims, he had "deserved a horsewhipping." Other people will probably agree with him that anything which contributes to the alleviation of human suffering is worth "the lives of a few frogs, or even of a rabbit." Considering the inestimable value of that antiseptic system, which, as Lord Lister said, "has been the labor of his life, and his contribution to the profession he loves," the price certainly does not seem excessive.

Diphtheria.—Is local treatment necessary? So far as danger of death from diphtheria infection is concerned it is not. But there is danger of other infections being implanted on the inflamed soil left by the diphtheritic process. It must be remembered, also,

that antitoxin does not destroy the diphtheria bacilli, and that they remain in the throat, nose, etc., for a variable period of time. That this period can be lessened by local treatment has been shown by the experience of Drs. McDaniel and Adaire at the State school at Owatonna. They sprayed or irrigated the throat and nose with a solution containing one-half of one per cent. of formalin, and succeeded in freeing the patients from bacilli in from one day to four weeks. Some of these patients had been showing the presence of bacilli continuously for several months.—Dr. J. P. Barber, *The Medical Dial*, October.

Masturbation and Albuminuria.—As regards the view that masturbation was the cause of albuminuria, which receives support from Moxon, Dickinson, and Clement Lucas, I have found that this form of sexual neurosis was present in a considerable number of my cases. While confirming their observations as to the existence of this neurosis, I cannot accept their conclusion that it is the cause of the albuminuria.—Dr. Sutherland, *The Clinical Journal*, October.

Chronic Gastritis.—The gastric mucous membrane has so much resisting-power that it practically ignores insult after insult offered it by dietetic errors, alcohol, and other irritants. A few years ago almost every symptom complex of the stomach was at once set down as due to subacute or chronic catarrhal gastritis, and even to-day the profession has not cut loose from this short-sighted, erroneous, and superficial habit. In point of fact, chronic inflammatory affections of the stomach are not very severe except as a result of grave organic disease located in the stomach or elsewhere. In many chronic diseases, as for instance the anæmias, the stomach is the organ that bears the brunt of the complaint of all the cells of the body, and it is not surprising that it should be chosen to cry out and rebel in the cause of the complaining cells depending upon it; but the point we wish to make is that gastritis exists in but a small proportion of these cases, and if the stomach and its contents are carefully studied there will be less often a hasty diagnosis of one or another form of gastritis.—Charlesont Stock.

Vaccine Infection of the Lips.—Alfred Jungmann says that accidental inoculations of vaccine virus are not so rare as is supposed. It is principally the nurses and mothers of vaccinated infants who are susceptible to this form of infection, owing to the many opportunities for direct contagion that their close association with their charges involves. Physicians are also liable to the accident, and a case is on record in which a splinter of glass flew from a vial of vaccine lymph while being uncorked, and struck the nose of the doctor holding it. He brushed it off unthinkingly, but the skin was slightly scratched and the customary lesion with its resultant scar developed. The case reported by the author is that of a wetnurse who infected a herpetic lesion on her lip from the vesicle on the arm of her newly vaccinated nursling. The lesion ran its usual course, though owing to the anatomical configuration of the parts a very extensive and temporarily disfiguring œdema developed. In addition to the unusual nature of the accident the case is interesting owing to the fact that the patient had already had variola, as was attested by the scars on her face, but the immunity acquired had apparently died out in the thirty years that had elapsed since the illness.—*Wiener klinische Rundschau*, September 23, 1900.

Women as Insurance Risks.—M. M. Danforth says that the investigation of statistics made by R. Hingston Fox showed that as a rule the female risks, if as carefully selected, would be even preferable to male applicants. As to the dangers incident to the child-bearing period, they are far less important as affecting the insurance risk than are those conditions of mental strain and worry incident to business, or the exactions of alcoholic excesses and dissipations so much more common in the male applicant. It has been stated that women are more apt than men to conceal important facts, but this the author denies, saying that not a few of the latest writers on the subject assert that women are more likely than men to give a truthful answer to vital questions. The so-called "moral hazard" of female insurance is a much overrated, if indeed not a purely imaginary, objection, unwarranted by the experience of insurance companies in general.—*The Medical Examiner and Practitioner*, October, 1900.

The Significance of Pain in Appendicitis.—E. H. Lee holds that in appendicitis, as well as in other abdominal lesions, the pain in the early stage of the disease is of a colicky nature, and due to an acute distention of the organ affected; the greater the distention, the greater the pain. Second, as soon as the acute constriction or distention has subsided or the obstruction has been relieved, these reflex colicky pains and nausea and vomiting cease, and the pains that are present after this time are of a steady character. They should be described more as a tenderness in the right iliac fossa, and are due to the circumscribed peritonitis. Third, this last-mentioned pain gradually subsides as the disease progresses toward its favorable termination, either by a perforation of the abscess into the bowel, or possibly by the absorption of the circumscribed inflammatory process.—*The Chicago Clinic*, October, 1900.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 23, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Maryland, Prince George Co.	November 9th to 14th	9	
Michigan, Detroit	November 10th to 17th	1	
Grand Rapids	November 10th to 17th	1	
Minnesota, Minneapolis	November 10th to 17th	3	
New Hampshire, Manchester	November 10th to 17th	10	
New York, New York	November 10th to 17th	1	
Ohio, Cleveland	November 10th to 17th	19	1
Tennessee, Memphis	November 10th to 17th	1	
Texas, Houston	October 31st to November 7th	6	
Utah, Salt Lake City	November 10th to 17th	20	
Virginia, Alexandria	November 18th	1	
Smallpox—Foreign.			
Austria, Prague	October 20th to 27th	8	
Brazil, Pernambuco	September 23d to 30th	..	15
England, London	October 27th to November 3d	1	
France, Paris	October 27th to November 3d	..	14
India, Calcutta	October 13th to 20th	..	6
Japan, Nagasaki	October 11th to 20th	1	
Mexico, Vera Cruz	November 3d to 10th	..	1
Russia, St. Petersburg	October 20th to 27th	3	3
Scotland, Glasgow	November 2d to 9th	31	
Yellow Fever—United States.			
Mississippi, Brookhaven	November 16th	*	
Natchez	November 22d	2	
* Many cases.			
Yellow Fever—Foreign.			
Colombia, Bocas del Toro	October 21st to November 7th	3	
Cartagena	October 28th to November 4th	1	1
Cuba, Havana	November 3d to 10th	..	15
Matanzas	November 15th	1*	
Mexico, Vera Cruz	November 3d to 10th	..	6
* In Hamilton Barracks.			
Cholera.			
India, Bombay	October 16th to 23d	..	10
Calcutta	October 13th to 20th	..	17
Madras	October 13th to 19th	..	37
Russia, Siberia, Novolievsk	November	Reported.	
Straits Settlements, Singapore	September 15th to 22d	1	
Plague.			
China, Hong Kong	October 6th to 13th	..	4
India, Bombay	October 16th to 23d	..	74
Calcutta	October 13th to 20th	..	15
Madras	October 13th to 19th	..	1
Japan, Kobe	October 8th to 23d	2	
Osaka	October 8th to 23d	3	

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Original Articles.

TUBERCULOSIS OF THE EYE: ITS DIFFERENTIAL DIAGNOSIS, PATHOLOGY, AND TREATMENT.[1]

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NEW YORK.

IT may safely be said that all our actual knowledge of ocular tuberculosis dates from 1868, when Gradenigo published the first case, with confirmation of his diagnosis by microscopical examination. Tuberculous disease of any of the tissues of the eye is a rare disorder. The exact proportion of such cases to all lesions of the organ has never been accurately determined, but the proportion of cases of conjunctival tuberculosis, given by Eyre as 1 in 2,700, is probably much too large.

Tuberculosis of the eye is met with between the ages of five and thirty, though a few cases have been observed at a later period. It may invade any part of the organ, though the tendency of the disease is to attack in its progress the deeper structures primarily. Hence tuberculosis of the iris and chorioid is more frequently met with than the same disease in the conjunctiva and cornea. According to Baumgarten (1878), the only pathognomonic feature of tubercle, aside from the presence of the bacilli, is the tendency to caseation.

Tuberculosis of the Conjunctiva and Lids.—The eye may serve as the point of entrance of the primary infection, and generally from the conjunctiva, but this is rare. The intact, healthy conjunctiva is never infected by bacilli; there must always first be a loss of substance. In many cases, relatively, the conjunctival tuberculosis long remains the sole localization, and the early destruction of the neoplasm may lead to recovery. When an abrasion of the conjunctiva exists, it may become inoculated with bacilli from the lids, the nose, or the lungs, and an ulcer develops at the point of inoculation. The lesion usually begins in the tarsal conjunctiva of the upper lid, or in the retrotarsal fold. The lid is more or less swollen, and on eversion shows a punched-out ulcer with gray base, or a base covered with small, gray, miliary tubercles. These ulcers have ragged edges, and the bottom has a worm-eaten appearance and is covered by detritus. The small nodules may be in the edge of the ulcer instead of on the floor, and vary much in size. These ulcers sometimes bleed on handling. The pre-auricular gland is almost always involved, and sometimes the submaxillary also. The ulcers may be unilateral or bilateral, and may spread to the ocular conjunctiva and sclera, and thus serve as a focus for dissemination of a general infection, though absolute proof of this is still wanting. The eyelids are sometimes much swollen, but are soft to the touch, and the conjunctiva shows distinct folds around the ulcerated tuberculous mass. There is usually a slight purulent discharge in which the bacilli are sometimes found, but even in the tuberculous nodules they are often searched for in vain. According to the latest accounts about sixty cases have been reported, of which eight were published in 1900. All were between the ages of ten and thirty years, and there were more females than males affected. In a number of the cases the lesion was bilateral. It is exceptional to detect tubercle bacilli in microscopical sections of the ulcerated tissues (though they may be found in the scrapings from the floor of the ulcers), and well-defined giant cells are not always met with. The ulcers also vary clinically in appearance. Some of them are sharply cut, with irregular margins and yellow base, and surrounded by a zone of infiltration. Others present a more diffuse form, with small elevations of the mucous membrane which are frequently ulcerated. Whether the conjunctival disease be primary or secondary, it is quite conceivable that the tubercle bacillus may be conveyed into the nose from disintegrating pieces of conjunctiva, and cause infection of the mucous membrane of the nasal duct and nose. The neighboring lymph glands have not always been found swollen, though it is very possible that the swelling may have existed and been overlooked, and then have subsided as the local disease has receded.

The differential diagnosis is not always easy. Yellowish nodules sometimes develop in the vicinity, giving a granular appearance to the conjunctiva, resembling a case of trachoma. Tuberculosis of the conjunctiva must be differentiated from trachoma, epithelioma, and syphilitic ulceration. In trachoma the glands are not involved, and in acute cases the granulations will yield to treatment by caustics and astringents, while these are useless in tuberculosis. If we accept the dictum of Rhein that the follicles of trachoma and those of tubercle are analogous, the latter must then be differentiated by the presence of bacilli. Tubercle may be distinguished from epithelioma by the age of the patient. In true granuloma the granulation is a firm, reddish, vascular mass of uniform character, and the lymph glands are not involved. In brief, the character of the ulceration, the lardaceous aspect of the mucous membrane, the presence of peripheral tuberculous nodules, and the engorgement of the glands will usually suffice to differentiate the case; and if bacilli are found in the scrapings of the ulcer the diagnosis is confirmed.

Some very interesting experiments in inoculation were made by Langhans in 1873. He made sixteen inoculations of tubercle in the conjunctiva of the rabbit with varying results. Some were entirely negative. In others there appeared at the point of inoculation a translucent swelling formed of grayish-red nodules, ending in an ulcer with flat edges and pultaceous base. In a third series of cases, after a period of incubation ranging from twenty-one to thirty-four days, there appeared yellowish granulations which became red but did not ulcerate, and some of these animals became tuberculous.

Prognosis: If the case is one of primary infection and is seen early in its course the prognosis is fairly favorable, provided the local lesion can be thoroughly cauterized or excised. If the ulceration is secondary the prognosis is always unfavorable.

[1] Read before the New York State Medical Association, October 17, 1900.

Treatment: If the ulceration is single and removed from the lid margin, the whole ulcerated surface should be cauterized with the actual or galvano-cautery, and then the case carefully watched and the cauterization repeated if necessary. If the ulcer is close to the edge of the lid, the parts, including the entire thickness of the lid, should be thoroughly excised, and a plastic operation subsequently made to correct the resulting deformity.

Tuberculosis of the Eyelid appears in the form of lupus, usually along the ciliary margin of the lid, and soon involves the conjunctiva. The doctrine that lupus and tuberculosis are one and the same disease is now generally accepted, giant cells and bacilli being found in both. It may be primary or secondary. If primary it is due to direct infection from a foreign body or to operation. The disease is found mostly in children, but may occur at any age. On its first appearance it simulates an inflamed chalazion.

Prognosis: If the lesion is primary the prognosis is good. If secondary it is unfavorable.

Treatment: Thorough excision of the infected part is the only thing that promises any real cure.

Tuberculosis of the Sclera is occasionally met with in the form of nodules, coincident with nodules in the iris and ciliary body. As an independent lesion it is very rare, one case having been reported by Müller in 1890. The sclera may also become involved in the ulceration of tuberculous nodules of the ocular conjunctiva. The prognosis is unfavorable. The only treatment which would seem to promise a cure is enucleation of the eyeball. Instances of treatment by antitoxin have been too few, and the results not sufficiently favorable, to enable us to draw any satisfactory conclusion.

Tuberculosis of the Cornea.—The cornea is much less liable to tuberculous disease than any other tissue of the eye except the lens. Tuberculous nodules may develop primarily in the marginal zone of the cornea, and extend toward its centre. These small growths have been observed as the result of inoculation, and in the course of spontaneous tubercle of the iris. Panas has reported a single case occurring in a woman aged thirty years, of delicate health, with disease in the apices of both lungs. After sharp pain in the right eye, there appeared a diffuse interstitial opacity in the superior segment of the cornea, with episcleral injection. On the thirteenth day the disease had reached the centre of the cornea, and around the opacity were a series of yellowish nodules resembling miliary tubercles. These gradually coalesced, and in the fourth week the whole infiltration was ulcerated, with a yellow base and irregular edges. Each advance of the ulcer was preceded by new marginal tubercles. At the end it cicatrized densely opaque. Panas made some experiments in corneal inoculation in animals, and the course followed resembled very closely that noted in his patient. A tuberculous tendency may be suspected in cases of non-inflammatory abscess of the cornea, in scrofulous children, which shows no tendency to healing, even when there are no positive signs of tuberculosis present.

Tuberculosis of the Uveal Tract.—Tuberculous disease here may be either primary or secondary, the latter being much the more frequent of the two; and the patients are more usually found among those suffering from the chronic pulmonary, osseous, or cutaneous forms of the disease than among those affected with rapid general tuberculosis. In the uveal tract the nodules may be either miliary and disseminated, or in circumscribed small masses, or in solitary nodules. Small gray nodules appear and disappear, and either terminate in healing, or gradually extend to suppuration, perforation, and destruction of the eyeball.

Tuberculosis of the Iris and Ciliary Body.—Tuberculous disease of the iris occurs most frequently between the ages of five and twenty-five years. It may be either primary or secondary, the latter being the more frequent. Primary tuberculosis of the iris may be unilateral or bilateral. Haab recognizes two forms: one of rare occurrence and ending generally in a spontaneous cure; a second, much more common, ending in perforation and phthisis bulbi. The symptoms of either serous or plastic iritis are generally present. The diffuse form spreads rapidly, and generally invades the entire eye, and the cornea necroses and becomes perforated. This form usually occurs in patients predisposed by hereditary tendencies to the disease. The first or attenuated variety of the disease may recede and disappear without causing general infection. These cases of attenuated tuberculosis, in which the growths become absorbed and the eye partially regains its functions, are rare. The nodules are very small and scattered, are yellowish-gray in color, with a slight reddish tint due to the blood-vessels, and may involve the peripheral border or occupy the angle of the anterior chamber. Their course is very slow, with periods of amelioration and aggravation, and the case ends in a total disappearance of the nodules. Tuberculosis of the iris occurs usually in children as small grayish-red nodules at the ciliary margin of the iris, which look like miliary growths. The successive development of new nodules leads to plastic iritis and cyclitis, and then to a general shrinking.

The solitary tubercle of the iris, or so-called granuloma, begins as a small gray nodule, which slowly increases in size, fills the anterior chamber, perforates the cornea, and presents as a large granulation mass, and the eye is lost by general phthisis bulbi. The granulation mass always contains giant cells, and almost always bacilli. At first tubercles of the iris are composed of masses of small epithelioid cells, disposed concentrically round an obliterated vessel, and of a varying number of giant cells. After softening has begun, histology does not help much toward a diagnosis. If a case of tuberculosis of the iris is accompanied by blood in the anterior chamber, the disease has probably invaded the ciliary body, as hemorrhage from this quarter has been known to be the first symptom of tuberculous infection here.

Tuberculosis of the iris has been produced by inoculation of the anterior chamber in animals. Within three weeks of the inoculation the iris becomes inflamed, with the eruption of small grayish nodules which grow larger, coalesce, fill the anterior chamber, infiltrate the cornea, and cause perforation. The animals succumb later to a general tuberculosis. The intra-ocular tension is first increased, but later, as cyclitis develops, the tension falls below the normal standard.

Tuberculous growths in the iris may be confounded with gumma, sarcoma, and lepra. They may be distinguished from gummata by their color, their predilection for involving the inferior half of the iris, and by the presence of glandular enlargements and the usual signs of pulmonary tuberculosis. A tuberculous nodule may in its early stages be confounded with sarcoma, but the latter is almost certain to be solitary, is rarely accompanied by any iritis, seldom occurs before middle life, and is usually more vascular than a tuberculous nodule. In general, it may be stated that the lesion is probably tuberculous when the growths are multiple, non-vascular, and gray, and are accompanied by glandular enlargements. Iritis in a child is generally tuberculous and always serious.

The prognosis in cases of tuberculosis of the iris is always unfavorable, for none of the symptoms enable us to predicate the attenuated form of the disease.

Until we have had a larger experience, and have become more familiar with the nature and effects of tuberculin T.R. as an antitoxic agent, our only advice is to recommend enucleation. It is possible that iridectomy may be useful in the case of solitary tubercle before softening has begun, and will leave the patient with a varying amount of useful vision, but in all cases of multiple growths the eye should be removed.

Schieck has recently reported some interesting experiments with tuberculin.[1] He considers that tuberculin T.R. has shown much weaker symptoms of reaction than the first tuberculin, and thus the danger of general dissemination is lessened. Tuberculosis of the iris and cornea furnish the best conditions for the employment of the remedy, viz., local, unmixed forms of disease, and the absence of increased temperature. He reports five cases of his own so treated, varying in age from thirteen to twenty-eight years. All had the characteristic nodules at the periphery of the iris, and in three the lesion was bilateral. All were treated with tuberculin T.R., beginning with a dose of 0.002 mgm. and increasing each dose gradually from 0.002 to 0.5 mgm., and going as high in one case as 6 mgm. at a dose. In three of the cases the nodules rapidly disappeared, and all signs of inflammation subsided. In two cases all the symptoms of irritation were increased, while the nodules continued unchanged, but when the injections were discontinued they both healed promptly.

Schieck then gives the statistics of the results of treatment in 116 cases of tuberculosis of the iris. In the 13 cases treated by tuberculin injections all were improved and no eye was entirely lost. In the 103 cases which were not treated by tuberculin 39 were healed and 64 were lost. From this it would seem that the fear of the spread of the bacilli from a tuberculous nodule of the iris by the employment of Koch's tuberculin is not justified. It should be remembered that Koch's agent is not a bactericide, but merely supports the tissues and excites them to resistance in their conflict with the virus, while the bacilli are at the most but weakened. Hence the occurrence of a relapse should not be laid to the charge of the tuberculin. In nineteen reported cases in which an attempt was made to remove the local disease by iridectomy only eight were successful, four were total failures, and in the remaining seven cases the disease spread still more rapidly, due, doubtless, to fragments of tuberculous tissue left within the eye.

The second part of Schieck's work consisted in an endeavor to determine the effect of tuberculin T.R. upon cases of artificially produced tuberculosis of the iris and cornea, in order to see whether these disease processes induced in animals followed the same course as did the nodules in patients treated by tuberculin. The inoculation materials employed were fresh, pure cultures of human tuberculosis on glycerin-agar. He made a number of elaborate experiments on rabbits, divided into six different series. The results varied greatly in the different series, and even when apparently positive results were obtained, they were not entirely free from doubt. The most important fact established seemed to be the possibility of a spontaneous disappearance of tuberculous nodules of the iris in rabbits, a fact previously mentioned by Sattler.

Schieck formulates the results of his experiments as follows: (1) An immunizing effect of tuberculin T.R. does not exist. (2) Tuberculin T.R. cannot cure every case of experimental tuberculosis of the cornea or iris in the rabbit. (3) The cases treated by T.R. are no more malignant in their course than those in which T.R. is not used. (4) The study of the action of tuberculin in the rabbit cannot be an exact one, for undoubted cases of cure occur without the use of tuberculin.

If we compare our knowledge of the great value of tuberculin in cases of tuberculosis of the human iris with the very uncertain results of the experiments on animals, we find ourselves face to face with an inexplicable contradiction. Schiek endeavors to explain it as follows: In the disease process known as tuberculosis of the iris in man we have to deal with an insidious inflammation of endogenous origin, with the formation of nodules within the iris tissue itself, with few bacilli. On the other hand, the experimental tuberculosis of the iris starts from masses of bacilli which lie either free on the surface of the iris or in artificial wounds in the iris. The action of the tuberculin does not consist in killing the bacilli, but in exciting the surrounding tissue to resist the tuberculous masses and the formation of scar tissue. In the experimentally produced tuberculosis the bacilli are numerous and in the beginning lie outside the tissue, surrounded by a structure rich in cells but poor in connective tissue, and here the tuberculin has but slight effect. In tuberculosis of the human iris, however, the bacilli are few in number and the iris is abundantly rich in connective tissue, and here the tuberculin finds the most favorable conditions for its curative action.

Tuberculosis of the Chorioid.—Tubercles in the chorioid were first recognized by von Jaeger in 1855, shortly after the invention of the ophthalmoscope. They were supposed to be always secondary growths till 1873. They are met with under two forms: the miliary or disseminate tubercle, and the solitary or circumscribed. The former are usually found in the posterior part of the fundus, and the latter in the anterior part. They are most frequent before the age of twenty, and much more common in children than in young adults. The miliary form is met with in general acute tuberculosis and in tuberculous meningitis, while the circumscribed large masses of infiltration occur in chronic tuberculosis.

Miliary tubercles nearly always occur in both eyes. They vary in size from 0.5 mm. to 2.5 mm. in diameter, and are usually found in the vicinity of the optic nerve and macula lutea. They appear as round spots, pale yellow in color, with a pinkish zone shading gradually at the margin, and later become gray in color and somewhat prominent. They resemble recent patches of chorioiditis disseminata. They start in the deep layers of the chorioid, growing from the adventitia of the larger vessels, and, as a rule, cause no defect of vision. The older, large tubercles show under the microscope giant cells surrounded by a circle of nuclei, and these in turn are surrounded by a reticulum of fibres with small-cell infiltration, caseation, and extravasation of blood. The newer and small tubercles appear to be collections of lymphoid cells between the vessels. Bacilli are by no means always found. Their presence in the chorioid has no connection with the presence of tuberculous meningitis. They are said to be common occurrences in miliary tuberculosis, but the writer believes this to be an exaggeration. It is probable that tubercles of the chorioid which are visible with the ophthalmoscope belong to the terminal stage of general tuberculosis, as they often develop shortly before death. Owing to the small size of miliary tubercles, their tendency to develop in young children, and the consequent difficulty of examination, they are much oftener found after death than before it. Those which are readily visible with the ophthalmoscope are usually from six to ten in number, though they may reach as high as thirty or forty.

When the tuberculous deposit is in the anterior segment of the chorioid and takes on an acute process, it

[1] Archiv für Ophthalmologie, i., 2.

resembles an irido-cyclitis, and is accompanied by extensive destructive changes. It consists of a mass of tuberculous matter, which generally undergoes caseation, suppurates, and perforates the eyeball. The bacilli, when found, are relatively very few. Chronic tuberculous tumors of the brain are sometimes accompanied by tubercles of large size and slow growth in the chorioid, which gradually fill the eye and simulate malignant tumors. They tend to perforate the eyeball, usually anteriorly in the ciliary region, but sometimes extend backward along the sheath of the optic nerve. Extension downward along the same course from a tuberculous mass in the brain has been known to occur, but is not common. General tuberculous infection from these cases has been observed only when the eyeball has ruptured, and the orbital tissue has become infected. Hence the advisability of an early enucleation. The chronic miliary form progresses slowly and insidiously, the capillaries become obliterated, there is no pain, and very rarely any external evidence of disease, such as episcleral injection, is observed. It should not be forgotten that while miliary tubercles of the chorioid are sometimes found in connection with tuberculous meningitis, they are more frequently met with in general tuberculosis without meningitis. In any case they are comparatively rare, and while their absence is of no significance, their presence is valuable evidence of general tuberculosis. Owing to their rapid development, ophthalmoscopic examinations in suspected cases should be frequently and repeatedly made.

Tuberculosis of the Retina and Optic Nerve.—Tuberculous lesions in the retina and optic nerve are almost always associated with tuberculous meningitis, and in about fifteen per cent. of the cases of meningitis, miliary tubercles are found in the chorioid. When these are found in doubtful cases of meningitis, the differential diagnosis between typhoid fever and tuberculous meningitis may be considered as made. Moreover, myosis is frequently a symptom in the early stages of tuberculous meningitis, just as its opposite, mydriasis, is in the later stages, and a rapid oscillation between myosis and mydriasis is rather characteristic of the disease. In these cases there is a peculiar marbled reflection in the retina near the veins in conjunction with the tubercles in the chorioid, associated with œdema of the retina and optic nerve. There are also occasionally seen near the optic nerve some small white spots, the so-called retinal tubercles, but these are rare. Unequivocal tubercles in the retina are usually associated with tuberculous growths in all the structures of the eye.

The subjective symptoms in complications of the retina and optic nerve are periodical obscurations of vision and photopsia, and to these is sometimes added the objective symptom of papillitis. The optic nerve often remains normal throughout the entire course of the disease, but there are some changes in about half of the cases. The disc becomes red and the outline hazy, with more or less marked striation on the papilla and in the retina. It is more a neuritis than a papillitis, and hemorrhages are rare. There is a gauze-like opacity over the disc and retina, resembling that seen in syphilitic retinitis. The changes are always bilateral, and in most cases the patients soon die. In those who recover the intra-ocular signs are slight. The neuritis is a typical descending neuritis, the sheath of the nerve being not only distended but inflamed. In many cases the symptoms of meningitis are distinctly marked before the ocular changes occur. In some cases the cerebral symptoms are latent or doubtful, and here the ophthalmoscope affords assistance. A diminution in the severity of the cerebral symptoms may be accompanied by a diminution in the ocular changes. It should be remembered that optic neuritis is more commonly present in this form of meningitis than in any other, and, in consequence of its tendency to attack the base of the brain, paralyses of the ocular muscles are frequently met with.

Tuberculosis of the Orbit and Orbital Walls.—No case has ever been reported of primary tuberculosis starting in the orbital tissue. In the cases in which this tissue has been involved, the disease has started either in the iris or ciliary body, and the orbital tissue has become infected by perforation of the eyeball. As regards the bony walls of the orbit, the presence of periostitis or caries, when non-traumatic in origin, should excite suspicion of either syphilis or tuberculosis, especially in children.

THE TREATMENT OF TUMORS BY ELECTROLYSIS.

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It may not be generally known that the real originator of the electrolytic and galvano-caustic methods of treatment was Gustav Crussel, a medical practitioner in St. Petersburg. He made his researches in the forties under the guidance of my celebrated teachers, the anatomist and surgeon Pirogoff and the physicist Lenz, but his admirable work passed unnoticed at the time. Ten years later Middeldorpf reintroduced the galvano-caustic method, which, with the improved apparatus and technique, was adopted by surgeons, while the electrolytic method of Crussel remained unknown, although he completely and with remarkable correctness laid down the rational indications for its employment. The interest of the profession was awakened only much later, when several physicians independently and almost simultaneously reintroduced the method in special morbid conditions.

I too must confess to an entire ignorance of Crussel's investigations during the first years of my experimental work, and shall always regret it; as a previous acquaintance with his writings would have spared me much time and troublesome experimenting. While recommending the historical study of electricity, I do not ascribe to it the same importance as to personal observation and experiment. My first electrolytic experiments on animal fluids and tissues gave me most valuable suggestions, which I was later able to verify during my long practice. The hardening, coagulating, shrinking effect of the anode offered itself at once for the treatment of aneurisms, varicose veins, cavernous tumors; while the softening, solvent action of the cathode seemed indicated in strictures and tumors.[1]

In this country, my lamented friends the late Drs. J. Marion Sims, A. Post, Nott, Mussey, also Dr. Bailey of Albany, Dr. Whitehead of Colorado, Drs. Jones and Graham of North Carolina, and others, sent me a number of interesting cases of tumor. I was thus enabled to study the electrolytic process from the clinical, biological, and physico-chemical standpoints, these latter in my private laboratory.

The first thing that surprised every surgeon who attended the electrolytic treatment was the slight general and local reaction following the operations. The patients, as a rule, continued their mode of living and their daily occupation. Even after severe electrolytic operations, as, for instance, the necrotic destruction of large malignant tumors in one sitting, by my method, under the influence of an anæsthetic, the general effect

[1] I made these observations while studying pathological histology in Virchow's Institute in the years 1860, 1861, and 1862, and examining the action of different electric currents on living unicellular organisms (amœbæ) and other protoplasmatic structures (leucocytes, sarcoma and cancer cells).

is comparatively insignificant—a very slight elevation of temperature, if any at all, one or two days in bed, moderate pain not requiring narcotics; sleep, appetite, and digestion remaining normal. After the removal of the necrosed tumor the wound rapidly healed by granulation, leaving a small, soft cicatrix.

The impression produced upon me by the electrolytic operations can be readily understood, considering the many years I spent in the clinics of Pirogoff and Langenbeck, in visiting the wards of celebrated English and French surgeons, and in performing surgical operations in the hospitals of St. Petersburg and during the Crimean war; all this before the antiseptic era of Lister. As no pyæmia, septicæmia, hospital gangrene, acute purulent œdema, etc., ever followed my electrolytic operations, I concluded that they are generally void of danger. I expected great results from the adoption of electrolysis in general surgery, but the brilliant results of the antiseptic method made such an innovation apparently unnecessary; I say apparently, because the electrolytic method not only remains applicable in many instances, but sometimes proves preferable to the usual surgical operations.

For convenience' sake I may here explain the immunity from complications which so often accompanied former surgical operations, although this should perhaps be said in connection with the physico-chemical phenomena of electrolysis.

I always ascribed an important rôle to the gases developed in electrolysis of living animal tissues. As long ago as 1840 Schoenbein discovered that a certain amount of the oxygen evolved at the anode passes in its active condition, which he called ozone, while a much larger amount of the oxygen combines with the hydrogen of the electrolyte and produces peroxide of hydrogen. Both the ozone and the hydrogen peroxide are easily recognizable by their reactions. The amount of these gases of course increases with the current intensity.

In order to examine the properties of the hydrogen developed at the cathode it is best to use a cathode of palladium, because, according to Graham, this metal absorbs a very large amount of hydrogen. The hydrogen thus obtained reduces in the dark the iron oxide salts and organic substances, and readily combines in the dark with chlorine and iodine; therefore, it is more active than the ordinary hydrogen gas. Such active hydrogen, according to Hoppe-Seyler, is able to cause strong oxidations by rendering active (ozonizing) the oxygen of the air and of the electrolyzed fluid. The effect of the active hydrogen evolved by electrolysis is thus more potent than that of the active oxygen (ozone), as the former calls forth oxidations as well as reductions. It is evident that the ozone, the active hydrogen, the peroxide of hydrogen, the chlorine, being powerful antiseptics and bactericides, render the electrolytic process a most efficient antiseptic. The accumulated acids also contribute their share to the antiseptic result.

The above facts explain the absence of septic phenomena, both local and general, after electrolytic operations.

I became acquainted with these properties of electrolysis very early in my practice, but only after many years of laboratory work I published them in detail in Virchow's *Archiv* in 1881.[1]

Not long ago my views were confirmed by the excellent researches conducted by Smirnow in the St. Petersburg institute of experimental pathology. He demonstrated, besides, that electrolysis is not only a bactericide, but destroys the toxins and transforms them into antitoxins.

[1] More recently Apostoli, with the aid of a bacteriologist, published as a new discovery the antiseptic and bactericidal action of the anode only.

The electrolytic process is the ideal antiseptic, since it can reach the most hidden places and cavities inaccessible to other antiseptics. The electric current being able to permeate the surrounding tissues, electrolysis is therefore especially indicated in the treatment of malignant tumors.

Owing to the work and discoveries of Arrhenius, Van t'Hoff, Ostwald, Raoult, and others, a new scientific branch—physical chemistry—has been developed within these twenty years, especially in the last decade, on the border lines of chemistry, physics, and physiology. This new science, of great theoretical interest, offers an inexhaustible source for new researches and discoveries, and is intimately connected with physiology and medicine (the modern theories of solutions, osmosis, cryoscopy, tonometry, the theory of ions, etc.).

The limits of this article permit me to give but a few elementary facts indispensable for the rational employment of electrolysis in medicine and surgery. Electrolysis, far more than the electrical phenomena in metallic conductors, affords an insight into the nature of electricity in general, and reveals the physico-chemical changes which take place in the living body under the influence of electric currents.

Substances which conduct the current are divided, as is generally known, into conductors of the first and second class. The conductors of the first class form a well-defined group characterized by the following properties: They are the only chemically simple bodies which in the solid state conduct the current. They conduct it with an incomparably greater velocity than do the conductors of the second class, and they conduct better at a lower than at a higher temperature, and without undergoing any change in their substance, except the elevation of temperature. To this group belong the metals and their alloys and amalgams, hence the name metallic conductors. All other chemically simple bodies in a solid state do not conduct the current, and are designated as non-conductors of electricity—insulators. The conductors of the second class, or moist conductors, are always compound chemical substances. They conduct the current only in a dissolved or fused condition, invariably under decomposition of their constituent parts (electrolysis), and are therefore called electrolytes. They conduct the current better at a higher than at a lower temperature. The conductors of the second class, moist conductors, electrolytes, carry the electric current because of their chemical decomposition. Substances which do not undergo electrolytic decomposition, like absolute alcohol, chemically pure water, etc., do not conduct the current. If these substances be connected with the poles of a battery of any strength no electrolytic decomposition will take place, nor will the needle of the intercalated galvanometer be deflected. On the other hand, even electrolytes will not be decomposed by the current as long as their molecules remain immovable, solid substances; but as soon as they are dissolved they immediately undergo electrolytic decomposition. Thus acidulated or saline water conducts the current and is decomposed by it so long as the water retains its liquid condition, but when in the state of ice it can neither conduct the current nor be decomposed by it. Hence it follows that both the animal fluids, which are saline aqueous solutions, and the animal tissues impregnated by them, are electrolytes and readily undergo the electrolytic action of the current. Even the compact bones and cartilages yield to it; for, besides medullary tissue and soft cellular elements, the living bones contain blood-vessels and canals filled with electrolyzable saline solutions. This is especially the case with the proliferating tumors in softened bones and cartilages.

The decomposition of an electrolyte is not merely a

phenomenon accompanying the electric current, but is the essence of electric conduction; for electric conduction is inseparable from chemical decomposition, and, according to Faraday's law, the amount of the decomposed electrolyte is directly proportional to the quantity of electricity which traversed it.

The fundamental condition of all electrical phenomena in moist conductors is the presence of free ions. The ions are specific atoms and molecules temporarily charged with electric energy. But as energy is constantly undergoing transformation (the transformations of energy really constituting all the phenomena in nature) the ions may lose their specific properties and again become ordinary atoms and molecules. The electrolytic decomposition is of a peculiar nature and differs from other decompositions by producing special electrical elements, ions entirely unlike, for the time being, any ordinary chemical bodies. A large category of substances cannot undergo electrolytic decomposition and are impassable for the electric current; as, for instance, alcohol, ether, petroleum, glycerin, oils, and other organic fluids, etc. It is therefore evident that not every material atom and molecule can become an electric element, an ion. However restricted, the class of electrolytes is still very numerous, as it comprises the solutions of salts, acids, and bases. The ions are the only carriers of electricity in its passage through solutions. When a solution contains no ions the electric current cannot pass it. If the solvent fluid is an insulator the electric charge of the ions is retained by them and cannot leave them so long as they are surrounded by the insulating solvent. The chemical constitution of the ions, after they have lost their electric charge and have become ordinary chemical bodies, is that of salts in the modern sense of the term. The ions developed by electrolysis and temporarily charged with electricity have for material basis on one side a metal or hydrogen, on the other a simple radical or a radical group or hydroxyl. For instance, in subjecting to electrolysis solutions of salts, acids, or bases, the metals Cu, K, Na, etc., or H are cathions and are attracted by the negative electrode, the radicals SO_4, OH, Cl, etc., are anions and are attracted by the positive electrode. At the respective electrodes the ions discharge their electricity and become again free, electrically neutral, chemical bodies, with their former properties and affinities, and immediately undergo secondary chemical combinations with the surrounding media, which they were incapable of while charged with electricity as ions. Thus, for instance, a sodium ion does not decompose water as does the sodium metal, a chlorine ion has neither the odor, nor the color, nor the affinity of chlorine gas.

Until recently a prominent feature of the electrolytic process was inexplicable, namely, the presence of products of electrolytic decomposition only at the electrodes, while the intermediate part of the electrolyte remained unaltered. Many theories were offered in its explanation, but it was left to Arrhenius to elucidate the facts fully and explain this and other phenomena in electro-chemistry.

His theory presupposes the existence of dissociated molecules in every solution of a chemical compound, even before it is traversed by a current, the dissociation being produced by the heat absorbed during the process of solution. Thus, when salts, acids, or bases are dissolved, they will not be present any more in the solution as compound chemical bodies, but their constituent atoms alone will be found in the solution. For instance, if we dissolve hydrochloric acid or sodium iodide, etc., the solution, if sufficiently diluted, will not contain these substances in their compound state, but their dissociated atoms of hydrogen or sodium, of chlorine or iodine, etc., in the form of free ions, the first charged with positive, the latter with negative electricity. If such solutions be subjected to the action of a constant current the cathions will be immediately attracted to the cathode, the anions to the anode, and both will discharge their electricity at their respective electrodes; after which they return to the state of ordinary bodies with all their natural chemical properties and affinities, as hydrogen, chlorine, sodium, etc., in statu nascendi, and enter into secondary chemical combinations.

The theory of ions, advanced by Arrhenius in 1887, generalizes the laws of osmosis discovered by Dutrochet, Pfeffer, and De Vries for substances which are not electrolytes, and makes them applicable to all other bodies. In like manner, it generalizes the laws concerning the freezing-point of solutions and the tension of their vapors, and explains a great many phenomena of paramount importance to physics, physiology, and medicine, which until then remained obscure and without connection.

The human body, taken as a whole, is a moist conductor, an electrolyte, consisting of about seventy per cent. of water which constitutes the general solvent fluid of the substances circulating in the system, viz., the inorganic salts—sodium chloride, potassium chloride, phosphates, sulphates, and carbonates of sodium, potassium, calcium, and magnesium, with salts of iron. There are, besides a fraction of sugar in the blood, the products of the albuminous tissue change—urea, uric acid, creatin, etc. The albuminous substances occupy a distinct place on account of their extremely complex chemical composition, the great number of atoms contained in their molecules, and their physical peculiarity as regards solubility. They belong to the so-called colloid substances and do not, like the salts, form a genuine aqueous solution, but gradually absorb water until they form a fluid from which they cannot be obtained either by crystallization or diffusion.

Of special importance in electrolysis of animal tissues is water, the combination of hydrogen (H) with hydroxyl (OH), which is not only the general solvent but is itself an electrolyzable fluid. The tendency to dissociation, and hence the conductibility, varies in different electrolytes. While hydrogen and hydroxyl possess but a slight tendency to dissociate into free ions, sodium chloride and potassium chloride dissociate quite readily. Thus the salts contained in the tissues undergo electrolytic decomposition while their solvent vehicle still remains intact.

The velocity of the current increases with the electromotor force and diminishes with the increasing resistance. The greater the mobility of the solution the less the resistance. This is why moist conductors, contrary to metals, conduct better at a higher temperature. The resistance depends also on the nature of the ions; the larger they are the greater will be the resistance. The size of the ions depends on their chemical composition and the number of their atoms. With the increase of the number of atoms the surface of the ions grows and presents a greater resistance to friction.

Since the molecules of albuminous substances contain hundreds of atoms and thus hardly conduct the current, it is evident that, contrary to the prevailing fallacy, they can play no part in the electrolytic decomposition of animal tissues.

The constituent parts of animal tissues in regard to electrolysis may be divided into two groups: the electrically inactive, to which belong the colloid substances and the non-dissociated ions offering only resistance to the current, and the electrically active, the dissociated ions which alone conduct the current. Among these chlorine and sodium are prominent for their tendency to dissociate, and, assisted by the water of the tissues, they principally accomplish the electrolytic decomposition in living tissues. The sodium

metal at the cathode, unlike the sodium ion, abstracts hydroxyl from the water of the solution and forms caustic soda, setting free the hydrogen; at the anode the chlorine gas, unlike the chlorine ion, takes the hydrogen from the water, forms hydrochloric acid, and lets the oxygen escape. Twice as much hydrogen is liberated at the cathode, as oxygen at the anode. The products of electrolytic decomposition of all the other salts, acids, bases, and water of the tissues react in an analogous manner. It is obvious that the accumulated alkalies at the cathode and the acids at the anode must produce a powerful destructive chemical effect, especially on the albuminous substances, where it manifests itself by discoloration, coagulation, disintegration, and necrosis. But these phenomena at the electrodes are the secondary effects called forth by the chemical products of electrolytic decomposition of the living tissues. The same process takes place everywhere between the electrodes, although invisibly in a molecular form. For it must be borne in mind that the living body which the electrolyzing current has to pass is not a homogeneous moist conductor, but consists of a great variety of organs, membranes, even single cells, and different concentrations of the aqueous solutions, all of which act as so many entrances and exits for the current—as anodes and cathodes. At each of these innumerable electrodes the water, the hyaloid salts, etc., undergo the same chemical decomposition as at the principal electrodes, the secondary chemical combinations excepted. This can be illustrated by a simple experiment. If a constant current is sent through a series of different solutions, decomposition takes place in the solutions, not only at the entrance and exit of the electrodes, but in each of the intermediate solutions as well.

The secondary chemical effects of electrolysis, which manifest themselves at the electrodes, are accountable for the local effects in the treatment of tumors; but equally important are the general molecular constitutional effects of electrolysis which take place between the electrodes in the whole body, in proportion to the density of the current. The local caustic effects at the electrodes can be intentionally eliminated by intercalating another moist conductor between the body and the electrodes, thus making available only the general constitutional effect.

The electric current in passing through living tissues is not entirely expended in the dissociation and transmission of the ions, but a portion of the current is transformed into other energies; an insignificant part into heat, owing to the small intensities employed, and a much greater part for the transformation of the electrical into mechanical energy—cataphoresis. This consists in an uninterrupted flow in the direction of the positive current of the whole mass of the electrolyte, including the electrically inactive molecules. Cataphoric action has quite a different character from the motion of the ions, it is not accompanied by decomposition, and it increases with the resistance. It has, however, one point in common with the electrolytic action—it is directly proportional to the intensity of the current. If a fluid through which a constant current passes be intercepted at some place by a porous diaphragm or a membrane, the fluid will flow through in the direction of the positive current and carry with it any particles that may be suspended, as if the diaphragm did not exist. The fluid sinks at the anode and rises at the cathode. Such a diaphragm offers a new resistance to the passing of the electric current, and therefore increases the cataphoric action. In the living body, where the current has to encounter innumerable membranes (diaphragms), the conditions are very favorable for cataphoresis. I often avail myself of the cataphoric action of the current, for instance, in the treatment of chronic swellings, especially of lymphatic glands. I apply to the swollen part percutaneously a small anode, and at a certain distance a large cathode, and allow the current to flow uninterruptedly for several minutes, and occasionally move slowly the cathode from one place to another. After each application the swelling diminishes at the anode, and the accumulated fluid with the suspended particles, carried by the cataphoric action of the current to the cathode, gradually disappears by diffusion and absorption. In my first attempts to treat malignant tumors more than thirty years ago, I tried to enhance the electrolytic action by introducing cataphorically into the substance of the tumor metallic salts (of zinc), but soon found it useless, the electrolytic action alone being entirely sufficient when properly employed. Whenever electrolysis is unable to cure the tumor owing to the generalization of the disease, cataphoresis of metallic salts is powerless to improve the result.

It may be proper to say here a few words regarding the relation of induction currents to electrolysis, or better, give the following simple experiment: If induction currents (currents in opposite directions in rapid succession) are made to pass through a voltameter the developed gases at the electrodes—oxygen, hydrogen, etc., constantly reunite and make the final electrolytic result very insignificant.

In the faradic current the opening currents prevail, and there is always a small excess of ions in this direction. Moreover, it displays the phenomena of cataphoresis, and in living tissues stimulates the nerves, produces muscular contractions, enhances the circulation and the absorption, and may thus contribute to the reduction of non-malignant tumors. On the whole, however, the electrolytic action of induction currents is insignificant and unfit for the reduction of large tumors, or for the destruction of malignant growths. The electrolytic action of the sinusoidal current and of static electricity is still less than that of the faradic current. For electrolysis of tumors, therefore, the constant current alone ought to be employed.

In living animal tissues (tumors) subjected to electrolysis by means of inserted needle electrodes the escape of fine, frothy gas (hydrogen) is observed at the cathode needle, the tissue immediately surrounding it becoming discolored, yellowish-gray, soft, and necrosed. The necrosed tissue is gradually dissolved in the accumulated free alkalies around the needle and forms a pale yellowish, odorless fluid of an alkaline reaction. Finally, the fluid is absorbed, and thus directly contributes toward the diminution of the tumor. By a considerable increase of the intensity and duration of the current a small, thin eschar is formed which dries and comes off. Within the sphere of the cathode the tumor at first becomes swollen, crepitating, and fluctuating, owing partly to the accumulation of gas and partly in consequence of the cataphoresis, but this swelling soon entirely disappears by absorption. Even very resistant tissues, in which the needle can be introduced only with considerable difficulty, become quite soft under the influence of the cathode after the current has flowed for a while, and allow the needle to penetrate easily in every direction. Therefore, the extraordinary hardness of a tumor does not contraindicate electrolysis.

Around the anode needle a dark, almost black, dry layer is formed, and consists of hard coagulated, shrivelled, mortified, or mummified tissue. This necrosed tissue likewise disappears gradually by molecular disintegration, by a kind of necrobiosis. But when the intensity of the current is great and its duration prolonged, a portion of the tumor surrounding the anode, or the entire tumor, may undergo necrotic destruction. Later on appears a slight inflammatory demarcation line, and after the necrotic mass has become detached

the defect rapidly fills up with healthy granulations and closes with a small, soft cicatrix.

As the action of the two electrodes is so widely different, it is imperative to warn against their indiscriminate use. Many times have I introduced the cathode needle into the substance of a myomatous uterus, the parenchyma of the spleen, the liver (ecchinococcus), the articular cavities, and for several seconds or even minutes kept increasing the current to a considerable extent, and without any unpleasant consequences. But quite different would be the result of a prolonged insertion of an anode needle; the necrosed mass would be eliminated in toto, which is not without danger. The anode needle of a strong current may remain inserted for a considerable time in such cases only when it is intended to effect a necrotic destruction en masse in connection with the surface of the body. When the anode needle is inserted for the purpose of coagulating the blood in aneurisms or varicose veins, it must not remain too long in the same place; or several branched anode needles may be used, which must be insulated at the contact with the tissues.

In electrolysis of tumors the contents of the blood- and lymph-vessels, being better conducting fluids, are especially affected by the current; the necrosis of the nutritive vessels greatly contributes to the regressive metamorphosis of the electrolyzed tumor.

For practical purposes tumors can be classified into malignant and non-malignant. The non-malignant tumors originate locally, and are caused by a local traumatic, mechanical, or chemical irritation. This calls forth hyperæmia and hyperplastic development of the irritated normal tissues. Such tumors produce per se no constitutional disturbance, but may become injurious only by their excessive growth interfering with the functions of the affected or the neighboring organs and with the circulation; but they do not invade the other organs and have no tendency to become generalized. Moreover, after complete extirpation they are not followed by relapses.

The origin of malignant tumors is due likewise to some local irritation, to which, however, is added the action of some parasitic micro-organism (protozoa, amœbæ, coccidia, etc.). Although the parasitic origin of malignant tumors is not yet generally accepted, the infectious nature of the disease points to this theory. Malignant tumors always invade the neighboring and distant tissues and organs; they become generalized, produce poisoning of the whole system (cachexia), and terminate fatally. Even the extirpation in the fully developed disease is of no avail, as it is followed by a relapse and generalization. This corroborates the theory of the parasitic origin of malignant tumors; for, however thorough the operation, the knife, caustics, or galvano-cautery cannot completely remove the infectious germs which remain infiltrated in the surrounding tissues and continue their work of destruction. Not so with benign tumors; for instance, a large fibromyoma of the uterus may remain during life without affecting the general health, but a small cancer of the cervix, or a little scirrhus nodule in the breast, in no way even interfering with the functions of the organ, are nevertheless disastrous to the general nutrition, produce cachexia, and invariably lead to death. With our present knowledge of the etiology of infectious diseases it seems plausible to attribute the essence of malignant tumors, their spreading, the general poisoning of the system, and other symptoms, to the vital activity of pathogenic micro-organisms. Moreover, the parasitismus of malignant tumors has been demonstrated by Jurgens, Sawchenko, Roncali. Doria found amœbæ in endometritis, which preceded the development of adenoma and carcinoma uteri, and quite recently Dr. Eisen, of San Francisco, demonstrated the constant presence of a certain amœba in epithelioma.

The electrolytic treatment of benign and malignant tumors, like their etiology, is based on radically different principles.

In treating malignant tumors by electrolysis my aim is to produce in one operation, by the action of the anode, the necrotic destruction of the tumor and of all the infectious germs of the surrounding tissues. This must be accomplished in the first stage of the disease, so long as the tumor is local, the lymphatic glands are not yet affected, and the distant organs are free from deposits. The effect of such an electrolytic operation is the disappearance of all morbid symptoms, and a complete recovery without relapses. A number of patients treated by me some twenty or more years ago are still in good health, although at the time the microscopical examination of the necrosed mass presented the characteristic structures of carcinoma. The operations were witnessed by physicians who kindly assisted me and observed the results.

I published the details of my method in Virchow's *Archiv*, vols. 57, 70, 86.

The treatment of benign tumors is based on a different principle. Here the indication is not to destroy the tumor by electrolysis, but to induce, by the action of the cathode, a regressive metamorphosis, molecular disintegration, absorption, and atrophy.

The following cases may serve as illustrations:

Mrs. C——, aged thirty-eight years, a childless widow of a good constitution but with an inherited tendency to obesity. Of late years she noticed a steady increase in the size of the abdomen and complained of dyspeptic symptoms, constipation, œdema of the lower extremities, and great discomfort in walking or driving. Both her father, a distinguished physician, and her brother-in-law, a well-known professor of surgery, diagnosed a very large fibroid tumor of the uterus, which filled the pelvic and a part of the abdominal cavities. They gave their opinion that an operation (extirpation of the uterus) was out of the question, as it would endanger life, and recommended rest and a careful mode of living as the best palliatives. I was consulted in 1878 in regard to electrolytic treatment, and made a favorable prognosis, based on experience with similar cases. I found the whole uterus, except the cervix, involved in the hyperplastic development, especially the posterior wall and fundus of the uterus; the posterior wall was quite hard and unyielding. At the first electrolytic operation, which I performed without an anæsthetic, a large flexible anode—a metallic plate well padded with compressed moss and flannel and soaked in warm water—was applied to the hypogastric region and a rather long and strong cathode needle of platinum introduced through the vagina. This needle was conveniently curved, and so insulated with soft-rubber tubing (not vulcanized) as to allow the metallic needle to penetrate at any desired depth into the substance of the tumor, or to be partially withdrawn and still remain insulated outside the uterus. I inserted the needle into the posterior wall of the tumor with considerable effort, because of the hardness of the fibromyoma at this place. The current was turned on with a minimum intensity, and was slowly and gradually increased by means of an excellent Hirschmann rheostat, when it was allowed to flow for about five minutes, then was gradually diminished and finally discontinued by the extraction of the needle at a very low current intensity. The whole current duration was about ten or twelve minutes, the operation was almost painless, and not a drop of blood was lost. The lady drove home from my office. She was advised to remain a few days in bed, without, however, changing her diet and without

any treatment, no fever or any other unpleasant symptoms having followed the operation.

Three electrolytic operations in all were performed at intervals of two or three weeks, with the only difference that the cathode needle was introduced at a different place each time with the highest current intensity of about one hundred and fifty milliamperes.

For after-treatment, I used galvanization of the splanchnic nerves—a method I described in Westphal's *Archiv* (vol. 10), and which influences favorably the circulation in the pelvic and abdominal organs, and is therefore employed by me in all chronic affections of the female pelvic organs. Besides I used faradization of the relaxed abdominal and perineal muscles, and of the ligaments of the uterus. The tumor soon began to diminish, digestion and other functions became normal. Œdema having entirely disappeared the patient regained her excellent health, which she continues to enjoy. I saw the patient occasionally during the next year after the operation and every time found a considerable reduction in the size of the uterus, until there remained only a circumscribed enlargement in the posterior wall of the uterus, which did not in the least trouble the patient. She has become again a good pedestrian, and passed through the change of life without any discomfort.

The method employed in the above case is generally adopted by me in the treatment of fibroid tumors of the uterus. My experiments taught me long ago that the tissue of myoma easily yields to electrolysis. I usually postpone each subsequent operation as long as the tumor continues to diminish, and until every trace of the inserted needle has disappeared. The intervals last from ten days to three weeks. The needles for electrolysis are always of platinum, which, besides being pliable, does not oxidize under ordinary circumstances, and, when used as an anode, they do not corrode or break and can be easily extracted.

My principal work in electrolysis, both experimental and practical, was published between 1868 and 1881, *i.e.*, before the introduction of the absolute galvanometer. I always worked, however, with the excellent apparatus of Krüger and Hirschmann, which contained a good current-selector, a commutator, rheotome, rheostat, Sieman's constant elements, and a good galvanoscope, indicating not only the presence and direction of the current but also its approximate intensity. In using this apparatus the number of resistances and the angle of deflection of the needle gave a tolerably accurate notion of the amount of the electric current.[1]

In this way Du Bois-Reymond, Pflüger, and others discovered the laws of electro-physiology; Brenner the normal and pathological reactions of the motor and auditory nerves; Erb the degeneration reaction; I described the galvanic reaction of the optic nerve, and the whole doctrine of electro-diagnostics was established before the introduction of the absolute galvanometer.

For scientific electro-therapeutics it is of the utmost importance to have an exact standard of measurement, although for daily practical purposes we may speak of weak, moderate, or strong currents, as we do of small, moderate, or large doses of a remedy; still more so in electro-therapeutics, since during a sitting we have constantly to change the intensity of the current. Besides in medical cases it is not so much the current intensity per se, as the insidious or abrupt way in which it is increased or diminished that is of consequence.

Generally speaking, I use from 20 to 200 milliamperes in treating benign tumors, and 30 to 1,000 milliamperes for malignant tumors, according to the nature and size of the tumor and the duration of the current.

As I purposely select illustrations from my old cases which have stood the test of time, I give the amount of electricity only approximately in milliamperes.

I discontinue the electrolytic operations when the tumor is still of considerable size, because the regressive metamorphosis, once fairly begun, as a rule progresses spontaneously, as in the following case:

In 1869 I was consulted by a married childless lady, about forty years old, who suffered from dysmenorrhœa ascribed to a retro-uterine fibroid tumor. I inserted into the tumor a cathode needle of a moderate current, and repeated the operation three times in two months. The dysmenorrhœa and all other morbid symptoms disappeared, and her general health improved. She had to go home (Chicago), expecting soon to return and resume the treatment, but had to stay away for more than a year, still feeling well. When she returned to New York I found only a small residuum of the tumor, and therefore informed her that all further treatment was unnecessary.

Since this experience I leave the further reduction of a tumor to nature and to the spontaneous regressive metamorphosis which has been induced by the electrolytic operations. The electrolytic effect is generally better when the operation is performed before the menstrual period.

When I first began to treat fibromyomata accompanied by profuse menstruation, I introduced on several occasions into the cervix a sound-like anode of a rather weak current; but the effect was more irritating locally and constitutionally than with my ordinary method; and as soon as I found that the insertion of the cathode needle, as practised by me, removed the hemorrhages together with all the morbid symptoms, I never afterward treated fibroid tumors through the canal of the cervix.

As mentioned above, my researches, conducted during many years, were published in Virchow's *Archiv*, the last exhaustive article appearing in 1881. They were all extensively quoted in the leading German, English, and French periodicals. In 1882, a year after the last publication of my work, Apostoli published his first article on the electrolytic treatment of fibroids of the uterus, followed by numerous articles on the subject in the principal cities of Europe and America.

His method of introducing a sound electrode into the cervix requires more frequent operations with strong currents, and is in so far injurious as it more or less destroys the mucous membrane, together with the glandular structures of the cervix, with all the harmful consequences, especially in case of a subsequent pregnancy. Still more serious is the insertion of the anode into the substance of the intramural fibroids, which may cause sloughing and even a fatal result. These disadvantages are absent in my method. The insertion of the cathode needle into the tumor is preferable to the introduction of the anode sound into the cervix; it is far more efficient and harmless; it is simple, more convenient, less painful, and free from injurious or dangerous effects.

I said previously that the electrolytic treatment is indicated not only in malignant neoplasms but in such cases in which the usual surgical operations are employed under great disadvantages; for instance, as in the following case:

Mrs. D——, of Boston, aged thirty-three years, an emaciated, cachectic-looking lady, consulted me in the spring of 1873 about an extremely painful affection of the left thumb, of fifteen years' standing. The intensest pain was concentrated at the base of the nail

[1] The great resistance of the epidermis need not be considered when needle electrodes are used. In percutaneous applications of the current the resistance of the epidermis is reduced to a minimum by saturating it with a tepid saline solution.

on the ulnar side. The patient compared the pain to toothache, but a great deal worse; she said it was as when the exposed nerve of a tooth came in contact with a metallic instrument. The pain was continuous, and increased at the slightest touch, so that she kept the thumb protected by the fingers even in sleep. The objective examination was possible only in deep narcosis, but nothing abnormal could be detected. The patient consulted the most distinguished neurologists and surgeons, and used all sorts of narcotics and constitutional treatments, without relief. She tried three different kinds of electrical treatment, and the galvano-cautery under an anæsthetic, and maintained that electricity aggravated her suffering every time. Finally, at the advice of eminent surgeons, among whom was Dr. Mussey, of Cincinnati, she decided to have the thumb amputated. Brown-Séquard objected on the ground that the pain might be of a central origin, and the amputation would not abolish the pain. Dr. Mussey then advised the patient to consult me before submitting to the operation.

With the assistance of Dr. Rogers, I made a thorough examination of the patient on May 15, 1873. The excruciating pain was concentrated at the base of the nail, and the spot could not be touched even under a superficial narcosis. There was no atrophy or other trophic symptom, no pain along any nerve either spontaneously or under pressure. The most careful examination under a complete anæsthesia gave the same result; nothing abnormal could be detected, no nodule or intumescence of any kind. It was obvious that the painful affection was not an ordinary neuralgia; again, it could not be a neuritis on account of the absence of any trophic or other neuritic symptoms; neither could it depend on a central cause, all central symptoms being absent. I thus came to the conclusion that there must be some miliary neuroma inaccessible to palpation owing to its small size, but which acted as an irritant on some sensitive nerve-filament, and I decided to use electrolysis, from which I had had excellent results in several cases of neuroma and tuberculum dolorosum.

Accordingly on June 4, 1873, after the patient had marked the painful spot with silver nitrate, I resorted to the electrolytic operation under profound anæsthesia. A flexible anode was placed around the forearm, and the cathode needle inserted into the painful spot as far as the bone; the current was rapidly increased to about two hundred milliamperes, and after about half a minute or so gradually decreased to zero and the needle extracted. No blood escaped, only a small grayish discoloration appeared around the needle. On awakening, the patient was delighted to find no pain even under pressure, felt very well and slept comfortably all night, enjoying the complete disappearance of suffering. The scab on coming off left no mark. The pain that had lasted day and night for more than fifteen years never returned (since 1873—now, 1900) after the apparently insignificant electrolytic operation of less than two minutes' duration. The patient belongs to an old Boston family, her case was known at the time to the profession of that city, and Dr. Mussey wrote me that he had been so impressed by the unexpected result that he concluded to try himself an electrolytic operation. He sent me the cast of a woman's wrist affected by cancer involving the bones, which he cured by electrolysis, after the general opinion of surgeons was to amputate the forearm.

I would add that neuromatous affections of this kind are of more frequent occurrence than is generally accepted. The "points douloureux" of Valleix, which are considered pathognomonic for genuine neuralgias, are, in some cases at least, not only a symptom, but the real cause of the neuralgia. I came to this conclusion from the favorable result of electrolysis in several obstinate neuralgias which had resisted previous treatments.

In the treatment of benign tumors of considerable size I often use the following method: After local anæsthesia I introduce the cathode needle into the tumor and apply a large anode at some distance from it, when the current is increased very slowly to a moderate intensity and after a few minutes gradually reduced to the minimum and the needle extracted. This procedure is repeated as often as advisable, with some modifications. No local anæsthesia is required after the first operation, the needle being inserted into the same place, but each time in a different direction in the tumor. The current intensity may be somewhat increased or diminished. These operations are perfectly painless, and do not inconvenience patients in their daily occupations. The insertion of the needle leaves no mark on the skin, and the tumor gradually diminishes and disappears. After a certain number of such needle operations the current may be applied percutaneously by means of a small flat cathode over the place where the needle was inserted in the previous operations. The current in its greatest intensity is thus conducted into the substance of the tumor along the lines made by the former insertions of the needle. In this painless manner I treated many benign tumors, including goitres, naso-pharyngeal and other tumors.

Mrs. B——, forty-five years old, and mother of five healthy children, was referred to me by Dr. Dunham, March 5, 1873. Both her parents died early (at thirty-three and forty-six years respectively) of pulmonary tuberculosis. The patient was formerly healthy, but had a goitre, the origin of which could be traced back to her early youth. It gradually increased until it attained considerable dimensions, and while it formerly had no unpleasant features, during the last few years morbid symptoms manifested themselves with increasing severity within the spheres of respiration and circulation. The struma occupied the anterior surface of the neck, especially the right side, the middle portion filled the jugulum sterni and, bulging out in an oval prominence, extended downward into the mediastinum. Its lower end could not be ascertained. The right sterno-mastoid muscle was pushed outward, and strong pulsations of the right carotid could be felt behind it. The right cervical veins were much dilated, the deeper cervical glands enlarged and indurated. Phenomena of paralysis of the right cervical sympathetic were very marked; the right eye, sunken, appeared smaller than the left, its pupil was contracted to the size of a pin's head (myosis), and ptosis of the right lid was present, the vision remaining normal. The patient complained of difficult breathing, especially when going upstairs or lying on the left side, and of pains in the left shoulder and arm. The area of cardiac dulness was enlarged, but there was no valvular affection. Evidently it was a case of mediastinal struma, and the paralytic phenomena of the right cervical sympathetic were caused by the pressure of the indurated glands. The patient was treated both here and in Europe with various remedies, the tumor being considered inoperable as it was impossible to remove its mediastinal portion.

In her case I resorted to the above-described method, and on April 16, 1873, after local anæsthesia, a cathode needle was introduced through the central portion of the struma—the part extending into the mediastinum—the flat anode applied at a distance, the current gradually increased to about fifty milliamperes and then diminished in a like manner, and the needle extracted. The operation was painless and lasted but ten minutes. It was repeated once or twice a week without anæsthetics, the needle being inserted into the same place, but each time in a different direction. On discontinuing the needle operations she was treated

percutaneously with a small cathode plate over the place of the needle insertion, and the anode as before. The treatment was discontinued after the struma was considerably reduced and the subjective symptoms had disappeared. Ten years later I had the opportunity to examine the patient, and found the same satisfactory conditions.

Miss B——, eighteen years old, a well-developed, regularly menstruated young lady, with an unhealthy complexion and anæmic. Four years ago a slight swelling was noticed in the right parotid region, and grew to the size of a hen's egg, extending into the space between the maxilla and sterno-mastoid. Although the tumor caused no pain, its steady growth was a source of great anxiety to her parents. There was every indication for surgical interference, but all agreed that the extirpation of the tumor would be fraught with danger on account of its intimate connection with important nerves and blood-vessels.

The case was referred to me by Dr. Thompson, of Indianapolis, and on October 17, 1878, I began the electrolytic treatment. The tumor in the right parotid was of a rather hard consistence, somewhat movable, and covered with normal skin (lymphoma). Besides this large lymphoma, all the cervical lymphatic glands of the same side were swollen. After local anæsthesia the cathode needle was introduced into the centre of the tumor, the flat anode placed over the swollen cervical glands, and from a minimum intensity the current was gradually increased to about thirty milliamperes, and in a couple of minutes diminished again and the needle extracted. There was no loss of blood, and the operation was painless; the patient with her parents left my office for their daily drive and walk in the park. These operations, but without anæsthesia, were repeated several times, and the needle curved to enter a different direction through the same puncture each time. Later, a mild current was daily applied with a small cathode plate over the spot of the needle insertions, and the anode on the different swollen cervical glands. Whenever the regressive mêtamorphosis seemed to come to a standstill, the needle operations were immediately resumed. This treatment was continued until the tumor entirely disappeared. The young lady, who attended school in New York, continued her studies without interruption, and, when she left for home in June, 1879, she was in perfect health. A few years ago I had the opportunity of seeing her as a married woman and mother of healthy children, without any trace of the former tumor.

The object of this paper is to elucidate the principles on which the electrolytic method is based. The space being limited, I have to omit its different modifications in various forms of benign tumors, leaving the details to be acquired by practice. I omit, too, the histories of many cases in which the electrolytic treatment was a mild, harmless, seemingly trifling procedure, which did not even disturb the patients in their daily occupations, and in which ordinary surgical operations could have been applied with equal success, but would have been of a far more difficult, troublesome, and serious nature.

I cannot conclude without calling attention to a very distressing surgical affection—hypertrophy and tumors of the prostate—in which I found electrolysis of great benefit. Soon after the success of electrolysis in fibromyomata of the uterus it occurred to me to employ the same in prostatic affections, since the prostata, from an embryological and histological standpoint, is the homologue of the uterus; three-fourths of its substance being muscular and one-fourth glandular tissue. Moreover, my earliest experiments on living animal tissues taught me that the unstriped muscular tissue most readily undergoes electrolytic action; *a priori*, therefore, it was a rational indication to employ electrolysis in prostatic affections.

Mr. T——, a robust, healthy-looking gentleman, fifty years old, gave me the history of his case. When a young man, in a course of athletic games, he received an injury in the perinæum which laid him up for six weeks. There was a painful inflammatory swelling, with fever and difficult micturition. An eminent surgeon considered serious the injury to the prostate, and treated him with leeches, poultices, cathartics, and prolonged rest. The patient recovered under this rational treatment, but for a long time there remained considerable tenderness in the perinæum, with a feeling as of some swelling, and an occasional slight impediment in passing water. These symptoms gradually wore off; he married and had several healthy children. About ten years ago the old symptoms began occasionally to return, especially after physical over-exertion or any other excess; unpleasant sensation in the perinæum, slow and difficult micturition gradually increased and became permanent. He was treated for enlargement of the prostate here, and later in London and Scotland, and received temporary relief from the introduction of metallic sounds; but on the whole the morbid symptoms kept on the increase. When he consulted me, he complained of discomfort in the perinæum and bladder, which he could never entirely empty; the micturition was slow and painful, the urine was turbid and contained a great deal of mucus, pus-corpuscles, and epithelia of the bladder. The patient said his urine was clear before the treatment with sounds. He evidently had cystitis and chronic hypertrophy of the prostate. I advised tepid irrigations of the bladder with antiseptic solutions, which relieved the acute inflammatory symptoms, while the enlargement of the prostate remained the same. I then began the electrolytic treatment. After the evacuation of the bowels with a saline aperient and an enema, I inserted into the substance of the prostate through the rectum a carefully insulated cathode needle, allowing but a small part of it—the very end—to be active. The anode plate was applied to the hypogastrium, and a very weak constant current was gradually increased to about fifty milliamperes, then decreased to zero in a few minutes when the needle was extracted. This treatment was repeated in a fortnight; in the interval and afterward galvano-faradization was used. A specially prepared cathode electrode was introduced into the rectum so that only a part of its cylindrical surface came in contact with the rectal portions contiguous to the prostate. The anode plate was applied to the hypogastrium as before. By means of a Hirschmann apparatus both the constant and faradic currents were used simultaneously with the same electrodes, allowing the currents to be increased, decreased, or reversed. Under this treatment the patient rapidly improved, the prostatic enlargement gradually diminished, the cystitis and all morbid symptoms disappeared and have not returned.

I often employ galvano-faradization in affections of the nervous and muscular system for the purpose of stimulating them while the nerves are in a state of electrotonus. In many chronic affections it greatly stimulates the circulation, absorption, osmotic pressure—in fact, all the physico-chemical phenomena and physiological functions. When used after electrolytic needle operations, it enhances the electrolytic and cataphoric action of the current. In affections of the abdominal and pelvic organs, too, galvano-faradization of the splanchnic nerves, which control and regulate the circulation and nutrition of these organs, is exceedingly beneficial. Altogether, the physiological and therapeutic effects of galvano-faradization are most remarkable.

Mr. L——, sixty-five years old, consulted me in

March, 1896, for prostatic enlargement with chronic cystitis which for many years resisted local and general treatment. The patient was of a sallow complexion, anæmic, emaciated, worn out by sleepless nights, owing to the bladder trouble. The enlarged prostate was tumor-like and hard, the urine very turbid and formed a massive, thick muco-purulent and gelatinous deposit. Tepid antiseptic irrigations, continued for a fortnight, gave relief, and I could proceed to the first electrolytic operation, performed as in the preceding case and twice repeated. Later, the insulated rectal cathode was applied to the prostate and the large anode to the hypogastric region and, as in the above case, strong galvanic and faradic currents were used simultaneously with frequent reversions. This was repeated three times, twice and once a week, and afterward only occasionally. The subjective symptoms disappeared toward the end of two months. Water could be retained for hours, and the patient could sleep comfortably. The prostatic enlargement was considerably reduced and the general health much improved. As an after-treatment I employed as usual the galvano-faradization of the splanchnic nerves.

In recent, less advanced cases of prostatic enlargement, and in the absence of cystitis, I entirely dispense with the needle operations and irrigations of the bladder, and use instead the rectal electrode with the anode at the hypogastric and inguinal regions and combined constant and faradic currents, as described above, and subsequently galvano-faradization of the splanchnic nerves. In mild cases even the rectal electrode gives way to a properly shaped cathode applied to the perinæum and the anode to the lumbar, hypogastric, and inguinal regions with strong galvano-faradization, as in the following case:

Mr. C——, aged fifty-eight years, noticed in the last few years a peculiar change in the voiding of the bladder; the flow became very slow, prolonged, with interruptions and a feeling of discomfort. His physicians found a considerable hypertrophy of the prostate; the urine was very concentrated, of a dark color, of high specific gravity, containing a large amount of indican and urates. In November, 1897, I began the electrolytic treatment of the prostatic enlargement, with a cathode of convenient shape applied to the perinæum and a large anode to the lumbar, hypogastric, and inguinal regions, and used strong galvanic and surging faradic currents simultaneously with frequent alternations, as previously described, until the complete disappearance of all morbid symptoms, and followed this by galvano-faradization of the splanchnic nerves. The gentleman continues in excellent health.

During these many years I did not publish my observations of prostatic enlargements. The cases treated by me with electrolysis—seventeen in all—may be considered too few to establish the value of a therapeutic method, but I give some of them because I believe that even one positive result is worth more than hundreds of negative ones, especially in prostatic affections, in which the available palliative is only castration or Bottini's operation.

As everywhere in practical medicine, the electrolytic treatment has to be adapted to the exigencies of each special case, and the physician often has to deviate from a general rule. Thus, I laid down the general indications for the treatment of malignant and non-malignant tumors as follows: Malignant neoplasms ought to be entirely destroyed in one sitting by the action of the anode, whereas in the non-malignant tumors a regressive metamorphosis, a gradual reduction, and atrophy should be induced by the action of the cathode. But I had to modify this procedure in some cases, as in the following:

Mr. E——, over sixty years old, of a good constitution, consulted me in October, 1899, about a small nodule, the size of a pea, at the right angle of the mouth, at the junction of the skin and mucous membrane, from which filiform elongations could be felt in different directions. More than a year ago he noticed a scarcely perceptible induration, which gradually reached its present size, and, to prevent its further growth, his family physician advised the removal of the nodule by the knife, as all external treatment was of no avail. Bearing in mind that the location of the nodule is frequently the seat of an epithelioma and that under the former treatment it showed no tendency to resolution or absorption, I was inclined to consider it of a malignant nature, although the neighboring lymphatics were not yet involved, and there were no other symptoms of malignancy. I introduced the cathode needle of a very weak current into the centre of the nodule to its basis, the anode plate under the chin, gradually increased the current to thirty milliamperes, and in a few seconds diminished it and extracted the needle. But I immediately reinserted the needle into the same puncture, giving it a different direction—into one of the elongations—and in a little while extracted it again to reintroduce it several times, once into each of the elongations, but always through the same opening. From my office the patient went directly down-town to attend to his business, as usual, and came every morning during that week, and three times the next week, when I applied for a few minutes a small cathode plate of a weak current over the place where the needle was inserted, the anode as before. A small scab came off leaving no mark on the skin, and the induration which had been gradually decreasing disappeared entirely. The operation left not the slightest trace. The gentleman is in excellent health.

Mr. M——, sixty years old, of good constitution, had a molluscum fibrosum, the size of a small plum, over the right shoulder. During the last year it became more or less troublesome and irritating; it changed color and occasionally bled. I found it red, with partial, dark pigmentation; the excrescence was connected with the common integument by a thin but rather hard pedicle in which could be felt the pulsation of a blood-vessel. Such a fibroma molluscum may remain in *statu quo* for life, or may sometimes assume a malignant course, especially in the pigmented variety as in this case. I operated in November, 1899, with the two needles of a bifurcated cathode inserted at the base of the fibroma, and the anode needle into the thick, soft, and pendulous end of the molluscum. A weak current was turned on, gradually increased to one hundred milliamperes and continued until the whole mass became livid and black, when the current was brought back to zero and the needle extracted. No blood escaped, and the pulsation ceased. The whole fibroid eventually shrivelled and mummified, and finally came off without leaving a trace of its former existence, or even a mark on the skin.

Thus the first of these cases, probably of a malignant nature, was treated like a non-malignant tumor by gradual absorption induced by the cathode needle. On the other hand, the fibroma molluscum, generally a benign tumor, was here treated as malignant by necrotic destruction of the whole, induced by the action of the anode.

I made this modification in the above cases on account of the location occupied by the tumors, their size, and the mode and degree of their development.

Cholera in India.—Cholera has been so bad in the Rampore state, India, that the Nawab has just sacrificed one of his elephants in the hope that the offering will appease the goddess of the disease.

INFANT FEEDING.[1]

By LOUIS FISCHER, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S SERVICE OF THE GERMAN POLIKLINIK, ETC.

Hand Feeding or Bottle Feeding.—The most important point to be considered in the proper management of bottle feeding is to have pure cow's milk. Such milk can be secured only from a reliable dairy, in which we are positive that all modern sanitary laws are so applied that the hygienic condition of the cow's stable is perfect. The principle of sterilization should be applied to everything in the stable—to the cow, to the milker's hands, and to all utensils used in milking and transportation exactly as was outlined by Professor Baginsky in his paper on "Milk Supply," which I had the honor to read at the last meeting of the section on diseases of children at Atlantic City in June, 1900. The principle of asepsis, so important in surgery, and which is really nothing more than absolute cleanliness, should be rigidly enforced.

Imitate nature in feeding. Nature has ordained for woman to feed her infant with raw milk, for it must be admitted that the breast milk of a woman is raw; it is neither boiled, nor sterilized, nor pasteurized. Thus we should simply imitate nature in feeding the milk of the cow in the same manner as the infant at the breast receives it from its mother or wetnurse.

Objections to Raw-Milk Feeding.—There is a decided objection to raw-milk feeding owing to the contamination of milk with various pathogenic bacteria. Such risk, however, is reduced to a minimum when all the principles of modern hygienic measures are rigidly enforced. It is a well-known fact that the prolonged use of sterilized or boiled milk will produce scurvy, and when scurvy exists both sterilized and boiled milk must be discontinued to give place to fresh raw milk. Does it not seem more plausible in the face of such clinical experience to commence feeding at once with raw milk rather than risk the development of scurvy and be compelled to discontinue all other forms of feeding excepting raw foods? There is a certain deadness, or, to put it differently, absence of freshness in milk that is boiled or sterilized. It seems to be the lack of this same element of freshness which in the absence of fresh meat and green vegetables will produce scurvy in the adult. Speaking of the development of scurvy in children fed on sterilized or boiled milk Rundlett says that changes take place not in the albumen, fat, or sugar; but in the albuminate of iron, phosphorus, and possibly in the fluorin, vital changes take place. These albuminoids are certainly in milk, derived as it is from tissues that contain them and are present in a vitalized form as proteids.

On boiling the change that takes place is due simply to the coagulation of the globulin or proteid molecule, which splits away from the inorganic molecule, and thus renders it as to the iron and fluorin unabsorbable, and as to the phosphatic molecule unassimilable. This is the change that is so vital, and it is this only which takes place when milk is boiled. It is evident that children require phosphatic and ferric proteids in a living form, which are contained only in raw milk.

Cheadle says that phosphate of lime is necessary to every tissue. No cell growth can go on without earthy phosphates; even the lowest form of life, such as fungi and bacteria, cannot grow if deprived of them. These salts of lime and magnesia are especially called for in the development of the bony structures.

General Rules for Infant Feeding.—Each child is a law unto itself, and its individual wants must be studied. One child will gain in weight on the same mixture on which another will lose in weight, thus proving the difference in the assimilation of the same food in various infants. Having chosen a given food for one infant, we must note the following factors, to be satisfied that it is thriving: First, the infant must appear satisfied after taking its bottle; second, there should be no vomiting; third, there should be no colic; fourth, the bowels must move unaided at least once or twice in twenty-four hours, depending upon the age of the infant; the stool should be yellowish-white and of a medium soft consistency; fifth, the infant should sleep from four to eight hours at one time during the night; sixth, the weight must be taken regularly once a week, and if an infant thrives it should gain at least six to eight ounces every week; seventh, when a child's weight shows no increase the reason should be studied, and by all means the food changed, for the infant requires more substantial nourishment. The following table will give an approximate idea of the quantity of food suitable for the age of the infant:

Age.	Quantity.	Proportion.	Frequency of Feeding.
1-2 months	2 ounces.	½ milk, ½ water.	Feed every 2 hours.
2-4 "	3 "	⅔ " ⅓ "	" 2 "
4-6 "	4-6 "	¾ " ¼ "	" 3 "
6-8 "	6-8 "	¼ " no "	" 3 or 4 "

Laboratory Milk.—The sentiments expressed at the last meeting of the Academy by Professor Jacobi, regarding the use of modified laboratory milk, coincide with my views. My experience has been that children fed on laboratory milk have been backward in their development, after its use for a long time. When first used, children suffered with severe constipation. Later, a distinct atony of the stomach and intestines was seen; poor appetites, requiring nux vomica, were seen still later, accompanied by delayed dentition and rickets. Children using the milk always looked pale and anæmic; their flesh was flabby. Such cases were among the wealthy, in which the best possible hygienic conditions prevailed. I have never had an opportunity to study its effect on infants reared in tenement houses, with the poorest hygienic surroundings. The percentage method of feeding has always appeared plausible to me, but the theory cannot be put into practice. We know, as Jacobi so well says, that mother's milk changes at almost each nursing, and we know by chemical analysis that mother's milk is different in composition several times during the day. It will be necessary then, if we do intend to imitate nature, to change the formula of an infant several times a day.

It is a fact well known to chemists that once an emulsion of milk is broken up by centrifuging or other mechanical process, as in separating the top milk from the skim milk, we cannot have again as homogeneous an emulsion as prior to this breaking up; and, moreover, that we increase our trouble when we in addition seek to improve the quality of the milk by subjecting it to the process of sterilization.

Substitute for Milk in Diseases of Stomach and Intestines.—When milk disagrees and the infant's stomach will not tolerate it, and vomiting is provoked, or when gastro-intestinal trouble arises, then milk must be stopped. At such times I have seen good results in many children follow the use of almond milk. This is made by scalding or blanching the almonds, then beating them up, using an ounce of water for each ounce of blanched almonds, and rubbing up this mixture and then expressing it through cheesecloth. This should yield an ounce of almond milk for each ounce of almonds used. It is well known that quite a large quantity of vegetable proteids are contained therein, and it is therefore a nourishing substitute. This almond milk can be made at home,

[1] Read before the stated meeting of the Academy of Medicine, at its Symposium on Infant Feeding, October 18, 1900.

and is quite serviceable in the treatment of summer complaint.

Dextrinization of Foods, Chiefly the Cereals.—Dextrinization is successful in children having subnormal gastric digestion. It should be used during illness only, and it is not advisable to feed healthy children with dextrinized foods. Nature supplies its own dextrinizing agents, which must be used or the glands secreting them will become atrophied.

Frequently the infant's stomach requires assistance in the assimilation of food, particularly cow's milk. The examination of the gastric contents in weakened gastric conditions has always shown a deficiency in hydrochloric acid. Hence it seems more plausible to give the infant several drops of dilute hydrochloric acid after feeding.

In conclusion permit me to say that two drugs must always be considered in the management of infant feeding, especially the difficult cases: (1) nux vomica; (2) malt.

65 East Ninetieth Street.

A MISTAKE IN THERAPEUTICS.[1]

By EDWARD P. BUFFET, M.D.,

Jersey City, N. J.

This mistake is the over-estimate of the efficiency of drugs in the cure of disease. It is a mistake made by both physician and patient, but more frequently and decidedly by the patient than by the physician.

It is a popular belief that disease is inevitable. There is a superstitious or a fatalistic sentiment widespread that through some unfortunate event the human race became heir to ills innumerable imposed by some malignant power, which should be expected and waited for with as good grace as possible. As a remedy for these unavoidable ailments it is thought, on the other hand, that some benevolent being has hidden away, in various obscure localities, the specific drug which has been specially devised for each particular ill that flesh is heir to. If only this remedy can be found, the demon of disease can be exorcised; if it cannot, bad luck to the patient. The idea that the mischievous germ can be met and destroyed before it has entered the human organism has not yet become a popular one. Neither is it a general belief that the human animal was ever intended, like the wonderful one-hoss shay, to run his allotted course without medical repair until he is actually worn out and the time arrives for him, as the hospital interne says, to "go to pieces" all at once.

It is in consequence of the mistaken impression as to the value and necessity of drugs that they have been and are now accumulating in marvellous proportions. Eighteen thousand preparations of medicines are registered in the National Dispensatory, with the nature and uses of which the patient kindly assumes that the doctor is familiar, and the number is increasing daily with distressing rapidity.

With drugs so numerous, the habit is easily acquired of using them to excess, and ascribing to them undue importance. The patient divides his ailments into two classes, those which are fatal and those which are not. In the treatment of each class he thinks only of the drugs used. They are the visible and tangible weapons upon which he relies. If he recovers, the drugs and the skill of the doctor in their use are supposed to be the efficient cause. If he dies, the drugs and the doctor are held responsible. Undeserved praise is given to both drugs and the doctor when the issue is favorable, undue blame when it is unfavorable. The doctor often allows one to counterbalance the other, and makes no comment. But there is a fact which experience teaches him and which he does not always disclose to the patient. This fact is that some other cause than the drugs used has effected the recovery, when recovery has taken place. This cause he may not himself fairly understand. He knows only that some inherent tendency to recovery helps him along very unexpectedly at times, and very satisfactorily. He finds it convenient, as well as proper, to cover his ignorance as to the precise nature of that which gives him aid, by the Latin phrase, "vis medicatrix naturæ."

It seems hardly necessary to bring arguments to prove to an audience of intelligent and experienced physicians that an overestimate of the value of drugs in the cure of disease and, as a consequence, of the skill of the physician in using them is made by the patient. It is the experience and observation of the doctor which will convince him of the fact, and if he is not already so convinced, words will be useless. It is the evil effect of the popular mistake and its remedy which is the important subject for consideration.

Noah Webster defines a quack as a boastful pretender to medical skill, one who boastfully pretends to knowledge not possessed. Not many regular practitioners are quacks as thus defined. Most are inclined to lament their want of medical knowledge, rather than to boast of their proficiency. But it does sometimes happen that the patient who believes that his recovery has taken place in consequence of the dose selected by his doctor, when recovery was inevitable under any condition, will boast on his doctor's behalf of a knowledge not actually possessed by him. Should the doctor wink at such undue praise by the patient he becomes a quack by proxy or substitution, and here results one of the first evils of the mistake made by the patient. But in addition to the unfortunate position of the practitioner who receives undue credit the mistake opens the door to outside quackery, and gives a start and an imaginary success to every new so-called system of practice which can be concocted in the brains of any medical enthusiast, and to every patent-pill-maker who can combine two or more drugs so as to act as a cathartic without immediate death to the patient. If in nine cases out of ten the patient would recover without the use of a drug in which now the drug gets the credit, of course any quack or nurse when he attempts the cure will get the same credit in the popular estimation as does the educated physician. Also, if the physician allows the mistaken belief as to the importance of the remedy to go uncorrected, he simply places himself in the nine cases out of ten on the level of the quack and the nurse who can and do practise as successfully as himself when the patient is sure of recovery. It is true that in the tenth case, in which knowledge and skill in the careful selection of the drug may save the patient, he outshines his rival the quack, but this is only one case in which he appears to advantage, whereas in all he should be shown to be a superior in knowledge by his superior success in practice.

The next important question is, What is the remedy for the evil? What shall the physician do to outrival his neighbor the quack, who practises so successfully when nature effects the cure? The answer is plain—correct the popular mistake. Let the doctor make known to his patient how often recovery would take place under the same careful hygienic treatment, even if drugs were not used at all. Let him acknowledge the fact, if he believes it to be a fact, that drugs—and doctors, in so far as they rely upon drugs—are getting credit for cures, which does not belong to them. Teach the patient to rely less upon medicine and more upon

[1] Read before the District Medical Society for the County of Hudson, N. J., October 16, 1900.

an adherence to the rules of hygiene. Inform him that an ounce of prevention is worth several pounds of cure, especially when the ounce is the bactericide which destroys the germ before it has invaded the body, and the pounds are the useless drugs deposited in the stomach after the disease has made its onset. Let the doctor ennoble his calling by acting as a teacher rather than a nurse, a professor of medicine rather than a druggist. Let the doctor of the future give more attention to the rules of sanitation, to the dietetic and hygienic treatment of his patient rather than so exclusively to the medicinal, to the diagnosis and prognosis of disease. If he can do no more than inform his patient of the nature of his ailment, and its probable duration and issue, his services will be in great demand. In the performance of these duties he need not fear the competition of the charlatan. If truth is better than error, and it certainly is in the long run, the doctor will finally be reimbursed for any temporary loss he may sustain of either property or prestige.

Forms of Tremor and their Clinical Characters.—R. T. Williamson states that the relation of tremor to voluntary movement enables us to arrange the cases into three groups; but there are other sub-varieties. (1) Tremor occurring during repose of the limb, but ceasing or diminishing on voluntary movement, with attention tremor which ceases when an object is grasped or when the hands are held out. The tremor in paralysis agitans is usually of this form. (2) Tremor occurring only on voluntary movement and ceasing during repose (intention tremor). This is the form of tremor in disseminated sclerosis, even at an advanced stage; but several other forms of tremor, at a very early stage, occur only on voluntary movement. (3) Tremor which occurs during repose, but which is much greater during voluntary movement; as in most cases of marked alcoholic, senile, asthenic, simple, and hysterical tremor, and in several other varieties.—*The Medical Chronicle*, October, 1900.

Spontaneous Gangrene of the Legs in Childbed.—E. Wormser has made a collection of the cases of this complication to the puerperium found in the literature and added one of his own to the number. The etiology of the affection appears to be somewhat complex. In some instances it may be due to direct thrombosis caused by a diseased heart valve with or without a patent foramen ovale, or there may be a primary arterial thrombosis starting at the placental site and extending upward through the common iliacs to the general arterial tree, or there may be widespread obliteration of the venous channels. The possibility of this is harder to understand, since in order to produce complete blocking of the whole collateral circulation in a part so richly vascular as the foot an almost universal venous thrombosis would seem to be required. Possibly the increased coagulability of the blood during the puerperium may deserve consideration, and in some instances resembling Raynaud's disease a nervous element undoubtedly is also concerned. The trouble may start suddenly or require several days to develop, and presents the typical appearance of dry gangrene, though when there is general sepsis and suppuration of the thrombi wet gangrene may result. Pain is acute, but ceases as soon as death of the tissue has taken place; the only treatment is amputation as soon as the line of demarcation is evident.—*Centralblatt für Gynäkologie*, November 3, 1900.

The Pyogenic Origin of Rheumatism and the Rôle of Trauma in its Causation.—Philip Kissinger's views still further complicate the already unsettled condition of the rheumatism question. It is now almost universally admitted that the disease must be infectious in its nature, but as yet apparently no organism for which the claim of specificity can be upheld has been isolated. On the other hand, instances are numerous in which pure cultures of various pus-producing cocci have been obtained from the blood or other fluids of rheumatic patients, and the author seeks to justify his belief that acute articular rheumatism is closely allied to pyæmia by the citation of a large number of such cases. With this idea as a basis the frequent occurrence of rheumatic joint affections after injury is easily comprehensible, for the local damage produces the place of lessened resistance, which is all that is needed to permit the germs to invade the tissues. These may have already gained access to the system through some separate site of suppuration, an angina, etc., or may directly penetrate the injured skin in the neighborhood of the articulation.—*Volkmann's klinische Vorträge*, September, 1900.

Why are Typhoid and Other Fevers Self-Limited?—J. O. Malsbury believes that the law which governs higher animal life, namely, that constant interbreeding results in less vigorous progeny until finally there ceases to be fertility, holds good in the case of lower animal organisms. In typhoid fever it is fair to assume that there is a new production every twenty-four hours, since there is a reasonably regular variation of temperature of about one degree during that time. This specific element or spore reproduces within and of itself, and with each successive reproduction the spores become less vigorous, until finally fertility ends, reproduction ceases, and the active phenomenon—disease in this particular case—is at an end. If a patient be infected with vigorous spores the attack will be malignant, severe, and abrupt, while if the spores of infection be such as would be found after several successive reproductions, the attack would be mild. Cases that increase in malignancy may have been infected with mixed spores, the cross resulting in increased vigor. Repeated interbreeding would of course end in failure to reproduce, but owing to the severity and prolongation of the attack the patient's vitality may end first.—*Indiana Medical Journal*, November, 1900.

The Malignity of Vesicular Mole.—F. La Torre believes that after the expulsion of a mole, if cells possessing the power of proliferation remain in the uterine muscle walls, they may continue to increase, and by their degeneration produce a malignant tumor, a deciduoma. There appears, however, to be a benignant as well as a malignant form of mole, hence, although every patient who has expelled a vesicular mole should be carefully watched, it is well not to remove the uterus until the symptoms characteristic of deciduoma appear.—*La Clinica Ostetrica*, October, 1900.

Prolonged Applications of Ether Compresses in Strangulated Hernia.—M. Fiessenger says that the majority of cases of strangulated hernia, which it used to be supposed absolutely necessitated operation, yield to this simple method of treatment. Not only the author but several other surgeons have obtained a cure by the applications of ether compresses continued from a quarter of an hour to two hours. The gauze or cotton is kept wet with the ether, and at a given moment there will be a sudden reduction, the patient perhaps giving a cry of pain, and then immediately acknowledging great relief. This treatment may be used during the first thirty-six hours, but after that time there is danger of a gangrenous loop of intestine re-entering the abdominal cavity. The ether doubtless acts in a reflex manner by causing vaso-constriction, with consequent subsidence of the congestion of the intestinal loop.—*Bulletin de l'Académie de Médecine*, October 30, 1900.

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PROPOSED CHANGE IN THE MANAGEMENT OF NEW YORK CITY HOSPITALS.

THE charter revision commission has just published the results of its deliberations. Among the many radical changes suggested in the mode of governing this city is one that intimately concerns the medical profession. The charter revisers have proposed an amendment which, if carried into effect, will entirely alter the present methods of managing the New York City hospitals.

The amendment provides that on February 1, 1902, the control and management of Bellevue Hospital, including its subsidiary hospitals—Gouverneur, Harlem, and Fordham hospitals, and the Emergency Hospital for Women—shall be taken from the Department of Public Charities and be vested in a board of trustees appointed by the Mayor. Should this amendment become law, the city hospitals will be brought under the same system of control as prevails in private hospitals in the majority of the cities of this country and in the city hospitals of Boston and Cincinnati. It may be also remarked that somewhat similar methods of management are in force in the hospitals of London and throughout the large cities of Great Britain generally, and the system—as is the case in the hospitals of Boston and Cincinnati—has on the whole been found to work smoothly and well. There are many solid and substantial reasons to be urged in favor of the charter revisers' recommendation, and it is to be sincerely hoped that so sterling a scheme will not be killed or mutilated at Albany.

For long the administration of Bellevue Hospital and its subsidiary hospitals has not given general satisfaction. The buildings which constitute Bellevue Hospital are sufficient standing evidence of the truth of this statement, to say nothing of the condition of the old frame erection known as Harlem Hospital. The extraordinary and incomprehensible dilatoriness exhibited by the authorities in neglecting to order the removal of patients to the new Gouverneur Hospital —a building which now has been completed for more than a year—is yet another proof that the powers who rule are, to speak mildly, lax in the discharge of their duties. The greatest gain, however, that the proposed change would bring to those who are compelled to have recourse to the city hospitals for medical treatment would be the removal of these institutions from the domain of politics. Indeed it is mainly owing to the part that politics has played in the management of the city hospitals that their services have not been so efficient as the citizens of New York had a right to expect they would be.

No person of ordinary reasoning powers can disagree with the plain proposition that politics should have no place in the management of an institution set apart for the care of the sick. The trail of the serpent of politics may be traced in the administration of all the public affairs of New York, but it should be surely worth while to make a strenuous effort to remove charitable institutions at least from such contaminating influences. Another reason (given in an article on the matter which appeared in the Sunday *Sun*, December 2d, demonstrating that Bellevue would be a gainer by the proposed amendment) is that it would be thereby made a specific city interest, independent of the other institutions in the Department of Public Charities. As *The Sun* says:

"The patients in Bellevue are by no means all paupers; they are for the most part workingmen and workingwomen who, by reason of illness or injury, are temporarily prevented from earning a living. They cannot afford medical care and nursing at their homes, and go to their only place of refuge—the public hospital. And it is only the part of a wise policy on the part of the city to make them well and again self-supporting as soon as possible. It is not just, it is not humane to class them with paupers and thus rob them of their self-respect. Bellevue has too long been considered in the public mind as a pauper's hospital. Let us hope that this stigma will be removed under the new form of administration."

There can be no doubt that a stable, steady form of government, entirely divorced from politics, would accomplish great things for the New York City hospitals. That amendment proposed by the charter revision, therefore, deserves the good wishes and support of the medical profession and the general public.

SMALLPOX AND VACCINATION.

THE outbreak of smallpox on the West Side of this city, although so far not especially alarming, will doubtless tend to impress upon the minds of its inhabitants the need of vaccination and revaccination. Indeed, if it has this effect, the activity of the disease—restricted though it be—will prove a "blessing in disguise." It speaks volumes for the intelligence of the American people as a whole, and of this State in particular, that there has never been evidence of an organized opposition to vaccination. Among a minority of the inhabitants of the United States a certain prejudice against vaccination exists, but with the bulk of the population the sentiment with regard to the operation is one of apathy, or rather of indifference. It is so long since an epidemic of smallpox on a large scale and in a virulent form appeared in this part of the country that many persons are sceptical as to the dangers to be feared from such an occurrence. Without wishing in any way to act the part of alarmists, we

would nevertheless sound a note of warning, and advise parents not to be lulled into a state of false security. The fact that as a community we are well protected cannot be denied, but if the practice of vaccination be allowed to fall into disuse it is impossible to say for how long this happy condition of affairs will last. A few apropos truths concerning the benefits conferred by vaccination may at the present time be of interest. The following statistics are culled from an able article on the subject written by Dr. C. D. Smith, president of the board of health of the State of Maine: The German law of 1874 makes vaccination obligatory in the first year of life, and also revaccination obligatory at the tenth year. This law in Germany resulted from the epidemic of 1871, with its one hundred and forty-three thousand deaths, among a population in which vaccination had been allowed to die out. Prior to 1874 the yearly loss was fifteen thousand to twenty thousand. The present rate is less than one hundred and sixteen per year, and these cases occur on her borders, where there is constant mingling with the poorly vaccinated of other countries. The disease does not spread or become epidemic among well-vaccinated people. It does so develop among the unvaccinated. During the Franco-German war the inevitable mingling of the two peoples spread smallpox, which was epidemic. The Germans had made vaccination optional for its civil population, but compulsory for its army; the French having made it optional alike for army and population. The French lost from smallpox twenty-three thousand men; the Germans two hundred and seventy-eight. Occupying the same hospital tents, with the same surroundings, the French wounded lost many from smallpox; the Germans, not any. The French prisoners of war died by the hundreds; their German guards, who had been vaccinated and revaccinated, suffered not at all. In Denmark, Sweden, and Norway, where, as well as in Germany, vaccination is compulsory, the annual death rate is from one to three per million. In England and Wales, before the introduction of vaccination, the mortality was three thousand per million; since the introduction of vaccination it has been reduced seventy-five per cent. From the time that statistics were first collected, facts confirming the ravages of the disease in unvaccinated communities have been unvarying, and the reduction of its prevalence and of the death rate after vaccination has received equal confirmation. Among savage races and in other unprotected communities smallpox invariably attacks almost all who are exposed to its infection. When a partially protected community is attacked the victims selected are the unvaccinated. This has been demonstrated over and over again on this continent among the North American Indians and in Mexico, where in both instances the populations of entire villages were completely wiped out. Observation has also shown that when the vaccinated are attacked by smallpox the disease is in them in a modified form. The contention is not made that vaccination is an absolute preventive, but it is asserted that it modifies and controls the disease to a very considerable extent. The great majority are protected by vaccination, and with those affected the danger to life and disfiguring marks are avoided. In short, vaccination changes the whole course of the malady. Much of the prejudice that undoubtedly exists against vaccination is due to the fear that by the use of unclean lymph, or by the performance of the operation in a careless manner, certain diseases may be transmitted to the person operated upon. In times gone by this dread was sometimes warranted, but at the present time, by special preparation and storage, the lymph is rendered practically harmless, and provided that the operator is careful and practises aseptic methods no ill effects are likely to result. Revaccination should be undergone at the age of puberty, and as a measure of precaution in those places where smallpox is prevalent. The health authorities in this city are taking energetic steps to check the spread of the disease and may be depended upon to succeed in their object, but at the same time we would advise every one who is in a fit state of health to be revaccinated. Especially is it incumbent upon parents in the interest of public health to order their young children to be vaccinated.

THE PURIFICATION OF THE NEW YORK WATER SUPPLY.

On Friday last the grand jury finished the taking of evidence with regard to the New York water supply, and handed the conclusions at which it had arrived in written form to the recorder. Respecting the quality of the water the grand jury took the following common-sense view: "While in no way detracting from the importance of a pure water supply, as a condition necessary to the public health, the grand jury was relieved by the preponderance of testimony to the effect that no immediate danger of typhoid existed or was imminent, although it was conceded that a long continuance of an impregnated water supply would be liable to produce disease. The conclusions, after careful consideration of the subject, are that the only effective and permanent means by which a remedy can be applied to existing evils, and the only means to secure pure water, consist in the adoption of a system of filtration commensurate in all respects to the needs and wants of this great municipality." As was pointed out in the Medical Record of December 1st, the primary outlay will be great, but the establishment of a thoroughly efficient filtration system on a scale sufficiently large to comprehend the entire water supply of Greater New York is a public necessity, and the cost in the end will be money well spent. The reduction of the mortality rate from typhoid fever alone is adequate cause for advocating its adoption. In London, in Hamburg, and in other European cities too numerous to mention, this fact has been so strongly emphasized as to admit of no dispute. In this country also there already have been some conspicuous examples of the benefits conferred upon a community by ridding the drinking-water of noxious germs. For instance Lawrence, Mass., was up to the time of the establishment of a filtration plant a hotbed of typhoid fever. From 1887 to 1892 inclusive,

the number of deaths from typhoid in that city ranged from forty-seven to sixty per annum, a rate per ten thousand population of 11.44 to 13.44. The filter plant was put in operation in the latter part of 1893, and the typhoid deaths for that year fell to a total of thirty-nine and a rate of 7.96 per ten thousand. In 1894, the first full year the filter was in service, the deaths were twenty-four and the rate 4.75 per ten thousand. There has been a steady diminution ever since, until in 1898 there were but eight deaths from typhoid fever in the city, giving a rate of 1.39 per ten thousand population. Albany is another case in point. The evidence in favor of a filtration system is so overwhelming as to be conclusive. The city of New York in almost every respect has good reason to be proud of her water supply. Compared with London and Paris it is bountiful in the extreme. The deficiency of London's supply will be clearly apparent when it is contrasted with that of some European cities and with nearly all American cities of any size. London doles out on the average about thirty gallons per head daily. Rome and Naples are generous with water by comparison, Vienna is lavish, while Washington gives each inhabitant one hundred and fifty-five gallons per day, Chicago one hundred and nineteen gallons, and New York one hundred gallons. Paris, of all the civilized cities of the world, is the only one which is content with London's low level. Although we must confess with shame that no city of the modern world can equal ancient Rome, which gave to each citizen on the average two hundred and thirty gallons of water a day, carried at an enormous cost from the mountains through aqueducts which are at once the admiration and despair of present-day engineers, yet the cities of the United States are, so far as the quantity of water supplied is concerned, the nearest rival to the erstwhile mistress of the world. Where our cities fail is in the quality of the water supplied, and hence the great prevalence of typhoid fever throughout the country. The redeeming feature of London and other British centres of population is that the water supply is rendered by artificial means as pure as possible, and in consequence of these precautions typhoid fever has been almost stamped out. Many American cities are recognizing, though somewhat tardily, that efficient filtration of water is one if not the most important safeguard to the health of their dwellers. Philadelphia, Washington, Cincinnati, Pittsburg, Louisville, and Atlanta are busily engaged in constructing filtration plants, and New York in her care for the welfare of her citizens will undoubtedly follow suit. An abundance of water is an absolute need for every city in order to be clean, healthy, and pleasing to the eye. There should be not only an ample supply of water on tap in our houses, but enough to water the streets, flush the drains, and indeed for all sanitary purposes; and, in addition, in the hot weather plenty of fountains should be continually running, both for drinking and for imparting that sense of coolness and rest so necessary to those who are compelled to pass their lives within the confines of a town. The quality of the water should be beyond reproach, and the quantity should be adequate for domestic supplies as well as sufficient to give an unstinted amount for municipal purposes. There is no reason that New York should not be in this ideal position as regards water. It is certain that by adopting a filtration system, founded upon the best models now in use, she will be making a long stride in this direction.

ARSENIC POISONING BY BEER IN ENGLAND.

In Great Britain of late arsenic has come to the front in a very unpleasant manner. It is not very long since that a prominent firm of wholesale druggists sent out a large quantity of effervescing salts, into which, through some grave error, arsenic had been introduced. Before the mistake could be rectified by calling in the pernicious salts several persons had suffered severely from imbibing the so-called cooling beverage. A short time ago it was found by individuals who drank beer brewed by some Manchester firms, that extremely deleterious results followed. Upon investigation the discovery was made that arsenic had obtained an entrance into the beer, although it must be said that it was present only in a beer of special brew. The brewers themselves assert that the products of only one firm have been harmful, and that arsenic was introduced through improper treatment of sulphuric acid in brands of sugar coming from Spain. Others aver that the mischief has been due to a particularly bad lot of glucose supplied to Manchester and Liverpool brewers, which caused peripheral neuritis very similar to beriberi. Be this as it may, one fact at least stands out with sinister prominence. There have already been over a thousand patients and nearly seventy deaths owing to the consumption of this ill-omened beverage. The news is also reported that this beer-poisoning epidemic has spread to London, and that the county council intends to take up active measures to protect the community. The *New York Tribune* (Sunday, December 2d) states that the British workman now empties his pewter pint with more or less fear and trembling, and analysts are busy by day and by night on samples of the glucose and saccharin used extensively by brewers. A curious suggestion is made by an English public analyst, in connection with this matter, that the Maybrick case might have been solved had the facts now made public in regard to arsenic in beer been known at the time of the trial.

Widal Examinations at Quarantine.—Dr. Alvah H. Doty, health officer of the port of New York, announces that the Widal test for typhoid fever will be made free of charge in the laboratory of the quarantine station at the request of any physician in New York State. The material and full directions for securing and forwarding the blood or serum to the department for examination will be sent on application, and the result of the examination will be promptly communicated to the sender. These examinations are intended to put this important diagnostic aid within the reach of physicians in the country and in small towns where no bacteriological laboratories exist.

News of the Week.

The Late Prof. Henry D. Noyes, M.D. — At a meeting of the medical staff of the New York Eye and Ear Infirmary the following recognition of the services of the late Dr. Noyes was duly entered upon the minutes:

Dr. Henry D. Noyes was a graduate of the College of Physicians and Surgeons in the year 1855. After serving on the house staff of the New York Hospital, he went to Europe to continue his studies. Having devoted himself to special work in the ophthalmic clinics there, and latterly having been a student of von Graefe in Berlin, he returned to America, and in September, 1859, was appointed an assistant surgeon to this infirmary. In November, 1864, he was made surgeon. From 1873 until 1898 he served as executive surgeon, and on October 23, 1900, his resignation as a member of the surgical staff was received by the board of directors—by the board at whose councils he had sat for a period of thirty-six years.

This long service of one who during nearly the entire time held foremost position in conducting the affairs of the institution covers more than half the period that has elapsed since the foundation of the infirmary. These years have seen marked changes in the growth of the institution, and a brief reference to the statistics furnished by our annual reports may not be out of place.

In the year 1859 there were 4,178 new dispensary patients and 144 in the wards. In 1899 there were 47,684 new dispensary and 2,257 house patients. In 1859 the surgical staff consisted of nine men. Now, eighty-three medical men are engaged in the work. In 1859 it was an eye infirmary. Now, there are the three departments of the eye, ear, and throat.

The well-ordered hospital of to-day, with its superintendent and clerks, its isolated cataract wards and pavilion for contagious ophthalmia, its training-school for nurses, school of instruction for graduates of medicine, its annual volume of scientific transactions, its valuable medical library, owes in no small way its pre-eminence to the wise forethought and ceaseless activity of Dr. Noyes.

The rules and regulations of the infirmary were largely the result of his careful study, and it was perhaps characteristic of his unselfish devotion to the institution that, shortly before his resignation of the position of executive surgeon, he prepared rules that gave this office largely increased powers and left the enjoyment of them to his successor.

Bringing as he did to the discharge of his professional duties a vast knowledge of medicine, a facility and originality in operative procedure, he was unsparing of self in his devotion to those who came under his care. He was prompt in recognizing the value of suggestions made by others in his field of work, and his distinguished position as an author and teacher added to the fame of the institution both at home and abroad.

Throughout the years of his connection with the infirmary Dr. Noyes contended for an increase in our scientific and laboratory work. He urged that there could be no effective and perfectly developed charity that was not associated with scientific investigation.

Dr. Noyes died on the 12th of November, 1900. It is fitting that the medical staff of this institution, to the service of which he had devoted all the years of his active professional life, should record their appreciation of the work of a man who has contributed so largely to make the infirmary what it is. It is proper that at this time, feeling the irreparable loss they have sustained in his death, they should, in the spirit in which he lived, dedicate themselves anew to its service, not alone as ministers to humanity, but also as ministers to knowledge in medicine.

A Meeting of the New York State Medical Alliance will be held at the New York Academy of Medicine, 17 West Forty-third Street, Thursday, December 13th, at 8 P.M. Dr. Winfield S. Hall, A.M., M.D., Ph.D. (Leipzig), professor of physiology, Northwestern University Medical School, Chicago, will read a paper on "Ethyl Alcohol: its Biology and its Relation to Physiology, to Pharmacology, and to Therapeutics." Discussion of the paper is expected by Professor Conn, of Wesleyan University; Prof. C. A. Herter, of the University and Bellevue Medical School; Professor Woodbury, of the Philadelphia Polyclinic and College for Graduates, formerly professor of materia medica and therapeutics in the Medico-Chirurgical College of Philadelphia, and by others. Dr. Andrew H. Smith, president of the alliance, will preside. The medical profession is invited.

A Suit against Physicians.—A malpractice suit for $60,000 damages, brought against Drs. Manges and Rosenberg of this city, has resulted in a disagreement of the jury, the division being nine to three in favor of the physicians. The suit arose from a curettage, in 1897, to check severe hemorrhage in a woman with large fibroid tumors of the uterus. It was claimed that the operation was performed without consent, that it was unskilfully done, that too much chloroform was administered, that there was neglect in the after-treatment, and that the woman had no fibroids. The basis for the claim that there were no fibroids was the naive statement that there was no external protuberance of any kind.

The Class of '90 of the College of Physicians and Surgeons.—On November 15th a dinner was given at the New York Athletic Club to commemorate the first decennial anniversary of the class of '90 of the College of Physicians and Surgeons of New York. Forty-nine members of the class were present, and speeches were made on the following topics, Dr. H. Beattie Brown acting as toast-master: "The Class," by Dr. James Pedersen; "Our College," by Dr. Charles W. Townsend; "A Retrospect and Historical Report of the Class," by Dr. A. Ernest Gallant; "The Decennial Dinner," by Dr. W. Whitehead Gilfillan; "Clinical Medicine," by Dr. A. W. Hollis; "Modern Surgery," by Dr. Percival Bolton; "Medical Testimony," by Dr. Charles I. Proben; "Commercialism

in Medicine," by Dr. Henry P. De Forest; "What Measure of Success Should a Physician Achieve in Ten Years' Practice?" by Dr. Henry L. Palmer; "The Physician in the Country," by Dr. Charles F. Chapman; "Town vs. Country Practice," by Dr. Sidney A. Twinch; "Philanthropic Work of the Physician," by Dr. Edward W. Peet; "Requirements necessary for Success in Our Profession," by Dr. Henry H. Forbes. Impromptu toasts were responded to by Drs. Arthur B. Coleburn and Henry F. Adams. The next reunion will be five years hence. The following officers were elected: *President*, Dr. James F. McKernon; *Secretary*, Dr. A. Ernest Gallant; *Treasurer*, Dr. William Whitehead Gilfillan.

Smallpox in New York.—A nest of smallpox patients was discovered last week by the board of health in West Sixty-ninth Street. Between thirty and forty patients were found and removed to hospital. The result of the discovery and its publication in the papers has been a vaccination boom of no mean proportions.

Dr. Ramiro Diaz, a gradnate of Vanderbilt University, Nashville, in 1894, has been appointed to the medical corps of the Mexican army and navy, with the rank of captain (capitan 1°). There is in Mexico a special military medical school, from which Dr. Diaz was graduated after completing his studies in this country.

Typhoid Fever has been unusually prevalent in New York this autumn, but the number of cases is now diminishing rapidly, as it always does in the late autumn. The number of cases reported in each week for the period beginning with the week which began on September 2d and extending to the week which ended November 24th, is as follows: 88, 116, 83, 129, 104, 139, 88, 140 (week ending October 27th), 105, 90, 86, 79. The deaths from the fever in the corresponding weeks last year were as follows: 27, 28, 22, 20, 15, 27, 16, 32 (week of October 27th), 28, 27, 17, 22.

The State Hospital for the Treatment of Tuberculosis.—The trustees of the State tuberculosis hospital have presented their report concerning the site to the State board of health. The report relates that after the consideration of the sites offered, the one at the west end of Lake Clear in Franklin county was selected. Protests against the site were made at a public hearing, and no decision has yet been made by the boards of approval. It is believed that the necessary ground can be purchased for $10,000 to $12,000, and the estimated cost of construction and equipment of the hospital is $200,000. The plans for the buildings are now being prepared by the State architect.

Gifts to the Chicago College of Physicians and Surgeons.—Fifty thousand dollars has been given to the College of Physicians and Surgeons, of Chicago, for endowment purposes by two members of the faculty. Dr. William E. Quine, dean of the school, gives $25,000 to endow the college library, and Dr. D. A. K. Steele gives $25,000 to endow the pathological laboratory. The gifts are conditional upon the purchase by the trustees of the University of Illinois, of which the College of Physicians and Surgeons is a part, of a building suitable for the library and the laboratory. The income from Dr. Quine's gift will be devoted to the purchase of books.

Arrest of a Swindler.—A man who gave his name as Dr. Ferguson, of Galveston, was arrested in this city a few days ago on a complaint by Dr. Jarman that Ferguson had swindled him out of a small sum of money. When the man was brought into court the detective showed to the magistrate a copy of the Medical Record containing a warning sent out to all physicians by a Dr. W. Peyre Porcher, of Charleston, S. C., against a swindler impersonating himself and pretending to have attended the Congress of American Physicians and Surgeons in Washington and to have lost all his money. The description of the man tallied exactly with that of Ferguson. Later he was positively identified by Dr. Shands, of Washington, as the man who had represented himself to be Dr. Porcher.

Philadelphia Neurological Society.—At a stated meeting held November 26th Dr. F. Savary Pearce exhibited "A Case of Brachial Monoplegia of Traumatic Origin." On account of the total helplessness of the affected member the wisdom of amputation was considered, but the consensus of opinion was against such a radical operation, although a year had elapsed since the causative accident, and no improvement had resulted from treatment. It was thought better rather to expose the brachial plexus and determine its condition, at the same time remedying any gross deficiencies that might be found and persisting subsequently in massage and electricity. Dr. Charles K. Mills exhibited "A Case of Associated Tabes and Disseminated Sclerosis." The patient was an old man who presented abolition of the knee jerks, Argyll-Robertson pupil, tremor of the head and of the hands on intended movement, with good station and steady gait. Dr. Mills exhibited also "A Case of Pseudo-bulbar Paralysis," apparently due to lesions of both cerebral hemispheres and attended with profound emotional mobility, bilateral paresis more marked upon one side, and increased knee jerks, without trophic changes. Dr. F. X. Dercum exhibited "A Case of Myopathy," in which there was wasting of the muscles of the face and of the upper extremities, with increased bulk of the calves. Dr. Dercum exhibited also "A Case of Obscure Diagnosis," occurring in an adult male in whom there had been pain and tenderness in the course of nerves, followed by paraplegia and increased knee jerks, with wasting of the scapular muscles. Dr. A. R. Allen exhibited "A Case of Partial Ophthalmoplegia," with exophthalmos, in a man in whom only the fourth nerve seemed to be intact. The opinion was expressed that the condition was dependent upon an orbital new growth. Dr. D. J. McCarthy exhibited "A Case of Polyneuritis of all Four Extremities, Passing into the Duchenne-Erb Type of Brachial-plexus Palsy," occurring in a young typesetter, who

had exhibited a blue line on the gums and other symptoms of lead poisoning and had been addicted to alcoholic excess. The wasting in the muscles of the shoulder girdle and of the upper extremities was extreme, and suggested possible invasion also of the ganglion cells of the anterior horns of the spinal cord. Dr. W. G. Spiller reported "A Case Presenting Symptoms of Cerebro-spinal Meningitis with Intense and General Alterations in the Nerve Cells, and Little Evidence of Inflammation," occurring in a feeble-minded child in whom death had occurred suddenly in the course of an acute illness.

The Charles K. Mills Neurological Society listened on November 19th to an address on medicine delivered by Dr. S. Weir Mitchell.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending December 1, 1900. November 23d.—Assistant Surgeon C. R. Burr ordered to the *Monongahela*, December 1st. Assistant Surgeon R. K. McClanahan detached from the navy yard, Washington, and ordered to the *Indiana*, December 1st. November 27th.—Passed Assistant Surgeon R. Spear detached from the naval hospital, New York, and ordered to the *Buffalo*, December 5th. Assistant Surgeon R. B. Williams ordered to duty at the naval hospital, New York, December 5th.

Philadelphia County Medical Society. — At a stated meeting held November 28th Dr. Jay F. Schamberg read a paper entitled "Refractory Cutaneous Syphilis, with Report of a Case and Exhibition of the Patient." He cited instances of undoubted syphilis in which the symptoms declined to yield to the employment of mercurials and iodides in varied form, mode of administration, and dosage. Dr. Edward Martin presented a communication on "The Treatment of Gonorrhœa." For acute anterior urethritis he recommended injections of protargol and potassium permanganate in solution, for posterior urethritis the employment of irrigation, and for chronic urethritis local applications. Dr. John G. Clark made a communication on "Cystoscopy in Women," with a demonstration of instruments. He expressed a preference for the Nitze-Leiter cystoscope for diagnostic purposes, and for the Kelly cystoscope for therapeutic purposes. The latter has the disadvantage of requiring the knee-chest position, while the former requires only the lithotomy posture. A resolution was adopted petitioning the board of education to make an appropriation of $500 for each of a sufficient number (one or two hundred) of medical inspectors to carry out successfully and continuously the work of daily inspecting children in the public schools presenting symptoms of illness, and sending home those found to be sick. The work has been done gratuitously for nearly a year by a volunteer staff of physicians, with the result of preventing a good deal of contagious disease among the children and their families, and ameliorating the severity of attacks of disease through early diagnosis and confinement at home.

Obituary.

RUFUS P. LINCOLN, M.D.,

NEW YORK.

Dr. Rufus P. Lincoln, aged fifty-nine years, died November 27th at his home in this city, after an operation for appendicitis, performed ten days ago. The immediate cause of death is said to have been septic peritonitis. Dr. Lincoln was born in Belchertown, Mass., in April, 1841. He received his early education at Wiliston Seminary and was graduated from Amherst College in 1862. He then entered the army as a second lieutenant in the Thirty-seventh Massachusetts, and served until the close of the war, coming out colonel of the Thirty-seventh. He was wounded at the Wilderness and again at Spottsylvania. He began the study of medicine in New York at the College of Physicians and Surgeons, but after a year went to Harvard and obtained his medical degree there in 1868. After serving as interne in the Massachusetts General Hospital in Boston he returned to New York and entered upon the practice of his specialty, namely, that of laryngology, in which he soon won deserved distinction. He was one of the earliest physicians to apply electric cautery to throat operations, and his removal of a tumor from the throat of Gen. Judson Kilpatrick by this means was considered at the time quite remarkable. Dr. Lincoln was married in 1869. His wife, who was a Miss Tyler, of Pittsfield, Mass., and one daughter survive him. Dr. Lincoln was a member of the Loyal Legion, the University Club, Amherst College Club, and the American Laryngological Society.

Obituary Notes.—Dr. A. L. A. Toboldt died at Philadelphia on November 23d in uræmic convulsions at the age of forty years. He was born in Germany, came to this country as a child, and was graduated from the medical department of the University of Pennsylvania in 1880. He had been demonstrator of materia medica in the university.

Dr. Walker R. Stephen died at Reading, Pa., on November 27th, at the age of forty-nine years. He was a graduate of the medical department of the University of Pennsylvania.

Dr. Clarence E. Foster died on November 26th at Honesdale, Pa., at the age of forty-three years. He was coroner of Wayne county.

Progress of Medical Science.

Medical News, December 1, 1900.

A New Operation for Hemorrhoids.—Ellsworth Eliot states that the following procedure, which has been tried during the past six months in the Presbyterian Hospital of New York, has given excellent results in a number of cases: After the customary preparation and with the usual precaution of as perfect cleanliness as is possible under the circumstances, an anæsthetic is administered, and the sphincter having been stretched the hemorrhoids are allowed to protrude. Each advanced hemorrhoidal area is treated similarly as follows: Opposite the base of the hemorrhoid, parallel with and corresponding to the mucocutaneous junction, a curved incision is made and carried upward in the same plane as in a Whitehead operation beneath the pile-bearing area until the base of the hemorrhoid is reached. A second curved incision is then made in and through the mucous membrane, forming an ellipse with the first-mentioned incision and including within this ellipse any area of ulceration at the base of the hemorrhoid that may have developed as a result of the irritation to which the exposed surface of the mucous membrane overlying the hemorrhoid is subjected. From the junction of the two curved incisions an incision is carried vertically upward through the mucous membrane only, and the re-

sulting quadrangular flap of mucous membrane is reflected from the surface of the underlying hemorrhoidal area, having its base of blood-supply superiorly. After the dissection of this flap, the same vertical incision is deepened through the hemorrhoidal tissue proper, forming a rectangular mass of hemorrhoidal tissue which is transfixed at its base with stout catgut: the ligatures are then tied tightly and the mass is removed. The rectangular flap is stitched to the skin and the retention of any discharge prevented by cutting the catgut ligature long and allowing the ends to protrude below, thus acting as a drain. This same procedure is repeated in not more than two other places where the hemorrhoids are most pronounced. A dressing of sterile gauze is placed over the suture line, a large tube, surrounded by iodoform gauze, having been previously introduced into the lumen of the gut. Prompt union is generally secured and the complete excision of all areas of ulceration at the base of the hemorrhoid is attained.

The Treatment of Pneumonia with Anti-Pneumococcic Serum.—Edwin Rosenthal writes that, clinically, pneumonia is met with as croupous pneumonia, a self-limited disease which should end favorably, and catarrhal pneumonia which has no limitation. A very great and essential factor in all histories of catarrhal pneumonia is told in the word—complication. When pneumonia comes as a complication or sequel to other diseases, the antipneumococcic serum can be used at once, and the addition of the antistreptococcic serum is as needful. The method of administering the serum is by hypodermic injection into the tissues of the body. The indications for its use are as follows: The temperature, pulse, and respiration should be taken as a guide, and the severity of these symptoms governs the method and size of dose and its repetition. If, for instance, the temperature be 103° F. or over, the pulse 140 or over, and the respiration 48 or over, the writer begins with 20 c.c.; when the type is more severe, with 40 c.c. of the serum, followed every four hours by double the initial injection, until the disease is under control, as manifested by a decline of temperature, a slower respiration, disappearance of pain, improvement in the pulse, and a change for the better in the general condition. If the case be croupous, the first twenty-four or forty-eight hours show the effect of the remedy. When the pneumonia is secondary to another disease, the antipneumococcic serum should be followed in four hours by an injection of antistreptococcic serum. The use of serum does not interfere with other treatment, nor is it harmful in any quantity, at any stage of the disease. At the same time the familiar suitable remedies should be employed. None of the foreign serums is reliable. It is not the one dose or the one bottle that will cure, but sufficient quantities must be used till results are obtained, whatever that amount may be.

The Influence of Measles and Erysipelas upon Epilepsy, with Report of Cases.—L. Pierce Clark and E. A. Sharp draw the following deductions from the study of their cases: In not one instance was the pre-existing epilepsy favorably modified for any great length of time. In a few cases the progress of the disease was accelerated by the infectious complication, and in one the measles caused status epilepticus. In those cases in which the epilepsy was favorably modified, the temporary improvement was slight and of very short duration. They therefore conclude that instead of the physician urging his patient to run the risk of an infectious disease, with the small chances of such an accident resulting favorably to the existing neurosis, he should urge them to avoid any and all such complications as far as possible.

A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment.—By C. A. Veasey.

Septic Synovitis of Knee Joint; Extensive Drainage followed by Excision of Entire Synovial Membrane; Recovery.—By Charles A. Powers.

A Medical View of the Treatment of the Cæcum and Appendix.—By A. L. Benedict.

Therapeutic Studies of Heroin Hydrochloride.—By Benno Hyams.

When Shall We Operate in Appendicitis?—By Frank E. Bunts.

New York Medical Journal, December 1, 1900.

A Case of Multiple Aneurisms.—By W. J. Pettus. The patient was a man of forty-one who died a month after admission to hospital. The autopsy showed the following condition. The whole extent of the innominate artery was involved in a fusiform aneurism extending up to and including the first and second parts of the subclavian. This aneurismal sac was about two inches in diameter, and also involved the right common carotid. A great effort at a cure had been made, especially in the innominate portion of the aneurism. There a firmly organized clot filled the sac, except where a small channel for the blood was left. The sac of the subclavian, too, was filled with partly organized clot, leaving a very narrow channel for the blood current. There was also found a fusiform aneurism of almost the entire abdominal aorta, beginning at and including the cœliac axis and extending down to the third lumbar vertebra, just below the origin of the inferior mesenteric artery. The bodies of the last dorsal and the first, second, and third lumbar vertebræ were eroded by the aneurism, to the depth of half an inch, the intervertebral substances being intact. At the origin of the cœliac axis the sac had ruptured on the right side, and the blood had burrowed behind the peritoneum, forming an immense clot, amounting to half a gallon of blood, extending from the diaphragm to the crest of the ilium on the right side. The liver was pushed upward and forward by the large clot. From the history given the abdominal aneurism must have ruptured a week before the patient came under observation.

Report of a Case of Empyema of the Antrum of Highmore of Fifteen Years' Duration, Due to a Foreign Body; Operation; Recovery.—The patient in the case reported by A. B. Duel was a woman of thirty. The symptoms had been of the type usual in empyema of the antrum. Several openings had been made into the cavity and syringings carried out but with no permanent relief. Duel opened through the canine fossa and on exploring with the finger found a calculus made up largely of inspissated mucus around a nucleus, consisting of the fang of a molar tooth which had been forced into the antrum by a dental operation fifteen years before. Curetting, packing, etc., were done, the latter being repeated daily for four days when a large rubber tube was substituted. The discharge stopped in a week. The tube was removed in three weeks. The patient has remained well for eighteen months.

Practical Medicine and Laboratory Research.—Beverley Robinson utters a protest against the unreserved acceptance of the germ theory of disease causation. We are to take into account all the information the laboratory can furnish but should not attach undue weight to evidence from this quarter. Concerning laboratory reports Robinson says that he has had more than once been sceptical as to the time, care, skill, and knowledge employed in making them. He feels that in any important case the knowledge and technique of the observer must be above cavil. Behind the disease is the patient and this fact should always be borne in mind. The clinician must rank foremost and to him the chemist and bacteriologist should always report their findings. It is he who should settle the importance they have and the treatment, prophylactic and curative, which should be adopted.

A Contribution to the Therapeutics of Phlegmasia Alba Dolens.—A. Herzfeld has used in one case the unguentum Credé. The interestiug features of this case are the comparatively late appearance of the phlegmasia alba dolens (on the twentieth day after delivery) and the rapid effect of unguentum Credé on pain, fever, aud swelling, after all other means had signally failed, leading to the impression that its action was very similar to that of antitoxin. Herzfeld calls special attention to the large dosage used (15 gm.), which he considers necessary for an effective use of the remedy.

Cessation of Respiration during Chloroform Anæsthesia Due to Chewing-Gum in the Larynx.—By E. P. Palmer.

The Treatment of Various and Long-Standing Sexual and Urinary Symptoms in the Male.—By Follen Cabot.

Revelations of the Proctoscope in Health and Disease.—By A. B. Cooke.

A Dissection of Some Antitoxin Statistics.—By J. E. Herman.

Heroin as an Analgetic.—By N. P. Geis.

Journal of the American Medical Ass'n, Dec. 1, 1900.

Bacteriological Examinations of Otitis Media Purulenta and Suppurative Mastoiditis.—This report is made by Talbot R. Chambers. At the beginning of the autumn, 1899, the rule was adopted that whenever an otitis purulenta, acute or chronic, came under treatment, the canal was to be thoroughly cleansed with hydrogen peroxide, and granulations and polyps were to receive appropriate treatment tending to their speedy removal if possible. The same order was then given in every case, viz., hot-water syringing to be followed by instillation of enzymol in the canal. If after one week no improvement was noted, the enzymol was discontinued, and the hot-water syringing was changed to hot bichloride (1:4,000), or hot carbolic acid (10 to 20 drops to the pint), or hot Seiler's solution. The water was at 120° F. When the auditory canal was swollen and the mastoid painful, leeches were applied in the early stage and then six hours later, after the bleeding had stopped, the following treatment was employed every hour for twenty-four or forty-eight hours: Ten minutes' syringing with hot water at 120 F., ice poultice bound firmly on for fifteen minutes, and a continuous application of a hot-water bag for the

remainder of the hour. The writer believes that the abortion of twenty-eight out of thirty-nine cases of acute mastoid inflammation, presenting swollen auditory canal and mastoid pain, is due to this treatment. In no acute mastoid case when this treatment was properly carried out was operation done. In a number of cases paracentesis of the drum membrane was performed one or more times. Tonic constitutional and hygienic measures suitable to the individual were in all cases taken. The writer emphasizes the fact that the great value of a microscopical examination of the catarrhal or purulent discharge is seen in the case of diplococcus pneumoniæ (Fraenkel), in which a speedy cure may be prophesied, and one may with equal confidence sew up the mastoid wound completely and discharge the patient in about one week, or at most not over two weeks; with streptococcus alone, fifty per cent. are cured. One case of acute suppurative mastoiditis (streptococcus alone) had hot-water syringing and zinc chloride instillation of two per cent. strength, and after paracentesis came to rest in two weeks. With streptococcus and pyocyaneus the chances are even of an eventual if tardy cure. With streptococcus and staphylococcus the chances are two to one against cure. If staphylococcus alone be present, four out of nine may come to a cure. If pyocyaneus exist alone, one-half may be cured and the others prove stubborn. If coli bacillus communis be the germ the case is practically incurable. All these cases may prove stubborn except the diplococcus pneumoniæ (Fraenkel), which yields forthwith to pepsin.

Cholecystectomy; with Special Reference to the Removal of the Mucous Membrane of the Gall Bladder as a Substitute; Report of a Case in which the Gall Bladder was Removed for Malignant Disease.—By W. J. Mayo.

Tuberculosis of the Testicle, with Special Reference to its Conservative Treatment.—By John B. Murphy.

The Importance of Early Operations on Gall-Stones.—By Maurice H. Richardson.

Gastric Ulcer: Non-Perforating Hemorrhage.—By William L. Rodman.

The Diagnosis and Treatment of Cholelithiasis.—By W. J. Means.

American Medical Journalism.—By Charles Wood Fassett.

Modern Empirical Inventions.—By N. C. Morse.

Boston Medical and Surgical Journal, Nov. 29, 1900.

Subperiosteal Fractures.—Frederick J. Cotton reports a number of cases of this class of fractures, which is very common among children, and a large proportion of which seem on close examination to have little in common with the type known as green-stick fracture, with which they are usually classed. Here there is no deformity, because there are no torn surfaces, but a clean-cut crack or cross fracture, and no bent or half-broken layer of bone to prevent the motion necessary to readjustment of the surfaces. The lack of crepitus and mobility seems to be largely or entirely dependent on the strength of the thick intact periosteal layer. From cases observed and experiments tried, it would seem that blows are less likely than a more slowly acting strain to produce typical green-stick fractures. It seems that fractures in children showing no deformity and no appreciable mobility are not uncommon; that they might readily be overlooked; that they often need no reduction, having no deformity; that they often repair with callus, and quickly.

Irritable Breasts, or Chronic Lobular Mastitis.—R. C. Cabot reports two cases of lump in the breast in two young unmarried women. The lumps were painful to the touch. They are improving under treatment addressed to general debility and anæmia. The author queries whether these tumors may possibly be galactocele (of which several cases are on record in unmarried women), or whether it may not be that the lumps are physiological, and that a considerable number of women have them and do not find them out. He also seeks information as to the prognosis, and the treatment.

Observations upon the Symptoms and Treatment of Hyperacidity of the Stomach.—By Henry F. Hewes.

Acute Hemorrhagic Pancreatitis; its Surgical Treatment, with Report of Six Cases.—By F. B. Lund.

Cysts of the Vocal Cord.—By J. Payson Clark.

The Philadelphia Medical Journal, December 1, 1900.

On the Treatment of Tuberculosis by Sodium Cinnamate.—Alfred Mann states that there are two important characteristics in which tuberculosis differs from the acute infectious diseases, such as diphtheria and pneumonia: 1. It tends to the production of marked and permanent anatomical changes in the organs and tissues involved. 2. It causes little or no immunizing reaction in the organism. The most successful modes of treatment in the past, excluding surgical measures, have been those that aimed to improve the general health of the system, those that relied upon the natural tendency of the body to resist and expel infection and that in any way, directly or indirectly, increased its defensive powers. Among the chief of these are the out-door and climatic treatment, the dietetic and hygienic methods, and the treatment in sanatoria. The writer then gives his experience in the use of sodium cinnamate or hetol. He has employed the method of intravenous injection of solutions of this drug, following very closely the directions given by Professor Landerer. Beginning with $\frac{1}{100}$ to $\frac{1}{50}$ of a grain, the dose is gradually increased to $\frac{1}{4}$ or $\frac{1}{3}$ gr. which should rarely be exceeded. The injections are repeated every other day. Only pure preparations should be used such as are made synthetically by certain German chemical houses. The technique is very simple, the main point being to secure perfect asepsis. After the vein is made prominent, the needle is plunged slantingly into it. The duration of treatment varies considerably, depending upon the severity of the infection. Cinnamic acid is the efficient constituent of the balsam of Peru. The compound used for injection is the sodium salt of this acid, called hetol. It possesses all the efficacy of the original balsam and is free from its defects. The injections are entirely harmless. There are no bad effects on the kidneys. There is no diminution of the red corpuscles. The first effect is the increase in number of white corpuscles for from three to eight hours, after which they gradually decrease to normal. In a few weeks new blood-vessels spring up and granulations extend into the tuberculous area, absorbing and replacing the necrotic material. Many of the patients become drowsy after the injections. The writer has been favorably impressed by the use of this drug, believing that it will markedly quicken healing-processes in some though not in all of the cases.

Where the Danger Lies in Tuberculosis.—Adelaide Dutcher gives the following summary of tabulation:

Total number of patients	190
Number of houses occupied	234
Whites	130
Blacks	40
Russians	20

	Russians, Per Cent.	Blacks, Per Cent.	Whites, Per Cent.
Bad sanitary location	69	40	30
Insufficient light and ventilation	83	71	46
Overcrowding	76	50	46
Personal and household cleanliness	75	66	43

The writer has made her observations in Baltimore. The Russians are separated from the rest of the whites on account of their extreme unsanitary condition. The occupation of many of these patients confines them within doors, and the writer emphasizes their disgusting habits in regard to the disposal of sputum. Her statistics, although limited, show the rapidity with which Baltimore houses are becoming centres of infection. In the short time of these observations these one hundred and ninety patients occupied two hundred and thirty-four houses. There was never any attempt at disinfection. In fifty-eight per cent. of the cases the family history was absolutely negative. When the tuberculous patient is taught to destroy his sputum, to rid his room of carpets and other germ catchers, and to throw open his windows to admit the sunshine and fresh air, a visible decrease in this disease may be looked for in our dispensaries.

Some Observations on the Occurrence, Early Diagnosis, and Treatment of Incipient Pulmonary Tuberculosis in Dispensary Practice.—By Henry L. Shively.

Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to the X-Ray.—By A. Everett Smith.

A Case of Acute Tuberculosis of the Mesenteric Glands of the Ileo-cæcal Coil; Removal, Permanent Recovery.—By Maurice H. Richardson.

Personal Views Regarding the Climate of the Rocky Mountains in the Treatment of Tuberculosis.—By S. D. Van Meter.

The Early Diagnosis of Pulmonary Tuberculosis.—By De Lancey Rochester.

The Fallacy of Climate in the Treatment of Tuberculosis.—By J. W. Kime.

Sanatorium Treatment and its Relation to Climate.—By S. Edwin Solly.

Operation in Two Cases of Tuberculous Peritonitis.—By W. L. Grant.

Public Education and the Prevention of Disease.—By H. L. Johnson.

The Registration of Tuberculosis.—By Hermann M. Biggs.

Colorado Climate: a Comparative Study.—By Edwin G. Dexter.

Stomach Conditions in Early Tuberculosis.—By Boardman Reed.

The Diseases of the Bronchial Glands.—By J. N. Hall.

On the Study of Tuberculosis.—By William Osler.

British Medical Journal, November 17 and 24, 1900.

A Clinical Lecture on Varix.—The following clinical classification of varix is made by William Thorburn: A. Developmental varix, in which a large trunk stands out from a limb whose tissues are otherwise healthy. This condition is often unilateral. The patient is often young. It is more common in males. There is often a history of hereditary tendency to varicose veins or to hemorrhoids. These cases have probably a congenital origin. B. Obstructive varix, in which the varix is far less sharply limited. It is bilateral after the earliest appearance; rare in the young, more common in the female. Obstruction of the venous return is the prominent cause. C. Hyperæmic or inflammatory varix, in which there is no varix of the larger trunks but only patches in which the venules are enlarged. These small varices are probably a direct result of inflammation, and of prolonged hyperæmia connected therewith, due to long-continued increase in the arterial blood supply. In the lower limb this condition is not common. As to treatment the excision of varicose veins, however performed, is capable of relieving the patient of dilated areas and of developmentally imperfect vessels; it is not capable of relieving obstruction except by the indirect method of substituting healthy for valveless channels. When the defect is limited in extent the best results will be obtained. When it is more widely distributed operation is far less successful. In the obstructive type, the success will largely depend upon the relative etiological importance in each case of developmental error or of obstruction.

A Case of Acute (Traumatic) Tetanus Successfully Treated with Antitetanus Serum.—Sydney H. Long reports the case of a boy aged thirteen, whose foot had been punctured by nails in his boot. Five days later he was admitted into the hospital with symptoms of tetanus. The maximum daily number of spasms occurred on the fourth day after the serum treatment was commenced, after which they gradually declined. This was to be expected, as the toxin had had seven clear days to produce its effects before the serum treatment was begun; and the operation required for the hypodermic injections in part explains the frequency of the spasms. In less than two months he was feeling perfectly well. The study of this case confirms the belief that cases of acute tetanus can be successfully treated with the antitetanic serum if this is given in sufficiently large doses and frequently repeated. It is probably not necessary to resort to the intracerebral method of administering the serum, provided that this be given in sufficient amount. In serum-therapeutics the chance of ill-effects from overdosage is remote. At first the injections were given subcutaneously, but later per rectum. The latter were given through a flexible rubber tube of small calibre under hydrostatic pressure, about an ounce of pancreatized milk being used to drive the serum into the bowel; a plain warm-water injection of a pint was given daily to wash out the rectum while the enemata were being continued.

Erythematous Rash due to Boric Acid.—Henry Handford reports this case. The patient, a man of forty-seven, had suffered from dyspeptic symptoms for three years. Vomiting had been noted for fourteen months, and strength and flesh were diminishing. A non-malignant stricture of the pylorus was diagnosed. The stomach had been washed out for three and one-half months, but it was decided to continue this treatment for a short time longer, and boric-acid lotion 1:60 was selected. About two and one-half pints of the warm solution were used and allowed to remain two or three minutes, and returned by the siphon action of the tube. This was repeated two or three times till the fluid was nearly clear. Within less than a week an erythematous rash appeared on the face and back. Plain water was substituted for the boric solution and the rash disappeared in two days. Again boric solution of a strength of 1:200 was used for three days and the erythema again appeared. The solution was stopped and the rash disappeared. Later the trouble was found to be a much thickened pylorus. Pyloroplasty was performed and the patient made a good recovery.

A Case of Aortic Aneurism Treated by Hypodermic Injections of Gelatin.—This patient was a man of fifty. Arthur Cutfield began the treatment by injecting a two-per-cent. solution of gelatin into the subcutaneous tissues of the abdominal wall on July 22d, using at first three fluid-ounces and after the fourth injection four ounces. The injections were given every second day for about three weeks, and then every third or fourth day, twenty injections having been given altogether. Improvement began in about a fortnight, and from that time the pain steadily diminished and the pulsation became less marked, till at the close of the treatment pain was practically absent and pulsation felt only on deep pressure. He was then quite comfortable except for an occasional spasm once or twice in the twenty-four hours. The improvement was very marked. He was not confined to bed during the treatment, though he moved about very little and with great care. He took five-grain doses of potassium iodide three times a day, and his food and drink were somewhat restricted in quantity.

Successful Removal of an Enlarged and Displaced Spleen.—D'Arcy Power reports this case. The patient, a woman of forty-three, mother of two children three years before operation, struck her left side just over the lower ribs. Two years later she noticed her abdomen increasing in size. She had suffered much pain and discomfort. At operation the abdomen was opened and the spleen discovered to be attached by a long pedicle. The organ was removed. The operation lasted an hour and a half from the beginning of the anæsthetic. On the forty-second day after operation the patient went home and has physiologically sustained no inconvenience from the loss of her spleen. Just after removal, the organ weighed two and one-half pounds. The enlargement was due to hypertrophy, the weight being seventeen or eighteen ounces after it had been kept in spirit for six months. Splenectomy seems to be a successful operation in cases of enlarged and displaced spleens when the enlargement is not leucocythæmic.

The Management of the Soft Parts in the Mastoid Operation.—After reviewing Schwartze's and Ballance's operations, James Kerr Love describes the single channel operation. The bone is dealt with as in the ordinary radical mastoid operation. The posterior superior wall of the cartilaginous canal is slit through its entire length. The mastoid skin wound is closely stitched and a careful packing via the external auditory canal causes the slit posterior cartilaginous wall to apply itself to the posterior wall of the widened bony canal. The canal is much widened, through which it is easy to conduct future treatment, which consists almost entirely of packing with special absorbent gauzes. All dressings are removed from the side of the head within a fortnight and the patient may then resume work. Every part of the healing surface can be seen through the speculum. Complete healing takes place within three months, and two dressings per week are generally sufficient.

A Case of Severe Subcranial Hemorrhage; Operation; Recovery.—F. G. Proudfoot and Gabriel W. Farmer report the case of a woman aged fifty-six, who was found lying unconscious. After being put to bed she regained consciousness for a short period, after which she again lapsed into unconsciousness. Operation was advised as the case was diagnosed as being one of subcranial hemorrhage. A trephine was applied and on the removal of the crown of bone a large clot bulged into the wound, and almost instantaneously the stertorous character of the breathing ceased. The clot was scooped away and a large depression in the convexity of the brain presented itself. Hemorrhage was free. The depression was packed with sterilized gauze and a dressing applied. Within a week the sutures were removed. The wound healed completely, and the patient made a perfect recovery.

Note on a Case of Protracted Stupor.—This case is reported by David Drummond. The patient was a man aged twenty-six, with a neurotic family history. When admitted to the hospital, he lay motionless and took no notice of his surroundings. His eyes were open, his limbs cold and flaccid. Reflexes were just perceptible, but the corneal reflex was active. Liquid nourishment was given. The treatment consisted in attending to the skin, and massage with passive movements. At the end of seven months he began to improve, and as he became able to speak it was discovered that his consciousness and memory had not been entirely in abeyance and in this respect the case differed from anergic stupor. It differed from melancholic stupor in that the muscles were flaccid and absolutely unresistive.

Notes of Two Cases of Excision of the Gasserian Ganglion for Epileptiform Neuralgia.—J. Crawford Renton believes that this most severe complaint can now with safety be relieved. In these two cases he removed the ganglion, adopting the method of Hartley and Krause, which he calls the high road. By this method, a flap of skin, fascia, and muscle is turned down, with its base either below or in front of the ear, and a large portion of bone removed by the trephine or burr. The dura was punctured and separated to the foramen spinosum. After exposing the foramina rotundum and ovale the superior and inferior divisions of the fifth were drawn out and divided. The ganglion was then raised up and pulled away. This method is laborious and requires great patience, but seems to meet with excellent success.

Abdominal Tumor (Included Fœtus) Occurring in a Child aged Three Months; Laparotomy; Death.—By G. A. Wright and D. S. Wylie.

An Outbreak of Typhoid Fever Attributed to the Infection of a Well by a Convalescent Soldier from South Africa.—By Thomas J. Walker.

Two Unusual Cases of Stricture of the Œsophagus in which Gastrostomy was Performed.—By Walker Downie.

An Epidemic of Peripheral Neuritis amongst Beer Drinkers in Manchester and District.—By Ernest S. Reynolds.

A Plastic Operation for the Closure of Retro-Auricular Post-operative Fistulæ.—By Richard Lake.

A Case of Neuritis of the Posterior Roots: Preataxic Stage of Tabes Dorsalis?—By W. B. Ransom.

A Case of Appendicitis with Abscess Perforating into the Bladder; Recovery.—By A. Percy Allan.

Presidential Address on Physiology and the Healing Art.—By W. H. Thompson.

Clinical Lecture on Some Exceptional Cases of Gastric Surgery.—By Walter Spencer.

A Case of Tolerance of Abdominal Section in Two Different Pregnancies.—By F. Edge.

An Address on Some of the Sequelæ of Cranial Injuries.—By Ernest Tredinnick.

Operation for Severe Hypospadias.—By R. Hamilton Russell.

Puerperal Eclampsia and its Treatment by Morphine.—By G. E. Fitzgerald.

Four Cases of Laparotomy for Intussusception.—By Keith Monsarrat.

Shock Caused by High Explosives.—By A. W. Forrester.

Syphilis in the Royal Navy.—By J. P. H. Greenhalgh.

Death from an Insect Bite.—By Chas. J. Moore.

Poisoning by Lysol.—By William Hartigan.

The Lancet, November 24, 1900.

Diphtheritic Paralysis.—E. F. Trevelyan presents an analysis of six cases which furnish a starting-point for some remarks on the occurrence of albuminuria and ataxia in connection with diphtheritic paralysis. He concludes that diphtheritic albuminuria has no other relation to diphtheritic paralysis than that both complications are more prone to occur where the diphtheritic intoxication is most intense. The question is not considered here as to whether kidneys damaged by a toxic nephritis are not more likely to lead to the retention within the body of the paralysis-producing poisons than would happen with healthy kidneys. Ataxia is nearly always combined with more or less paresis. Some authors state that the ataxia appears first and then later the weakness. Of course, the weakness would tend to mask the ataxia. It is quite true that it is very unusual to find in diphtheritic paralysis the degree of disorderly movements with the flinging, stamping gait so commonly seen in tabes, but this is no reason why slighter degrees of inco-ordination should not be admitted. Nothing new is stated as to treatment.

The Diagnosis of Plague.—W. C. Hossack makes the following types of disease: the bubonic, pneumonic, septic, intestinal, cerebral, and carbuncular. Under each heading are described the features peculiar to the type. Diseases liable to be confounded with plague are puerperal fever, septicæmia, pyæmia, smallpox, influenza, cerebro-spinal meningitis, diphtheria and angina, erysipelas, measles, gonorrhœa, syphilis, mumps, malaria, cerebral embolism, and scrofulous glands. Of course in some of these maladies there is rarely any difficulty in making a differential diagnosis, but in the course of the writer's personal experience cases have occurred under all these headings in which the diagnosis was at first hard to make.

Fourteen and a Half Hours' Artificial Respiration in a Child One Week Old; Recovery.—The case is reported by G. E. Keith. Chloroform was given for circumcision. The child did not take it well and lost more blood than is usual. He afterward slept for some hours and was apparently doing well. Some hours later cyanosis was observed and the child appeared lifeless. Artificial respiration was begun and in a few minutes all seemed well. Again cyanotic attacks and stoppage of breathing came on, to be again relieved by artificial respiration. This series of events was repeated several times, but finally normal breathing was permanently re-established.

Clinical Remarks on the Results of a Pure Proteid Food in Fifty-five Cases (Various Diseases).—By R. E. Williamson.

Mouth-Breathing and its Relation to Diseases of the Throat, Ear, Nose, and Accessory Cavities.—By Mayo Collier.

Ichthyol and its Uses in Some Skin Diseases.—By A. Brownlie.

Estimation of Iron in Animal Organs.—By Percy A. E. Richards.

Mental Disorders Dependent on Toxæmia.—By Dyce Duckworth.

Landry's Paralysis.—By P. R. Griffiths.

French Journals.

Intoxications and Infections in Mental Troubles and in Neuropathies.—G. D'Abundo concludes that infections and intoxications represent in the pathogeny of general nervous troubles the most frequent and active elements, and this in all conditions of life both intra- and extra-uterine. Toxic-infectious heredity (syphilis, alcoholism) gives a tendency in the descendants to the evolution of neuropathies. Infections and intoxications in the ancestors or in the mother during gestation cause in the fœtus very frequently a striking retardation of development in the nervous system. The action of infectious and toxic agents may produce nervous troubles, peripheral or central, and may lead to neuro psychoses either acute or chronic. Mental confusion represents simply the most frequent clinical type of the toxic-infectious action. Acute delirium may be considered a clinical symptom, caused by various infectious and toxic agents. Researches into the etiology of progressive paralysis only fortify the conception of its infectious and toxic origin. Clinical manifestations of infections and intoxications of the nervous system are the result of more or less pronounced nutritive disturbances. As to the treatment on this basis, it will consist in the elimination of toxic products, and will seek to neutralize or diminish the effects of secondary intoxications.—*La Presse Médicale*, November 3, 1900.

Latent Appendicitis.—Grandmaison reports this interesting case. The patient was a man fifty-one years old. He was a chronic alcoholic, and for fifteen days before entering the hospital his skin had been growing more and more yellow. He suffered a little from vague abdominal pains and from severe diarrhœa and slight headache. The diagnosis was that of infectious icterus occurring in an alcoholic and accompanied by atrophic cirrhosis of the liver. The patient was put on a milk diet. The three signs that would be at once looked for in appendicitis were absent: excessive abdominal pain, intestinal obstruction, and symptoms of peritonitis. At the autopsy—the patient died on the fourth day after entering the hospital—the appendix was found to be distended and perforated, and a sero-purulent collection was found behind the cæcum, as well as a generalized peritonitis.—*La Médecine Moderne*, November 7, 1900.

Dysentery in Brittany; Colon Bacillus in the Waters of Landerneau.—E. Lenoble speaks of his work and that of his associates in regard to the analysis of the waters of Landerneau in the midst of the affected region. They used various methods. The nutritive gelatin plates of Ellsner showed colonies of the colon bacillus, the method of Péré gave analogous results. To sum up the results of the whole work, there was found an undeniable variety of colon bacillus, which resembled to a certain extent Eberth's bacillus but was clearly distinguished by certain characteristics, *e.g.*, the lactose test which differed from the reaction with Eberth's bacillus and the absence of Widal's test.—*La Presse Médicale*, October 27, 1900.

The Relations between Alopecia and Dental Lesions.—L. Jacquet calls attention to the resemblances between the skin and the teeth, from the points of view embryological, histological, and evolutionary. He believes that deficiency of various salts has much to do with these conditions. There is probably a vitiation of the general trophic sytem. Dental troubles and baldness are becoming very common and can but call attention to the theory of the evolution of a human type which will be toothless and hairless.—*La Presse Médicale*, November 10, 1900.

Berliner klinische Wochenschrift, Nov. 5 and 12, 1900.

Nephrectomy for Calculous Pyelitis.—L. Thumim reports the case of a woman of thirty-one years, whose urine contained pus and who suffered from the symptoms of renal colic. Cystoscopic examination showed cystitis, but catheterization of the ureters failed to reveal any changes in either kidney nor was there sensitiveness in their neighborhood. Later attacks of pain led to a repetition of the catheterization and evidences of a pyelitis of the right kidney were manifest. By means of the Casper-Richter phloridzin test it was also determined that the parenchyma of the right kidney was involved and its removal was advised. This was done and the patient made a good recovery. Several calcareous masses were found in the extirpated organ.

Purpura Rheumatica and Angina.—A. Bruck refers to the abundant literature of recent years on the general subject of the relation between sore throat and rheumatism, and then relates the histories of four cases occurring in his own

practice in which manifestations of ordinary tonsillitis were followed by a typical petechial rash of a purpuric type. He believes that in such cases the poison gains entrance through the tonsillar structures and then affects the system at large. It is not necessary that the throat symptoms should be of a severe type. Often they are very mild and yet the constitutional rheumatic symptoms very severe.

Post-Mortem Appearances in a Case of Acromegaly.—E. Mendel gives the findings in a case which had been under observation for some time. The article is illustrated by two drawings and should be consulted in the original by those interested in these cases. At the base of the brain in the region of the chiasma a walnut-sized sarcoma was found, made up of large round cells. The pineal gland was normal throughout. The thyroid gland was considerably enlarged. The spleen was large and soft. The thymus gland was present.

The Treatment of Catarrhal Adhesive Processes in the Middle Ear by Means of Intra-Tubular Pilocarpine Injections.—Fischenich advises the use of muriate of pilocarpine in two-per-cent. watery solution. The dosage should commence with six to eight drops for each ear and gradually increase to twelve or even sixteen. These are injected through a catheter in the usual manner. From thirty to fifty injections may be necessary in some cases. Sometimes a little dizziness and even pain is felt at first, but only for a short time.

The Clinical Value of Schmidt's Method of Functional Examination of the Colon.—By H. Phillippsohn.

Contribution to the Symptomatology of Facial Paralysis.—By M. Bernhardt.

The Mechanism of Certain Cortical Visual Disturbances in Dogs.—By E. Hitzig.

Urinary Calculi.—By C. Posner.

Münchener medicinische Wochenschrift, Nov. 13, 1900.

The Subjective Symptoms of Neurasthenia.—L. Hoeflmayer considers that the more or less generic term "neurasthenia" should be replaced by more specific appellations indicating the system diseased, *e.g.*, there are well recognized cerebral, spinal, visceral, intestinal, and cardiac forms of the malady. If all the subjective disturbances of neurasthenics be collected and studied it will be found that they may be grouped under two headings, viz., (1) disturbances of intestinal activity and (2) vagus-sympathetic neuroses. The intimate relationship between these two sets of causes is clearly shown by the great relief afforded in nearly every case of such disease by a thorough and systematic cleansing of the intestinal tract. One of the commonest and at the same time most alarming symptom complexes to which the neurasthenic is subject is a form of angina-like attack, attended by great cardiac distress, dyspnœa, rapid feeble pulse, cold clammy extremities, and which on inquiry is found to have been preceded by several days' constipation. It is impossible to be certain whether the irritation of the intestinal connections of the vagus is the result of the mechanical or the chemical stimuli resulting from the presence of the inspissated and decomposing fecal masses, but that they are the *causa morbi* is shown by the almost instantaneous relief to all the symptoms after satisfactory clearing of the intestine has been secured by copious high injections.

The Typical Form of Laryngeal Neuralgia.—Georg Avellis has found that otherwise perfectly healthy individuals, who are above the suspicion of hysteria, may be found to suffer from a painful affection of the larynx, which is increased by motion of the part, and may become so severe as to cause the patient to refrain from eating or speaking through fear of the pain attendant on these acts. The one sign which differentiates this from all other similar affections and at once stamps it as neuralgic in nature is the existence of true points of tenderness where the nerve involved pierces a layer of fascia; namely, pressure over the spot where the superior laryngeal nerve pierces the thyro-hyoid membrane and also where it lies superficially in the pyriform sinus elicits the characteristic pain. Local treatment by means of sprays, etc., is unavailing, but the internal use of antineuralgics and external application of dry heat are speedily successful. The differential diagnosis lies between this affection and rheumatism of the cervical muscles, bursitis lateralis, and hysteria.

A Case of Formalin Poisoning.—Ludwig Zorn's patient accidentally took about four drachms of the commercial forty-per-cent. solution of formalin. Immediately after swallowing the liquid, realizing his error, he took some milk which was instantly vomited. When he came under observation he was suffering from dyspnœa, vertigo, great anxiety, burning in the mouth and stomach, and nausea. The pulse was rapid and small, and after twenty-four hours of absolute anuria a small quantity of albuminous urine was passed. For several days there was diarrhœa of moderate intensity and the patient was discharged cured a day or two later. It is interesting to note that in this case the gastro-intestinal and renal symptoms occupied the foreground, while in that recently reported by Klüber in the same journal it seems to have been the sensorium that was most affected.

A Case of Tetanus following Poisoning.—F. Dammer describes a case of what appears to have been true tetanus following the use of an anthelmintic containing extract of male fern and calomel. The patient was a woman of thirty-five, who years previously had taken a similar dose with no unpleasant results. At the present time the expulsion of the parasite took place one and one-half hours after the medication, but was promptly followed by temporary loss of consciousness, and convulsive seizures in every respect resembling those of true tetanus. These were repeated at short intervals, but under treatment by hydrotherapy recurred less often, and finally the patient was discharged cured three weeks later.

A Case of Fatal Spontaneous Umbilical Hemorrhage in a Hæmophilic Infant.—By Jens Paulsen.

The Occurrence of Rhodan in the Nasal Secretion.—By A. Keller.

The Obstetrician and Infant Feeding.—By Heinrich Cramer.

The Plaster Treatment of Scoliosis.—By A. Schanz.

Intubation in Private Practice.—By Marx.

Surgical Contributions.—By G. Jochner.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

WEATHER AND HEALTH—CLINICAL SOCIETY—SEQUEL TO HYDATID CASE; ABDOMINAL SECTION AND ASCITES—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN—SIR W. THOMSON—MR. MAKINS—PROFESSOR YOUNG—DEATHS OF DRS. EMBLETON, QUINLAN, TAUNTON, PALMER, ANDERSON.

London, November 16, 1900.

Up to the present we have had no cold weather to speak of. In London, indeed, it seems a particularly mild November, and the impression is confirmed by the meteorological statistics, which show a temperature of 13° above the average for this month. This is said to be due to a series of depressions from the Atlantic, bringing mild southerly breezes and warm rains all over the country, though the total rainfall is not heavy. The indications seem to be that warm, moist, showery weather will last longer.

The effect on the public health will not be evidenced for some time yet, though many people are assuming that it will be bad, and assuring us that frosty air is more wholesome.

At the Clinical Society on the 9th Dr. Norman Dalton read the sequel to a case of hydatids of the liver, showing also the results of abdominal section on ascites. The patient was a girl, who at eleven years of age passed hydatids per rectum and expectorated bile from the right lung. She recovered, but at sixteen ascites set in. After some tappings, at fortnightly intervals, abdominal section was performed, but nothing found which could be removed. There were then no adhesions except at the top of the liver, round the fistula into the lung. Two subsequent tappings were called for in the next fortnight. The girl then got well and continued so for five years. Examination then showed a small quantity of fluid in the hypogastrium, but the rest of the peritoneal cavity seemed to be obliterated by adhesions. In May, 1899, the patient died of septic peritonitis at the age of twenty-three. At the post-mortem the old cyst was found communicating below with a dilated bile duct, and above, through the diaphragm, with a dilated bronchial tube. There was a collection of fluid in the hypogastrium, and adhesions obliterated the rest of the cavity, just as had been surmised. Thus the ascites had been practically cured, and Dr. Dalton thought this was due not only to the occlusion of the cavity, but to the portal congestion being relieved by the opening of communications between the portal capillaries and those which joined veins in the abdominal wall, diaphragm, etc. The case seems to encourage abdominal section for ascites, as for ten years the patient was pretty well, the condition being that of cirrhosis.

Sir R. D. Powell said hepatic cirrhosis associated with ascites was favorable when adhesions formed, and their presence might be inferred from uneven distribution of the fluid. He mentioned such a case, and agreed that the

adhesions set up another circulation, and so relieved the portal congestion.

Mr. Marsh pointed out that Mr. Morison, of Newcastle, had operated in these cases for the express purpose of obtaining this collateral circulation by setting up adhesions.

Dr. Rolleston referred to the paper which he and Mr. Turner brought before the Medical Society a year ago on this subject. Their statistics, as I mentioned at that time, showed that out of fifteen cases operated on, five were cured. They agreed that the collateral circulation had some influence, but it was not a sufficient explanation alone, as other symptoms were also relieved. Probably more blood being brought to the surface of the liver, its nutrition was increased and its cells became hypertrophied.

Mr. Morison thought the adhesions acted by diminishing the size of the cavity, which increased the aspirating-power of the thorax. It was an old and successful plan to compress the abdomen after paracentesis by encircling it with strapping to be worn for a long time.

Dr. Toogood supported the view that adhesions acted by increasing the aspirating-power. He related a case in which ascites had disappeared after laparotomy. Dr. Norman Dalton in his reply said a serious consideration was the likelihood of hernia, and he believed that his patient eventually died of that.

The Society for the Study of Disease in Children has gone vigorously to work, and a number of interesting cases have been exhibited at its meeting. Among these may be named that of an infant aged eight months, weighing twenty-nine and one-half pounds. The child had been fed exclusively by the breast. The maternal milk had a great excess of lactose. The child seemed otherwise healthy. A case of myxœdema with ectropion in a girl aged twelve years, brought by Mr. Sidney Stephenson. In connection with this case Dr. Percy Lewis showed photographs of other cases of myxœdema in young subjects. A lad aged five years, with Mongolian imbecility, on which some members offered remarks. There was also shown a specimen of a heart weighing nineteen and one-half ounces. It was dilated and hypertrophied. The child died a year after an attack of acute rheumatism.

The court of appeal has reversed the decision in Dowling *v.* Dods. The action was one for libel, and Dr. Dods was cast in damages for a letter in which he stated that Miss Dowling was not sane. The letter was sent on account of plaintiff being a candidate for a dispensary appointment. The learned judge said it was perfectly plain the lady's mind was unhinged and there was not a scintilla of evidence of malice. It seems Dr. Dods merely gave a warning of the danger of any one subject to hallucinations acting as a dispenser.

Sir William Thomson has been appointed surgeon to the Queen in Ireland. This is no more than was to be expected, since to his great position as a surgical leader in Dublin he added that of chief of the Irish Hospital at the seat of war.

Mr. G. H. Makins, of St. Thomas' Hospital, who went to South Africa as one of the consulting surgeons, is engaged on a book giving an account of his experience there.

Professor Young is to succeed the late Dr. Leech as representative of Victoria University in the General Medical Council.

Dr. Dennis Embleton, consulting physician to the Royal Infirmary of Newcastle-on-Tyne, died on the 12th inst. at the advanced age of ninety. He was for a long time a member of the General Medical Council. In earlier days he taught anatomy, physiology, and medicine, and there are men still living who delight to recall the assistance he gave them. But his interest in literature and natural history was intense, and these subjects occupied much of his time and attention. This venerable member of the profession had declined in health for the last few months.

Dr. F. B. Quinlan, of Dublin, died on the 9th inst. He was for a long time physician to St. Vincent's Hospital and professor of therapeutics in the Catholic University. He graduated in 1857 at Dublin University, and in due time became a member of the senate. He contributed many papers to the societies and journals, and was esteemed as a scholar outside professional subjects. He was the son of a journalist and had much interest in literary subjects, though not to the detriment of his medical sentiments. He retired some ten or twelve years ago. His death was not unexpected, as he had been ill for some time and in bed for several weeks. He had reached his sixty-fifth year.

Another venerable member of the profession, Thomas Taunton, died on the 5th inst. in his eighty-ninth year. He was a skilful surgeon and very successful accoucheur. It was stated that he had never lost a midwifery case.

Yet another octogenarian: Father R. F. Palmer took his M.R.C.S. diploma in 1846 and practised until 1853, when he entered the Roman Catholic Church, became a priest, and devoted himself to historical, ecclesiastical, and antiquarian studies. He was given the degree of master of theology.

The death is also announced of Mr. R. B. Anderson, F.R.C.S. Eng., formerly of Tobago, and whose name you will no doubt remember in connection with the subject of medical reform.

UNIVERSAL ANKYLOSIS.

To the Editor of the Medical Record.

Sir: Dr. H. A. Elliott's account of a case of universal ankylosis, in the Medical Record for November 17th, recalls a similar case which I saw in Buffalo in 1887 or 1888. This case was on exhibition as the "ossified man." He was also exhibited in Boston and other eastern cities a year or two later. I made no notes of the case, but my recollection is about as follows:

He was a native of Western New York, about fifty years of age, and had been in his then present condition for a number of years. Every joint in his body was absolutely solid, the only motion being at the shoulders, by the sliding of the scapulæ in the muscles at the back of the chest. He lay with legs fully extended and one arm semi-flexed, and the attendant, by placing a hand under the occiput, would raise him from the couch like a log of wood, resting only on heels and head. Some of the bones of the fingers had disappeared from absorption, and as his nails had been allowed to grow for years they hung in spiral ribbons three or four inches long, giving the hands a most uncanny appearance. Several teeth had been removed to allow nourishment to be taken, as the jaw was firmly set.

His mental faculties were perfectly clear, as shown by his conversation with those about him, but he was totally blind. Taken all in all, his case seemed about the most pitiable I have ever witnessed.

F. B. Storer, M.D.

Holley, N. Y., November 21, 1900.

LETTER FROM NEW ZEALAND.

(From our Special Correspondent.)

Auckland, October 27, 1900.

The session of our legislature has just closed, to the great relief of every one. We never know what mischief may be done, and when the houses are prorogued we feel like the parents of disobedient and disorderly children when the latter are in bed and asleep for the night. During the session a new public-health act has been passed under the influence of the plague scare, giving despotic powers to the central board of health, and entirely superseding the local boards, which are now reduced to the function of carrying out the orders of the central authority.

Among other changes effected by the new sanitary act, vaccination has been made so far voluntary that on a parent satisfying the magistrate that he has a "conscientious" objection to vaccination the magistrate must give him a certificate exempting the child from vaccination. This is not quite so complete a release as the English law affords, but it will have to be brought into line with the latter before long. The reason why there has been hardly any public outcry against vaccination here is because the compulsory clauses have never, or hardly ever, been enforced. Smallpox has been introduced into the colony several times to my own knowledge, but with only an imperfect system of quarantine it has been kept from spreading. Of late years calf lymph has been used. But a large majority of the children are unvaccinated.

We hear no more of the plague. Some weeks ago I saw a case which was very suspicious, and was isolated for a few days, but it was declared not to be the plague. The patient, a man of about sixty, had been ill four or five days, with not very high fever, some delirium, and a very curious mass of buboes, extending to the size of one's hand equally above and below Poupart's ligament on the right side. There were no local lesions to account for these buboes. The surgeon in attendance and the local medical officer of health agreed with me in thinking the case so suspicious that it ought to be isolated. It was a very mild case, the temperature being only about 100° F. The medical officer of the Plague Hospital (a very pretty young lady with a fluffy fringe, whose experience as a qualified practitioner was of about four months' duration, and acquired only in the colony) scouted the idea of its being plague, and dismissed the case in a week. No other case has occurred. The fact is, that beyond influenza, and every few years scarlatina, we cannot get up a good lively epidemic. Even diphtheria seems to be dying out. Fortunately for some of the profession there are plenty of chronic diseases, and by performing a laparotomy on everybody who complains of belly-ache, they manage to exist. The colony is too healthy; if the women would throw away their corsets and dress rationally, four-fifths of the doctors would starve.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Fifty-eighth Regular Meeting, Held on Friday, November 2, 1900.

A. Alexander Smith, M.D., in the Chair.

A Case of Large Renal Calculus Detected by Radiograph; Pyuria without Hemorrhage; Operation; Recovery.—Dr. Robert Abbe presented a man thirty-two years old, who had had an attack of right renal colic nine years ago. His symptoms at that time were relieved by a fly blister, and there was no recurrence until two years ago, when he suffered from intermittent pain in the region of the right kidney, which lasted for three weeks. There was no blood in the urine. Again, during the past six months he had had a recurrence at times, and more recently the pain had been quite constant. His urine had appeared muddy for a year. He had been losing flesh, but he had had no fever so far as he knew. Examination showed a large movable tumor in the right hypochondrium, which felt like a renal sarcoma. The pyuria suggested a tuberculous kidney, but repeated examinations of the urinary deposit failed to reveal tubercle bacilli. A radiograph showed a large branching calculus, with two separate pieces. On June 15, 1900, Dr. Abbe performed lumbar nephrotomy and removed the large calculus, but a careful search with the finger, metal instruments, and needles failed to detect the two outlying pieces which were shown in the radiograph. A bistoury was freely used inside the kidney to cut through all partitions of the numerous pockets. Three weeks later, when the kidney had contracted, digital and instrumental search—without ether—revealed the remaining calculi protruding from separate pockets, and by cutting around them they were easily dug out. Since the operation the patient had gained twenty pounds in weight. He still had a pus-discharging sinus which would doubtless close in the near future. In connection with this case, Dr. Abbe exhibited the radiograph which had revealed the presence of the renal calculus.

Dr. Abbe also showed a radiograph of a phosphatic stone in the kidney of a woman who had suffered from pyuria for two years. During this period she suffered from fever and had become much emaciated. A small tumor could be made out in the region of the kidney. There was no history of hæmaturia, and the symptoms were suggestive of tuberculous kidney. A radiograph showed a faint shadow, indicating the presence of a renal calculus. An incision revealed a pyonephrosis, and a soft phosphatic stone an inch and a half long, but weighing not more than thirty grains. The patient made an uneventful recovery. Dr. Abbe said that as a rule a phosphatic calculus, on account of its lightness, was very difficult to make out with the *x*-rays. On the other hand, the oxalate of lime or mixed calculi usually showed very well. He exhibited two other calculi detected and removed after radiography, the smaller one weighing only eight grains.

Dr. E. G. Janeway asked Dr. Abbe whether, in any of his cases in which an operation was done for the removal of renal calculi upon the evidence furnished by the radiographic picture, no stone was found. Dr. Janeway said he had heard of such cases.

Dr. Abbe replied that no such instance had come under his observation. The greatest care should be exercised in taking these radiographs; unless the plate was well protected by gutta percha, it might become dampened by the moisture of the skin and give rise to a false shadow simulating a stone in the kidney.

Dr. Francis P. Kinnicutt said that during the past summer he had seen a case in which the radiograph showed multiple stones in both kidneys. Surgical interference had seemed contraindicated on account of the number of the calculi.

Dr. Abbe said the conditions mentioned by Dr. Kinnicutt did not appeal to him as legitimate grounds for refusing to operate. Usually after the removal of stone the urine was voided into the bladder and the sinus closed. When both kidneys were involved, one kidney at a time could be taken.

Dr. Janeway said that in such a case suppression from the other kidney was liable to occur.

Dr. George L. Peabody said that in certain cases the kidney might be so seriously disorganized by stone that restoration of function could hardly be looked for.

Dr. Abbe said he did not refer to cases of suppurating kidney with stone. He understood that the case mentioned by Dr. Kinnicutt was one of multiple stone with hæmaturia.

A Case of Multiple Gall Stones in the Gall Bladder, Simulating Cancer.—Dr. Abbe showed a collection of three hundred and forty-three gall stones, varying in size from a bean to a small hen's egg. The history of the case was as follows: The patient was a woman sixty years old, who had never had gallstone colic, but who for three months past had suffered from abdominal pain and loss of weight, about two and one-half pounds weekly. She had no fever; her urine contained bile, and the stools were clay-colored. Jaundice came on slowly during the last ten days. There was a tumor on the right side of the abdomen which had slowly grown to the size of a cocoanut, and on account of its mobility her physicians regarded it as a movable kidney. She had the exhaustion of profound cholæmia, and just before she came under Dr. Abbe's observation this nearly proved fatal. Examination by Dr. Abbe showed a cocoanut-shaped tumor which was so movable in the abdomen that it bobbed about and could be moved down to the groin and nearly across the median line. When at rest it was below the right ribs. The mass was brought over to the median line, and under cocaine anæsthesia, aided by a few whiffs of chloroform, it was evacuated through a median incision, a pint of white glairy fluid and three hundred and forty-three gall stones being removed. The bile immediately began to flow freely through a tube in the distended gall bladder, and the patient made a perfect and very rapid recovery.

Dr. Peabody said that gall stones were not infrequently found post mortem in people who had never given a history of biliary colic.

Dr. Janeway said that gall stones in the common duct might produce obstructive jaundice without any biliary colic. Of five cases of this kind which had come under his observation, three were operated on and two of the latter were fatal. One was of a physician who had never complained of biliary colic; he died after an operation for the relief of jaundice which was due to the presence of a large stone in the common duct. A second case was that of a young married woman who had suffered from obstructive jaundice for a number of years. There was no history of biliary colic. It was thought advisable not to operate in this case, on account of the danger of hemorrhage incident to the long duration of the jaundice. This patient also suffered from profuse menorrhœa, and died about a year after she first came under Dr. Janeway's observation. The post-mortem showed a stone in the common duct, and the duct itself was very adherent.

Dr. Beverley Robinson said he had seen cases in which an operation failed to reveal the presence of gall stones, in spite of the fact that the history and symptoms of the patient pointed that way. He recalled

one such case which had been operated on for him by Dr. Bull. The patient finally recovered under stomach lavage. In a case of supposed impacted gall stone which was operated on at St. Luke's Hospital the patient died of subsequent hemorrhage.

Dr. Janeway, in reply to a question as to how long after the onset of the jaundice he would advise against operation, said that this would depend upon the cause of the obstruction. In obstruction due to cancer of the common duct an operation might produce fatal hemorrhage within four or five months after the onset of the jaundice. The speaker said he had seen six fatal cases of this kind, each one operated on by a different surgeon. In obstruction due to stone it was safe to operate after a much longer period—perhaps within two years.

Dr. Kinnicutt said that he usually advised against operation in these cases in the presence of cholæmia on account of the danger of fatal hemorrhage. He had seen several cases in the past few years in which, with a moderate degree of cholæmia, a fatal issue from secondary hemorrhage had followed operation.

Dr. Robinson referred to a case of obstructive jaundice supposed to be due to gall stones, in which death occurred in a convulsive seizure. There was no autopsy.

Dr. Joseph D. Bryant said he had had one case of fatal secondary hemorrhage after an operation for gall stones.

Dr. Abbe, in closing the discussion, said that in his case the jaundice had lasted only ten days. The symptoms closely simulated those of cancer, and the patient nearly succumbed to exhaustion from the profound cholæmia. There was nothing found but this collection of stones, and the patient made a rapid recovery.

A Case of Peritonitis from Perforation of the Stomach Wall by a Toothpick.—Dr. Abbe reported this case. The patient was a man aged fifty years who had suffered for two months from symptoms closely resembling those of gastric ulcer, to wit, pain and tenderness in the epigastrium, more severe after eating, always coming on between meals and passing away entirely before the following meal. Two weeks before operation the pain became much worse, and was accompanied by nausea and vomiting.

On examination the abdomen was found to be distended, the epigastrium hard and full, and there was muscular rigidity of the upper recti and on the right side of the lower half. The diagnosis of appendicitis had been made before Dr. Abbe saw the patient, because of tenderness in the lower abdomen, which was more marked on the right side. The epigastric condition, however, clearly indicated perforating ulcer. The patient had a temperature of 104° F., and his general condition was such that an immediate operation was indicated. An incision was made above the navel and a matted mass of intestine uncovered, from which protruded the blackened end of an ordinary wooden toothpick; the other end of the toothpick was still embedded in the ulcer of the stomach wall. No gas was noticed in the foul abscess, which was still confined by the matted omentum, but spreading downward to the navel. The wound was packed and left open. The temperature was normal on the sixth day, and prompt recovery followed.

In connection with this case, Dr. Abbe exhibited the toothpick. The patient had no recollection of ever having swallowed it, and had never been intoxicated, so as to have the swallowing occur without his knowledge.

Pernicious Anæmia and its Relation to Inheritance.—This paper was read by Dr. C. L. Dana (see page 841).

Dr. Robinson said that in the November number of the *American Journal of the Medical Sciences* Dr. Billings reported twenty cases of pernicious anæmia, in two cases of which the patients were over sixty years of age, and in two, sixty years old.

Dr. Peabody said that Dr. Dana's paper was most suggestive and deserved careful reflection. While it was not always safe in pathology to reason by analogy, the array of analogies presented by Dr. Dana was very striking. The fact that several cases of pernicious anæmia had occurred in the same family had been noted before, and was strictly in line with the author's suggestion.

Dr. Kinnicutt said that while a family history of pernicious anæmia was occasionally gotten, he doubted whether this fact could be looked upon from the point of view suggested by Dr. Dana. The speaker said that a family had been under his observation in which three of the children had suffered from pernicious anæmia. One of them died; the other two were still living. Of the latter, one had had two relapses. All three of these cases were instances of pernicious anæmia, based upon our present knowledge of blood examinations. None of these patients displayed any other congenital peculiarities or weaknesses than a congenitally large spleen, and this same condition had existed in the father and paternal grandfather.

Dr. Robinson referred to one instance that had come under his observation in which a simple anæmia had apparently developed into pernicious anæmia. This seemed to be the opinion of those who made the blood examinations. The latter, however, would not always decide the question, and the clinical evidence must also be depended upon.

Dr. Kinnicutt said that on Dr. Dana's theory it would be difficult to explain the spontaneous and very rapid and marked improvement which was often seen in cases of pernicious anæmia, with or without treatment. A case of pernicious anæmia which had been regarded as hopeless might begin to improve and apparently result in recovery. Clinical experience pointed to the certainty of a relapse, however, even if the period of freedom lasted two or three years, or even longer. In these cases the blood occasionally recovered its normal condition, so far as our present methods of examination permitted us to judge. Such an improvement was difficult to explain on any supposition. Probably the most plausible was that which attributed the anæmia to the presence of a toxin.

Dr. Dana said that interims of improvement were seen in other degenerative diseases, such as paresis and the various muscular dystrophies.

Dr. Kinnicutt said that while in certain degenerative diseases the symptoms might remain stationary, in pernicious anæmia the constituents of the blood often became both quantitatively and qualitatively normal during the period of improvement.

Dr. Janeway said that while Dr. Dana's theory regarding pernicious anæmia was very suggestive, he did not feel inclined to accept it. Before doing so, it would be necessary to analyze a great many of these cases and enter very fully into the family history. There were no doubt cases of pernicious anæmia in which an hereditary history of the disease could be obtained.

Dr. W. Gilman Thompson said it was interesting to have heredity advanced as a factor in disease, for in recent years it had been relegated more and more to a minor rôle, as in phthisis and rheumatism. Before Dr. Dana's theory was accepted, however, the potency of heredity in these cases should be well established. Dr. Dana's patient evidently belonged to an interesting family and inherited certain weaknesses, but this did not prove that the pernicious anæmia was necessarily due to an inherited blood dyscrasia. The speaker said he had looked over the records of a num-

ber of his cases of pernicious anæmia in which the patients' antecedents and family history were very carefully investigated, and had failed to find a single instance in which heredity could be claimed as a factor. On the other hand, Dr. Thompson said, there were one or two blood diseases that seemed to be distinctly hereditary. The most extraordinary hereditary condition was hæmophilia, which was transmitted by females but rarely shared by them. This condition had been traced back for several generations. Certain cases of chlorosis also seemed to be hereditary. While the possibility of an hereditary dyscrasia in pernicious anæmia could not be denied, evidence was still lacking to prove it. There might be an hereditary weakness of the general constitution, which might lead in one case to a blood disease like this, in another to muscular dystrophies, neuroses, and so on. It should be borne in mind that the accurate diagnosis of all blood disease was of recent date, and comparison of early records was unreliable. The possibility of chlorosis merging into pernicious anæmia was denied by many, but there were cases in which the severe form of chlorosis and the mild form of pernicious anæmia caused blood changes which were very difficult to distinguish from each other. There were cases which were apparently on the border line, just as in leukæmia and pseudo-leukæmia, and the etiology of all these blood diseases was not at all established. In conclusion Dr. Thompson said that while he was much interested in the theory of Dr. Dana, the arguments in its favor did not appeal to him as convincing. Other theories, particularly that of auto-intoxication, appeared more plausible.

Dr. C. N. B. Camac said that Dr. Dana's etiological explanation of pernicious anæmia upon teratological grounds opened up an entirely new line of thought. In reviewing the history of the cases of pernicious anæmia reported in literature, one was struck by the omission of any reference to family history. The most extensive report in connection with the subject was probably that of Hunter in *The Lancet* of last year. In the description of the cases that appeared in this report family history was not given in a single instance. Except only in text-books on medicine in which such history was a matter of systematic arrangement, nowhere did family history appear, and even in these no reference was to be found to miscarriage, etc., which was the striking feature in Dr. Dana's case. It was therefore important, in order to verify this theory of Dr. Dana's, that this portion of the history be more thoroughly inquired into, in the future. It was perhaps natural that Hunter should have omitted this inquiry as to family history, as he attributed the disease to the absorption of toxins resulting from pathogenic micro-organisms taken into the digestive tract, and reported two cases in which sewer gas appeared to be a source of infection. Adami, of Montreal, had reported four cases in which he suggested that a chronic gastro-enteritis was the seat of the trouble. He believed that, as the gastro-intestinal tract gradually became impaired, the resistance to the ordinary micro-organisms, which were harmless in the healthy gut, was overcome, and ultimately the blood suffered and toxic effects were noted. If the theory of irregular longevity of different organs in the same individual was correct, as Dr. Dana suggested in connection with the blood-making apparatus, the digestive apparatus might also be considered to fail earlier in some individuals, and thus this theory and that of Hunter and Adami would be in accord. Continued hæmolysis we knew might in time lead to a faulty hæmogenesis. Evidence of this was given in the blood characteristics of secondary anæmia of long standing giving place to those of primary anæmia, with normoblasts, gigantoblasts, etc. Thus the hæmolysis of the theory of Hunter and Adami would hasten the hæmogenetic failure in the theory suggested by Dr. Dana. Dr. Camac said that if Dr. Dana's idea were correct we might find an interesting field for investigation in the blood of the aged. We might find in the peripheral circulation of old persons some of those bodies, normoblasts, gigantoblasts, etc., associated with failure of the blood-making organs.

Dr. Dana, in closing, said that in spite of the researches made in connection with toxins and gastro-intestinal disturbances, they failed to explain in a satisfactory manner the cause of pernicious anæmia. A disease which came on without apparent cause, which progressed steadily, and proved fatal in the course of a few months, in spite of the fact that all the other organs in the body were in a fairly healthy condition, suggested to him a striking analogy to the degenerative diseases which he met with in the nervous system and in other parts of the body. In such degenerative diseases neuropathologists generally admitted that there was an inherent weakness in certain groups of neurons. In connection with pernicious anæmia it would require long and careful research to establish this view. The speaker said he did not mean to imply that the disease was hereditary in the sense that it was directly transmitted; he meant that the individual was born with some defect in his blood-making organs which we did not recognize for years. An analogous condition was seen in progressive muscular dystrophy, in which the symptoms did not appear until after the lapse of a certain number of years. In going into the history of these cases of pernicious anæmia, we should not be content to learn that there had been no similar cases in the family, but we should try to find out about the health of the generation to which the patient belonged. Congenital defects should also be inquired after.

A Case of Tetany Dependent on Auto-Infection.—This case was reported by Dr. Andrew H. Smith. He said that in April of this year he was called by Dr. Bradley, of Ottawa, Canada, to see a patient of his in that city. The patient, a married lady about thirty-two years of age, with three children, had had fairly good health until about a year before her present illness. At that time she began to suffer from dyspepsia, which became more and more troublesome, and was marked by great acidity of the stomach and the formation of large quantities of gas. Her health and strength failed rapidly, and she developed marked insomnia. Two months before his first visit the first attack of tetany occurred. The contractures as described were confined to the hands and feet. The fingers were forcibly flexed into the palms, and the wrists extended and rotated outward to an extreme degree, causing intense pain. The duration of this attack was about an hour. Three other attacks occurred during the following two months. In some of these trismus was associated with the contractures of the hands and feet. In every case there were prodromal symptoms such as tingling, prickling, etc. There was also a sense of painful pressure in the epigastrium. On two occasions the pain attending the contractures was so great as to demand the use of chloroform. The paroxysms lasted from one to two hours, and were succeeded by great soreness of the muscles. For two or three weeks before Dr. Smith's visit the patient had been suffering from delusions and spectral illusions of a most distressing character. She thought she was away from home and was being very cruelly treated by her nurse, and that frogs, mice, etc., were running over the bed. She would cry out with horror, and these cries met the doctor at the door on his first arrival. Food of any kind excited nausea and attempts to vomit, which latter were ineffectual owing to the dilatation and malposition of the stomach. The resulting distress was extreme, and the misery of the patient was almost

indescribable. She was greatly emaciated, and too weak to bear her weight upon her feet. Sleep was almost out of the question, and the little that was obtained was at the expense of a free use of hypnotics. There was severe and persistent headache, with a burning sensation at the base of the skull. While there was little sleep, there was often a vacuous condition of the mind, rendering the patient unconscious of her surroundings. At times she would pass into a sort of revery in which food would remain in her mouth without her making an effort to swallow it. Her exhaustion was such that a fatal termination seemed to be near at hand. The cause of this condition had been recognized as auto-infection resulting from retention and putrefaction of food in a greatly enlarged and dependent stomach. The lesser curvature of the stomach was at the level of the umbilicus, and the lower border reached to a point midway between the umbilicus and the pubes. There was no history pointing to ulcerative action about the pylorus. Apparently the enteroptosis was the starting-point, the dilatation being consecutive. The gastric disturbance followed upon the birth of her last child about five years ago, and it was noteworthy that the abdomen never regained its shape after that event, but remained lax and somewhat pendulous. A plan of treatment was agreed upon, based upon the theory that the toxin was probably albuminous in its character and derived from the proteids in the food. The stomach was washed out twice a day, and the diet was so selected as to exclude as far as possible all nitrogenous substances. After each irrigation a pint of whey was left in the stomach, together with a tablespoonful of powdered willow charcoal and a scruple of salicin. In the intervals farinaceous food was given in small quantities, and later the yolk of an egg was added. Additional doses of salicin or other antiseptic were employed. High enemas of hot saline solution were given twice daily. A calomel purge was ordered, and this was repeated from time to time as required. Hyoscine hydrobromate, with moderate doses of sodium bromide, quieted the nervous excitement and procured sleep. Some degree of improvement was apparent very soon after this treatment was begun, and each day marked a decided advance. The improvement was first noticeable in the mental condition, which became quite normal at the end of a week. Strength was regained rapidly; in a fortnight the patient was about the room, and by another fortnight she was able to drive out. Only one setback occurred, which was about ten days after Dr. Smith's visit, when there were two attacks only a few minutes apart and quite severe. No tetany had been manifested since, though the premonitory prickling, etc., returned several times during the summer when the lavage had been neglected for some time. The use of hyoscine was continued for some two weeks with excellent effect, when it was found that the eyes were weak and watery. This condition was traced to the mydriatic effect of the hyoscine, and yielded readily to instillations of a one-per-cent. solution of pilocarpine. Great benefit resulted from the use of a tightly fitting belt, by which the stomach was held in a less unnatural position.

Since the above was written the patient had come on to New York, and at the present writing was under Dr. Smith's care. For some time she neglected the lavage, and ate pretty freely of animal food. The premonitory symptoms of tetany appeared again, and this led her to come to this city. In the few days since her arrival her condition had not improved, notwithstanding a resumption of the measures employed so successfully before. In view of the very serious nature of the tetany arising from gastric dilatation (the mortality being about seventy per cent.) the present situation was not reassuring.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, November 26, 1900.

GEORGE B. FOWLER, M.D., PRESIDENT.

The History, Aim, and Purpose of the Medical Society of the County of New York.—DR. FRANK VAN FLEET read a paper with this title. He said that the system of medical societies, of which this county society was a part, had been established since 1806, and was no new experiment. This organization had lived through many trials and vicissitudes, yet had continued to fulfil its proper functions. This society was part and parcel of the Medical Society of the State of New York, and what was said of one applied to the other, and to the society of every other county in the State. One of the functions of this organization was the dissemination and propagation of the knowledge of the science of the practice of medicine, but a more important function was the regulation of the practice of physic and surgery in this State, and the legislature had delegated to this society the burden of the enforcement of the medical laws of the State. The law of 1806, creating medical societies, had marked an epoch in the history of medicine in this State. It gave the societies so incorporated the right to examine students in medicine and grant licenses to practise. The State, by this act, created a special department which became an integral part of the machinery of the State. This relation between the State and the various county societies continued to exist for thirty-eight years with slight changes. In 1818 a law had been passed authorizing colleges to send delegates to the society, and ordering all practising physicians to connect themselves with the county societies in the counties in which they resided. In 1837 to 1839 the University of the City of New York and the Albany Medical College were authorized to send delegates to the State society. In 1844 a law had been enacted removing all the restrictions hitherto existing, and allowing all persons, without special qualifications, to practise medicine. It was strange, indeed, that at so late a date in liberty-loving America there should have been such intolerance and bigotry, that physicians differing from the majority of the profession in their therapeutic beliefs should have been not only ostracized but prevented from practising their calling. This was bad enough, yet there existed in the State and in the county of New York at the present time an organization founded and maintained for the special object of keeping alive such prejudices and such monstrous bigotry. In the early part of the century homœopathy had come as a welcome variation, and it would have been tried and discarded long ago had it not been for the intolerance of the advocates of the older methods of practice. Those who wished to practise homœopathy were expelled from their county societies, which was equivalent to excluding them from the practice of medicine. In 1846 the American Medical Association had been created with a view of securing better mutual protection among medical practitioners. It was preceded by the American Institute of Homœopathy in 1844. Both of these bodies had been established with the same general objects in view, and a bitter war had been waged between them. In 1882 the Medical Society of the State of New York, by a substantial majority, had abolished the code of ethics, thereby allowing its members the privilege of meeting any legal practitioner of medicine in consultation. The far-reaching effects of this action of the State society had probably been greater than many had at the time realized. The first effect had been to bring the warring elements together, and to lead them to see that their interests were more nearly identical than

they had supposed. This had led to certain medical legislation, and these laws now stood as a monument to the broad-minded policy initiated and carried out by the Medical Society of the State of New York. To gain the right to practise medicine in the State of New York to-day meant something—it meant that he who had gained this right had shown to an impartial board his ability to practise medicine properly. It made no difference who the candidate was, or from how many colleges he had graduated, he came before the State examining-board on an equal footing with all other candidates, of whatever school in medicine, to obtain his license to practise. The number admitted in 1899 was six hundred and seventy-one, while that in 1895 was four hundred and eighty-two. The result of the law had been a raising of the standard of requirements in this State, and an improvement in the teaching in the undergraduate schools. It was true there were imperfections in the present law, but they would be remedied very soon were it not for the enemies of the society, and particularly the enemies within its own ranks. There was an organization which had done, and was doing, its utmost to overthrow the Medical Society of the State of New York and its county branches—he referred to the New York State Medical Association and its county branches. This association, he stated, represented a principle which was antagonistic to the medical laws of the State of New York as well as to the spirit of the institutions of this State and of the United States. This principle was formerly upheld by the Medical Society of the State, and it resulted in the overthrow of the medical laws of the State in 1844. When the State society had refused to be governed by the code of ethics of the American Medical Association it had abolished this principle and had made possible the enactment of the present medical laws of the State.

The State society had no representation in the American Medical Association because it refused to be governed by the code of ethics of the latter association. Why was this? Because this code of ethics upheld a principle which was un-American, which was contrary to the teachings of the Constitution of the United States, and which was contrary to the dictates of humanity. The code of ethics has much to say about the dictates of humanity, but it ostracized from the pale of professional intercourse and consultation any person who believed contrary to what the association thought he ought to believe. This was contrary to the Constitution of the United States, which gave to every man the right to believe as his conscience dictated. When this code said that no one could be considered a fit associate in consultation whose practice was based on an exclusive dogma it denied to humanity intelligent treatment. Medicine was not a commercial calling, nor was it so narrow that its followers should allow themselves to be swayed by whims and individual prejudices. Surely no regular physician should hesitate to give the benefit of his knowledge to a patient who was being treated by one whose practice was founded on an exclusive dogma.

Continuing, the speaker said that in 1897 the legislature had been petitioned to grant the New York State Medical Association equal representation with the State society in the State board of medical examiners, but this had been refused by the legislature. The request had been renewed last year, when an effort had been made to secure a charter. The legislature had granted a charter, but had refused to allow the association to interfere with the medical laws. New York City now had on its hands a lawsuit, which, had not the legal authorities considered it unjust, the city would have settled before this. The suit had been brought nominally against the city, but it was really a final effort of the New York County Medical Association to compel the Medical Society of the County of New York to divide with it the work of enforcing the laws on medical practice. The law was very explicit in its statement as to what societies to consider its representatives in this matter, and it did not include in this list the New York County Medical Association. The section of the law providing for the collection of fines for violation of the law gave the county society the right to receive the fines in cases in which the complaint had been made by that society. The New York County Medical Association claimed that it had the right to collect fines under such conditions, and hence this suit. The comptroller had refused to pay over the fine, claiming that the law referred to the Medical Society of the County of New York. The attorney-general rendered a decision to the effect that the word "society" in the law could be made to include the New York County Medical Association. The comptroller refusing to be governed by this decision, the suit mentioned had been brought. Judge McAdam, in the supreme court, ruled that the New York County Medical Association had the right to collect such fines. The comptroller and the corporation counsel refused to abide by this decision; hence the case would soon be again argued, this time in the appellate division of the supreme court. Judge McAdam had evidently been greatly influenced in giving his decision by the fact that the New York County Medical Association had the right of representation in the American Medical Association, believing that by such connection the medical laws could be better enforced. This raised the important question as to whether it was desirable for the county society to be so related to the American Medical Association. While a national body, it was purely voluntary in its character, and was not, like the Medical Society of the State of New York, incorporated, or an integral part of the government. The Medical Society of the State of New York had not the migratory habit of the American Medical Association, but met annually at the State capital at the time the legislature was in session. It had done much to elevate the medical profession, and certainly should be represented in every national body, and would be represented in the American Medical Association, were it not for the code of ethics of the latter body, which the New York State Medical Society refused to endorse, and which even the members of the American Medical Association confessed nobody lived up to. When the American Medical Association agreed to allow each State to regulate its own affairs, and invited the Medical Society of the State of New York to send delegates to it, the unhappy breach which now existed in the profession of this State would be closed.

It was perhaps unfortunate that any medical society should be burdened with enforcing the medical laws, for it led to a widespread and deeply rooted suspicion that the prosecution of alleged illegal practitioners savored more of persecution. However, years of experience had enabled the county medical society to build up a system which made the detection of illegal practitioners of medicine comparatively easy, and the division of this responsibility would surely lead to confusion and to a lax enforcement of the law. A division of this work would also greatly increase the expense. The county society now employed legal counsel, paying therefor a salary of $1,000, and expending annually about eighteen hundred dollars in securing the necessary evidence. It might seem to some persons that the division of this work would distribute the burden, but this was not so, for most of the members of the New York County Medical Association were also members of the county society. What a spectacle was presented in this State with two county organizations having almost an identical membership,

yet supposed to be diametrically opposed in their guiding principles and beliefs! The New York State Medical Association had had seventeen presidents, eleven of whom were now living. Of these eleven, eight were members of county societies. How these gentlemen could reconcile this peculiar dual position was difficult to understand. The sole purpose of the State association was the overthrow of the State society, and it was due to their efforts alone that the breach still remained open between the Medical Society of the State of New York and the American Medical Association.

In conclusion, the speaker said if he had succeeded in demonstrating to any considerable number the necessity of caution in connecting themselves with organizations whose purpose was to destroy the influence and work of the Medical Society of the State of New York, and its branches, he would feel amply repaid for having written this historical sketch.

Notes on Influenza.—Dr. A. Jacobi read a paper with this title.

Gastro-Intestinal Form.—He said that in the gastro-intestinal form the tongue was usually heavily coated, and there were also loss of appetite and vomiting, or perhaps moderate diarrhœa and moderate jaundice. Frontal headache was very common. In some cases, on post-mortem, the patches of Peyer had been found enlarged and ulcerated in cases that had exhibited severe diarrhœa. In the circulatory system the heart suffered more than the blood-vessels. In many cases it was difficult to say whether it was the heart muscle or the innervation of the heart which was most affected, yet often it was plainly the latter. Bradycardia was more frequent in the young when suffering from influenza than from any other infectious disease, even typhoid fever. A disproportion between the pulse and temperature was very frequently noted. Even with a complicating pneumonia the pulse might be found comparatively slow. Syncope was not infrequent and sudden deaths were not unheard of. Acute dilatation of the heart could be occasionally diagnosticated; however, myocardial murmurs were not often noted.

Nervous Form.—The nervous form of influenza was quite frequently met with in later childhood and in adults. It ran its course with few local symptoms, and hence was less easily recognized in the beginning when it occurred in the very young. While there were nervous symptoms in every sort of infectious fever, influenza appeared to be mainly localized in the nervous system in a great many cases. Severe headache, excitement, delirium, semi-consciousness and coma, persistent insomnia, pains in the muscles about the joints, were all explained by this infection. Encephalitis, meningitis, myelitis, and neuritis were all observed in this class of cases. He had observed in infants suffering from influenza rigid contraction of the neck lasting for several days. He had seen a few cases of neuritis and neuritic paralysis associated with influenza. It was more probably a toxin than a microbe which caused the tedious convalescence from influenza. Almost every form of paralysis had been observed since influenza had been common among us.

Respiratory Form.—Bronchitis in the larger tubes was easily diagnosticated by the usual methods. When it affected the finer bronchi it gave rise to suffocation and cyanosis more readily than in the ordinary forms of bronchitis. The interstitial form was not met with by itself. Terminations in abscess, gangrene, and death were much more common during influenza epidemics than at other times. Complication with pleuritis, frequently suppurative, was especially common during an epidemic of influenza. Young infants were not so liable to an attack of influenza as older persons. In this respect they resembled old persons. When infected they lost weight rapidly. The temperature was not always high: indeed, it might often be subnormal, as in other forms of septic infection. As to this relative immunity of the young infant it was suggested that perhaps the nasal mucus had a bactericidal effect, or that the influenza bacilli might be stopped in the throat by the relatively large size of the tonsils. The onset was apt to be sudden and the prostration marked, but the temperature was very erratic. A few cases ran their course in a few days, but many patients suffered from angina, otitis media, and conjunctivitis. Accommodation paralysis and amblyopia were not unknown.

Prognosis.—The prognosis was not unfavorable if the patient was in good health at the time of the attack. Infants might die from enteritis. Altogether the immediate mortality was not very large, but indirectly the disease might prove dangerous, and was very often fatal on account of the respiratory diseases of adynamic type which were common sequelæ. Not infrequently influenza was the starting-point for tuberculosis. The prognosis should never be considered positively safe, for the physiological strength of the child's heart was no protection against the debilitating effect of the toxin of the influenza bacillus. Relapses were frequent, for there was no immunity, but, on the contrary, a seeming predisposition to subsequent attacks. The microbic cause might at one time attack the nervous system, and at the next the respiratory organs. The persistent cough should warn us not to make the prognosis too favorable. In his experience, nephritis had not been an infrequent occurrence after influenza. The diagnosis should not be made from the positive albumin test, which indicated all of the albuminoids. Microscopical examination of the centrifuged urine should always follow the chemical test, and would reveal nephritis in a respectable proportion of cases. Fortunately the nephritis which complicated influenza was not ominous, but it should lead the physician to be cautious in making the prognosis.

Prophylaxis.—The communicability of influenza was extraordinary. It should be kept out of sanatoria by strict isolation during an epidemic of influenza. Closing schools would be futile as a prophylactic measure because the little ones would contract the disease outside of the schools. If nursing mothers were sick with influenza the suckling infant should be brought to the mother only for nursing. A good preventive was to wash out the throat with water slightly acidulated with hydrochloric acid. Medicinal preventives had been recommended—cod-liver oil, calcium sulphide, and quinine. His experience with them had been very small and unsatisfactory.

Treatment.—There was no specific for influenza. A purgative dose of calomel should be given, as the bowel was the principal point of attack in very young infants. The patient should be kept in bed in a room having a temperature of 70° F. or a little higher. The diet at first should be light. Alcohol and other stimulants were required only in selected cases, and in this respect influenza differed from certain other infectious diseases, notably typhoid fever and diphtheria. If the temperatue was high, cold water was not indicated, either as a bath or as a pack. The irritative cough was apt to be aggravated by cold water. When there were much muscular pain and restlessness a warm bath was often beneficial. A hot bath, except a very short one in the event of threatened collapse, should be avoided. Influenza pneumonias did better with warm than with cold packs. In the German collective investigation reports some observers praised quinine highly, while others expressed great disappointment with its action. When the vomiting was severe, rectal alimentation was indicated. Peptones

and liquid albumins were readily absorbed in the colon, which even in the smallest infant was made accessible by raising the hips, but not raising the irrigator more than a foot above the anus. Dextrinized starch would add to the nutrient value of the enema. The best relief from medicines was secured by the use of morphine. A tablet containing gr. $\frac{1}{60}$ of morphine should be placed in the mouth of a child from two to four years old, there to be absorbed, or one-half drop to two drops of Magendie's solution might be given in the same manner. The treatment of the symptom fever offered no hope of shortening the disease, but it contributed to the patient's comfort and did not interfere with recovery. To be satisfied with depressing temperature was a great mistake, but to allow influenza or any other disease to run its course with no attempt to combat the obviously injurious effects of fever on the system was equally reprehensible. Continuous fever, even though moderate, should not be allowed to run indefinitely without any attempt to check it. Nervines and analgesics were valuable aids to bathing, or as substitutes for baths, and they usually increased the comfort and favored metabolism. He had formerly asserted that acetanilid should be preferred among the poor, because of its low price; antipyrin when solubility was important, and phenacetin was preferable to either when it could be given by the mouth, because of its superior action on the brain and on the skin. Antipyrin, when employed during normal conditions, increased the pulse and blood pressure; hence it was contraindicated in hæmoptysis. It was not a nervine, as it acted chiefly upon the blood-vessels. To get the antipyretic effect the dose should be repeated in two hours. In general, its action was favorable. Phenacetin resembled acetanilid, but was milder. The dose should be gr. ¼ to ½ for infants and young children. Salipyrin should be given in twice the dose of antipyrin. It was usually better borne than antipyrin by neurotic persons. In using these drugs it should always be borne in mind that influenza showed a strong tendency to prostration and heart debility, and hence when there was any indication of such an occurrence these remedies should always be guarded by the coincident adminstration of caffeine benzoate or salicylate. This was preferable to the use of alcoholic stimulants. When caffeine unpleasantly excited the brain it should be replaced by camphor in doses of gr. iss.–vi. Camphor was soluble in four parts of sweet almond oil. A most useful though little used cardiac stimulant was Siberian musk. The ten-percent. tincture should be given in doses of five to ten minims every half-hour for eight or ten doses. This remedy had many times tided his cases over desperate crises.

Dr. Francis J. Quinlan urged that general practitioners, when treating influenza, should give due attention to its effect on the respiratory passages, thus preventing many complications, and shortening the period of convalescence.

Dr. Wickes Washburn said he felt positive that an attack of influenza could be cut short by washing out the bowel and abstaining as far as possible from all food for the first two days. When this was not practicable, broths should be given in preference to milk. Thirst could be assuaged, and the renal function stimulated, by frequent small doses of citrate of magnesia.

Carbonic-Acid-Gas Douche in the Nose.—Dr. A. Rose advocated the use of the carbonic-acid-gas nasal douche in cases of influenza. This gas caused anæsthesia, and at the same time hyperæmia, but its application greatly facilitated the discharge of mucus. The application was pleasant and a few applications only were necessary to give marked relief. This improvement was not merely temporary, for, according to his experience, this use of the carbonic-acid gas acted as a tonic to the nose, and its good effects often continued for months or years. The treatment was absolutely harmless, and could be most readily applied, even among the ignorant.

Dr. Mennen remarked that although he had devoted many years to the study of infectious diseases, he felt sure that little was known as yet about the true nature of influenza.

Vaccine Lymph a Potent Alterative.—Dr. H. Holbrook Curtis spoke of the effect of vaccine as an alterative. He said that at the time that Koch's lymph had attracted so much attention, several articles had appeared on the effect of the subcutaneous injection of vaccine lymph in cases of phthisis. The speaker said that he had since tried this treatment, using a dose of 1 mgm. of the board-of-health vaccine, and injecting it into the muscles of the back. The results had seemed to him marvellous, and further study had led him to look upon this lymph as a powerful alterative. He had treated a great many cases of influenza with good success, yet had made no use of the coal-tar derivatives. He was a firm believer in aconite, being of the opinion that it acted like a cardiac stimulant by diminishing the work the heart was called upon to do.

Dr. Elmer Lee said that he regarded these epidemics of influenza as merely a periodic welling-up of impurities, principally in the blood and lymph systems. The eliminative treatment he considered the ideal. This consisted in feeding the patient for four or five days almost exclusively on water, while the bowel was washed out, and the patient received frequent baths. Very little medicine was required. This simple treatment would get most patients well in an astonishingly short time. Morphine might be used to relieve the distress, but it should be given in very small doses, preferably by dropping half a grain or one grain into a glass of water, and giving a teaspoonful of this mixture at short intervals until the desired relief had been obtained.

Committee on the Certification of Milk.—Dr. H. D. Chapin said that this committee was carrying on its work with energy, and had been greatly encouraged by the large and interested audience that had assembled in response to the invitation of the committee. Many prominent dairymen had been present and had shown a desire to co-operate with the medical profession in securing the certification of milk of proper standard.

Tax on Legacies.—Dr. A. Jacobi introduced the following preamble and resolution, which were unanimously adopted by the society:

Whereas, The War Revenue Act of 1898 laid a tax on legacies of educational, charitable, and religious organizations; and

Whereas, Such organizations and institutions are, and should be, considered as the most solid pillars of our intellectual and moral culture; and

Whereas, The crippling of their means, always insufficient for reaching their highest legitimate aims, is very great as a result of this tax, as they are so largely dependent upon individual generosity and good will;

Be it Resolved, That the Medical Society of the County of New York respectfully petitions the Congress of the United States to repeal such parts of the revenue law of 1898 as enact a tax on legacies of educational, charitable, and religious institutions and organizations.

Copenhagen is reported to be suffering from an epidemic of what the cable calls "typhus" fever, twenty new cases having been reported in one day last week. Whether the disease is typhus abdominalis, which we call typhoid, or actual typhus is not stated.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Stated Meeting, November 22, 1900.

J. Riddle Goffe, M.D., Chairman.

The Abdominal versus Vaginal Hysterectomy for Cancer of the Uterus.—Dr. W. R. Pryor opened the discussion on this subject, excluding a consideration of cancer of the uterine body in connection with his comparison of statistics. He said that enough had been learned about this disease to allow of the laying down of certain fundamental principles. All operations for uterine cancer should proceed with a due regard to the manner in which cancer spread and recurred. Recurrence after operation was seen in the perimetric tissue in ninety-six per cent. of the cases. A successful operation must remove not only the uterus and adnexa but a considerable portion of the vagina and adjacent glands. These glands were in three groups, viz., (1) the obturator glands, (2) the glands situated near the bifurcation of the common iliac, and (3) the glands at the utero-sacral folds. The removal of the obturator glands was the most important. Vaginal hysterectomy was, therefore, only a partial and incomplete operation for cancer in all but a few cases of cancer of the uterus. The next principle was that the immediate mortality must not be so high that one dared not depart from mere palliative measures. A collection made abroad of thirty-one hundred and fifty-five vaginal operations gave a mortality of nine per cent., and he had himself shown that the mortality from the abdominal operation in America was 11.8 per cent. Abdominal hysterectomy by progressive ligation was not a proper operation for cancer. The next fundamental principle was that in the act of removal all possibility of infecting the wound by either cancer cells or by the particularly septic contents of a cancerous uterus must be avoided. This accident could be escaped whether the operation was done through the vagina or the abdomen. The first step in either operation should be a thorough curettage and a cauterization, which disinfected the cancerous mass, and closed, to a certain extent, the mouths of the absorbents. The fourth principle was that in the removal of the cancerous uterus as little violence as possible must be inflicted upon the growth and upon the surrounding structures. The preliminary charring of the uterus aided in this, but it was advisable to exercise preliminary hæmostasis in the removal of the lymph glands. This could not be done in vaginal hysterectomy. He believed that in cancer of the cervix the sum total of human life saved by palliative methods was far greater by vaginal hysterectomy. In all the great clinics about seven per cent. only of all the women coming with cancer of the uterus were in the operable stage. The speaker said that every single essential could be carried out fully in the abdominal operation. The foregoing statements were given in order to show why vaginal hysterectomy had failed, and what was required in an operation which should give satisfaction.

Dr. H. J. Boldt continued the discussion. He said it was impossible, in his opinion, to advocate either operation in all cases. Personally, he thought that only in exceptional instances should abdominal hysterectomy for cancer be performed until we were in possession of facts proving its superiority over vaginal hysterectomy in ultimate results. Cancer of the uterus should be divided into three varieties, viz., (1) cancer of the infravaginal portion of the cervix, (2) cancer of the supravaginal portion of the cervix, and (3) cancer of the uterine body. This division was dependent upon the variations in the extension of the neoplasm to the neighboring structures. We knew that cancer beginning in the mucous membrane covering the vaginal portion of the cervix had a decided tendency to encroach upon the vaginal mucosa. Cancer of the supravaginal portion had a tendency to extend upward into the uterine body. Cancer beginning in the body of the uterus not infrequently extended downward. It must be conceded that the blood-vessels were affected only in the late stages of cancer and that metastasis seldom occurred through their medium. The lymphatics were the usual means of the extension of the disease. Abundant experience had shown that the glands were not usually invaded by the disease until late; even in advanced stage of cancer of the uterus the lymphatic glands were not constantly invaded by cancerous elements. Experience had also shown that recurrence after radical operation seldom took place in the glands. Vaginal hysterectomy permitted a smaller opening of the peritoneal cavity; it usually took less time to perform; convalescence was much more rapid; the abdominal wound, with its occasional ill consequences, was avoided, and the direct mortality was less. He had always practised extirpation of the parametria as far as possible, and exsected a large portion of the upper part of the vagina. The advantage of abdominal hysterectomy was that it permitted more extensive removal of the lymphatics and retroperitoneal glands. He doubted, however, whether it would give a larger percentage of recoveries, because of the frequency with which the lymphatics were not involved even in the late stages. Time alone could settle this question.

Dr. J. E. Janvrin opened the general discussion. He said that his own ideas concurred very strongly with those expressed by Dr. Boldt. He believed that at first all cancerous disease was local, and was generally the result of some injury. This was particularly true of cancer of the cervix, and hence, in cases coming early, before there was any extension of the disease into the lymphatic glands and into the parametria, the proper course to pursue, in his opinion, was to perform vaginal hysterectomy. These cases were seen now quite frequently, probably because the profession at large diagnosticated uterine cancer at an earlier stage than formerly. His own successes thus far, counting cases dating back eighteen years, comprised fully one-third permanent recoveries. They were early cases, and hence, in a certain sense, might be said to have been selected cases. If the disease had extended some distance down the vaginal wall this made no difference, because it was very easy to extirpate a considerable portion of the vagina. If examination showed pretty extensive disease, the uterus being large and fixed, and there was reason for believing that the patient was suffering from the cancerous cachexia, he always felt that the operation, however performed, was purely palliative, and that each surgeon must exercise his individual judgment as to which method would give the greater relief. He was of the opinion that it was better to operate in such cases because the pelvis was closed in from below, and the vagina from above, and the recurrence of the disease did not bring with it the offensive discharge and the hemorrhages which occurred if the uterus was simply curetted and left.

Dr. William M. Polk said that his own experience in this field had been so ghastly that he doubted if he could add much of material value to this discussion. Of all the cases of cancer of the uterus upon which he had operated he had cured, he believed, only one, and all patients had died from the recurrence of the disease. He was of the opinion that all of the operations hitherto offered for cancer of the uterus were of but little value, being nothing more than an effort to make the patient's condition somewhat more tolerable.

He had searched for some more extensive and more radical method of operating in cancer of the uterus, but even the more recent extensive operations had not seemed to him to hold out much encouragement. He preferred the more open field of the abdominal route, because he had not been able to do a sufficiently extensive operation through the vagina, though well knowing the seriousness of the abdominal operation.

Dr. W. Gill Wylie said that his experience had been that in young women the disease was easily recognized, but was rapid in progress and difficult of control. In older women the onset was more insidious, but the disease spread less rapidly than in younger subjects, and was more amenable to operation. If such cases came to the surgeon before they had been disturbed by active treatment, it was possible to attain a considerable degree of success. It seemed to him very reprehensible to take away a piece of tissue for examination, and then allow an interval of two or three weeks to elapse before doing a radical operation. He could count among his successes patients who had been operated upon from sixteen to twenty-five years ago and were still alive. In his first sixty or seventy cases he had, in almost every instance, operated through the vagina, at first with the ligature, and later with the forceps. The condition of the lymphatics and surrounding tissues had more to do with a successful result than the particular method of operating. When he had been able to feel lymphatic glands in the broad ligaments he had rarely, if ever, secured a good ultimate result, no matter how extensive the operation or the method selected. He firmly believed that the only method of treatment was by some operation designed thoroughly to remove the disease. It had seemed to him at times that the occurrence of suppuration had insured against a recurrence of the cancer.

Dr. Ramsay, professor of gynæcology at Yale, was invited to take part in the discussion. He expressed his belief that it was a mistake for one to adhere to any one operation in all cases of cancer of the uterus. In the greater number of cases he was of the opinion that the suprapubic method was the preferable one, though the combined operation might perhaps be found in the future to be still more generally useful. Up to the present time enough cases had not been treated by the combined method to enable one to decide this point. It had been discovered lately that enlargement of the lymphatic glands did not necessarily mean that cancer had invaded them; the increase in size was sometimes the result of mere hyperplasia of the glandular tissue.

Dr. A. Palmer Dudley said that the field under discussion was the only one in gynæcology in which he would recommend a single operation for all cases, and that operation was the combined one. No two cases of cancer of the uterus were exactly alike, but the object in each instance was to remove the disease as thoroughly as possible. By either the abdominal or the vaginal route one was apt to leave some of the disease. There was no more shock from the combined operation than from the suprapubic operation alone. In addition to this method of operating he had derived aid from the hypodermic injection of an alkaloid, but he was not in a position at the present time to go further into the details of this mode of treatment.

Dr. W. Evelyn Porter said that at first he had been a very strong advocate of the vaginal route, but had subsequently come to look upon the combined method as the best of all. He believed when there was extensive glandular involvement no operation would effect a cure. However, when there was extensive involvement of the vagina and any operation must be merely palliative, he would select the vaginal route.

Dr. Pryor said that his reason for selecting the abdominal route was that it enabled one to make the dissection of cancer in healthy tissue, and after all the blood supply had been cut off. He personally preferred to ligate the internal iliac arteries and also the obturator artery. The object of this preliminary hæmostasis was not so much to secure a dry field as to enable the operator to reach glands which were practically inaccessible if this procedure were omitted. Vaginal hysterectomy seemed to him an illogical method of dealing with cancer of the uterus.

Dr. Boldt, in closing the discussion, said that as he understood it Dr. Pryor refused to wait for the ultimate results from vaginal hysterectomy. All were agreed that the glands were involved late in the disease, and he could see no reason for operating at all if these glands were extensively implicated, because the patient would surely die. All must recognize that the results of operation in cancer of the uterus were, on the whole, quite poor, and few surgeons, he thought, would be willing to claim the exceptionally good results that had been mentioned in this discussion. In cases of supravaginal cancer occurring in young women he would expect a larger proportion of good ultimate results from the abdominal operation; but, on the other hand, if the patients were more advanced in years he would look for better results from the vaginal operation.

SECTION ON MEDICINE.

Stated Meeting, November 20, 1900.

John H. Huddleston, M.D., Chairman.

The Early Recognition of Typhoid Fever.—Dr. J. K. Crook presented this paper. He said that there were some cases labelled typhoid fever which showed none of the symptoms of typhoid except a moderate and atypical range of temperature, with loss of appetite and strength. Not infrequently the patient with typhoid fever in the early stage called at the physician's office complaining of troublesome headache, chilly sensations, and aching in the muscles. The tongue was usually dry, the pulse somewhat raised, and its frequency easily increased on slight excitement or exertion. Even at this early period there would usually be found in the afternoon a rise of temperature of one or two degrees. Gurgling in the right iliac fossa possessed no diagnostic significance in typhoid fever, because it was often present in cases of ordinary diarrhœa or even in perfect health. There was nothing about these symptoms to warrant a diagnosis of typhoid fever, but enough were present to put the physician on his guard, and he should insist upon seeing the patient twice daily for two or three days, or if this were impracticable, should instruct him in the use of the clinical thermometer. After a day or two the symptoms first observed would be more marked, and the prostration and dull expression of the face would be more noticeable. Perhaps at this time it would be possible to detect on careful percussion an enlargement of the spleen. If malaria was suspected, an examination of the blood or the result of the administration of full doses of quinine would clear up this aspect of the case. By the end of the first week there would be so much prostration that the patient would be perfectly willing to remain in bed, and most likely the pulse would be soft, rapid, and perhaps dicrotic. The temperature would possibly reach a maximum of 104° or 105° F. If carefully sought for, the speaker said, he believed the presence of a typhoid eruption would be found in a larger proportion of cases than was usually stated. Two or three spots were as diagnostic as two or three dozen, though, of course, not so easily detected. As early as the seventh or

eighth day the diazo reaction of Ehrlich was obtainable in the urine. It was a sign of much negative value, but it should be remembered that it occurred in many other conditions, notably in measles and acute tuberculosis. In his experience this sign had never failed. If an examination of the blood showed the Widal reaction, the diagnosis was positively established.

The Treatment of Typhoid Fever at the New York Hospital.—Dr. Frederick L. Keavs presented this paper (see page 851).

Practical Home Methods of Bathing in Typhoid Fever.—Dr. S. Baruch discussed this phase of the subject. He said that the first impression of cold upon the skin was the so-called shock; it was really a physiological irritant. The impression lasted a longer or shorter time, depending upon the method of procedure and its duration. The friction stimulated the contracted arterioles to dilate again, and performed the important normal function of propelling the blood, thus keeping up a proper peripheral circulation. The latter was usually so crippled in typhoid fever that the heart was compelled to beat faster and more forcibly. By the proper use of cold water the pulse diminished in frequency and gained in force. The skin assumed a rosy hue because its arterioles had been dilated in a tonic fashion. The countenance lost its apathy, the respirations were deepened, and the kidneys were aroused to renewed activity. Friction should always accompany the cold-water treatment—a fact which even at this late day needed reiteration and emphasis. As an illustration of how the cold-water treatment should not be applied in typhoid fever the speaker mentioned the abdominal ice coil, still so popular with many physicians. This was a direct violation of the fundamental principle of all hydrotherapy, that cold applications must be accompanied by frictions. In home practice the ablution was the simplest procedure. The patient was stripped, a blanket placed underneath him, and first the back, and then the anterior surface of the body treated to the ablution. It should be given with considerable friction, the temperature of the water being reduced from time to time until the temperature reached 60° F. The abdominal compress was another useful method of applying cold water. This consisted of three folds of towelling wrung out of water at a temperature of 70° and applied snugly, being covered with thin flannel. It should be renewed hourly. When the temperature persisted in remaining at 103° or above, the towel bath was appropriate. A towel was dipped into water at 85° F. and laid dripping and smooth over the entire back. Water at 70° was dipped up with a cup and poured on the upper left part of the back, and then this part was rubbed with the hand. This was done three times, and then the other parts of the back were successively treated in the same way. The water on the sheet was mopped up with a sponge, and then the anterior parts were similarly treated, care being taken not to use pressure over the iliac region. The temperature might be reduced five degrees each time until the temperature of the water for the towel reached 60° and that in the cup reached 50°. The "sheet bath" was still more potent, and was very useful when objection was made to the full bath, or the latter was impracticable. An old linen sheet or tablecloth should be dipped in water at 90°, and wrung out very lightly. The patient having been wrapped in this, water at temperature of about ten degrees lower should be poured successively upon different parts of the body, and each part rubbed with the hands until it no longer warmed up. The typhoid-fever patient should be given internally from four to six ounces of water at 40° every two hours, and this should be alternated with the same quantity of milk.

Giaourdi; a Sterilized Fermented Milk Preparation Used in Greece.—Dr. Achilles Rose read a paper on this article of diet, which, he said, was of decided value in cases of typhoid fever and gastric ulcer. Milk was boiled for an hour under constant stirring until it became of a certain thickness, and then the ferment was added. This ferment was made by the Greeks as follows: A dry fig was soaked over night in ℥ xxv. of water, and the next morning a few drops of lemon juice were added and a slight trace of rennet. The result was a smooth, semi-solid, easily digestible milk food. In the months of August and September giaourdi was not made in Greece. After the ferment had been added to the milk the temperature of the product must be reduced to 45° Celsius. The speaker said that he had given this food in cases of gastric ulcer, and the patients had enjoyed it very much. In one case in which there was commencing stenosis of the pylorus, kumyss and matzoon had been tried, but giaourdi had been preferred by the patient.

Dr. E. Quintard said that he had used giaourdi in fifteen cases, and had found it exceedingly useful. He had used it in cases of neurasthenia in which even kumyss and milk seemed to distend the stomach. It was in these cases that giaourdi seemed to act especially well. He had also tried it with satisfaction in a case of pyloric stenosis. The great value of this article of diet was best shown by the fact that it had seemed to be superior to even those most excellent foods, kumyss and matzoon.

Dr. Helen E. Correll-Loewenstein said that she had examined this food for alcoholic fermentation, but had not found it present. She had tried various experiments with it, and had come to the conclusion that there must be some special ferment in the fig. She recalled that once while travelling in Switzerland a farmer had told her that he had a secret in the manufacture of cheese. Inquiry had shown that this secret consisted in using, in addition to rennet, a watery solution of fig. The speaker said that she had curdled some milk with fig, and had found that it produced a very smooth, soft curd.

Dr. Max Einhorn said that the well-known farmer's food, called "bonny-clabber," prepared from curdled or sour milk, was very much like giaourdi except that the latter tasted a little sweeter. It was an admirable food, and for its preparation only required that the milk be placed in a jar and allowed to stand for three or four days. This curdled milk was found to keep well for a long time. It was used by the peasants of Russia for the manufacture of cheese.

Dr. Rose said that giaourdi was very different from ordinary bonny-clabber or sour milk. The latter contained a great deal of lactic acid, which would not be tolerated by some sensitive persons, though they could retain giaourdi.

Gastro-Intestinal Diseases at the Paris Congress.—Dr. James J. Walsh read this paper.

Gastric Ulcer.—He said that gastric ulcer became a formidable complication in many infectious disorders. Ulcers having the characteristics of gastric ulcers occurred only in those parts of the digestive tract where there was free acid. Ulcerative lesions below the pancreatic duct occurred very rarely, and were of a superficial character, quite different from the deep erosion which characterized the gastric and duodenal ulcer. Gastric ulcers, therefore, were probably due to self-digestion, though the cause of this self-digestion was yet in dispute. It was worthy of note, in this connection, that those predisposed to gastric ulcer were just the ones in whom there was apt to be a gastric hyperacidity. Acute gastric ulcer seemed to be a pathological entity. The affection occurred most commonly in young women leading a sedentary life. Its presence was often announced by the occurrence of hemorrhage. In a certain number of cases of acute

gastric ulcer pure cultures of the pneumococcus had been found, although pneumonia had not been present. Another form of gastric ulcer occurred in connection with appendicitis. In France it had been described under the title of "appendicitis with black vomit." It was surprising that in the face of such extensive literature on appendicitis in this country no mention should have been made of this association of appendicitis and acute gastric ulcer. Patients who were anæmic or who were suffering from infectious disorders should be given remedies tending to reduce the gastric hyperacidity, and these persons should be warned against swallowing coarse food, or food before it had been thoroughly masticated. Gastric crises, the speaker said, were now known to occur in many other affections than locomotor ataxia. A striking feature of the discussion on gastric ulcer at the Paris congress was the general trend of opinion in favor of surgical intervention. Old ulcers and their scars were especially liable to be the seat of carcinoma, and this constituted one reason for advocating operation.

Olive Oil in Painful Affections of the Stomach.—A number of German observers had called attention to the value of olive oil in certain painful affections of the stomach. From three to ten ounces of the oil were given in the twenty-four hours. It had been found especially useful in cases of gastric ulcer. It had been stated at the congress by one speaker that morphine was contraindicated because it was excreted largely through the stomach, and this led to an increase of the gastric acidity. However, atropine could be used with benefit.

Muco-Membranous Colitis.—This disease seemed to have become much more frequent in recent years, probably because of the keen competition in all walks of life. Another alleged cause was the greater prevalence of the habit of taking irritating laxatives. The disease was chiefly seen in nervous, high-strung individuals. The nervous element seemed to be the most important factor in its etiology. When the disease occurred in young men it was almost always in connection with sexual neurasthenia. From the fact that appendicitis was scarcely ever associated with muco-membranous colitis it had been argued that the latter was not truly an inflammation—it was more probably a nervous disorder. The symptomatology consisted in the presence of glairy mucus in the stools, usually preceded by constipation and followed by pain. As soon as the neurotic symptoms subsided the mucous colitis rapidly improved, and ultimately disappeared. The treatment should be directed toward the underlying neurotic conditions.

Prognosis in Gastric Ulcer Good without Operation.—Dr. Einhorn said that he certainly believed that the gastric juice played a prominent part in the formation of gastric ulcers, but it was not the only factor. Cases had been reported of absence of the gastric juice, and yet at operation gastric ulcers had been accidentally discovered. He had seen one such case himself. Dieulafoy had spoken about infectious diseases in which there were almost imperceptible erosions of the stomach, and yet they had been sufficient to cause serious hemorrhage. Dr. Einhorn said that he could not agree with Dieulafoy that severe hemorrhage originated in such insignificant erosions, and said that the hemorrhages and even the deaths which Dieulafoy attributed to these erosions were really, in his opinion, caused by the concomitant infectious disorder. His opinion was that seventy-five per cent. of cases of severe gastric hemorrhage ended in recovery without operation, even when the condition appeared to be exceedingly grave. The risk from the operation was usually just as great as the danger from the disease, and hence it was an exceedingly difficult matter to decide as to whether or not an operation should be undertaken. As a rule, he did not think the mere occurrence of a hemorrhage from the stomach, even though a severe one, justified one in operating. Even when there was beginning stenosis of the pylorus he was in favor of not operating until it became evident that enough nutriment could not be introduced to sustain life. He had taken this position because twenty-five per cent. of his patients with benign stenosis of the pylorus who had been operated upon had succumbed. Regarding mucous colitis, he expressed the opinion that it was a purely neurotic disorder. The diagnosis of membranous enteritis rested upon the finding of small pieces of mucus in the stools. It was not really an enteritis.

Dr. F. F. Ward said that he had often wondered if gastric ulcer might not itself be the cause of hypersecretion, its presence giving rise to irritation and, in this way, to increased secretion of gastric juice. He had not been able to bring himself to believe that the hyperacidity was the cause of the ulcer. Reference was made to a case which had given all the typical symptoms of ulcer. It had proved very obstinate to treatment, and as the man's health was steadily failing an operation had been undertaken. Gastro-enterostomy had been performed, and recovery had been uneventful. At the operation a tumor had been felt under the liver. Six weeks later the abdomen had been opened again with the intention of removing this tumor, but then none could be found. It was supposed that the tumor felt at the first operation had been produced by contraction at the pylorus. For eight months after the operation the man had done exceedingly well; then an examination had shown an almost complete absence of gastric juice. About one year after the operation the man had been seized in the night with severe abdominal pain. A diagnosis of perforation had been made, but death had occurred before an operation could be done. At the autopsy, the stomach had been found adherent to the abdominal wall, and there was a perforation through the stomach at that point, where there was also quite a large malignant growth. Hemorrhages from the stomach sometimes arose from anæmic conditions. A case illustrating this point was quoted, in which at autopsy no ulcer of the stomach or of the duodenum could be found. He agreed with Dr. Einhorn that in most cases of gastric hemorrhage medical treatment should be preferred to surgical measures.

Dr. Quintard said that the exulceration of Dieulafoy was so minute that it required examination with a magnifying-glass to detect it. The severe hemorrhage reported as having come from such a minute ulceration had been explained by supposing that the ulceration had involved a capillary only to such an extent as to hold the rent in it open, and so allow of the profuse bleeding.

Diseases of the Mastoid Process.—Dr. G. H. Cox, in the *Maritime Medical News*, October, states that there are two signs which are characteristic of mastoid involvement and which, when present, are diagnostic. They are: (1) Tenderness upon pressure and percussion over the antrum or tip of the mastoid. Taking care not to move the auricle or meatus, we press firmly with the thumb over the regions mentioned, comparing the effects with those of similar pressure on the opposite healthy process. (2) The second sign, namely, a bulging or sagging of the postero-superior wall of the meatus at its innermost extremity, is the most characteristic sign of the disease. It is boggy and tender to the touch, and may be considered absolutely indicative of pus in the mastoid. A third sign of value frequently found in these cases is a bulging of the postero-superior quadrant of the membrana tympani.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 1, 1900:

	Cases.	Deaths.
Tuberculosis	221	137
Typhoid fever	110	21
Scarlet fever	117	2
Measles	95	2
Diphtheria	244	41
Laryngeal diphtheria (croup)	14	11
Cerebro-spinal meningitis	0	1
Varicella	26	0
Smallpox	34	0

The Cost of Running a Big Hospital in London.—"Always crying out for money?" said a gentleman connected with the administrative department of a great hospital, echoing the chiding remark made to him by the writer. "Of course we are always crying for money, more money, and simply because there is always a crying need of money in an establishment like this. I am often surprised at the lamentable ignorance people evince upon the subject of hospital finances; not one person in a hundred seems to have the remotest idea what it costs to run a big institution like this. I heard a city man tell another a few days ago that this hospital had an income of nearly £20,000 [$100,000]. He seemed astonished at the largeness of the sum. As a matter of fact, the income of this hospital is more than twice that amount, and yet it always has a deficiency on the balance sheet, and a precious heavy deficiency to boot. In round figures this institution costs between £70,000 [$350,000] and £80,000 [$400,000] to run. There are a hundred and one expenses which a stranger would never expect. You will hardly credit it, but we pay over £1,000 [$5,000] a year for milk alone, while eggs cost us from £300 [$1,500] to £400 [$2,000] a year. Our meat bill runs between £1,500 [$7,500] and £2,000 [$10,000], and that is quite exclusive of poultry and fish, which cost an additional £800 [$4,000]. A mere item like butter and cheese runs away with over £700 [$3,500] a year; vegetables and flour taking about £600 [$3,000] or £700 [$3,500]. It may seem strange to you that while milk costs us such a large sum alcoholic liquors rarely cost more than £250 [$1,250] in the course of twelve months. That practically exhausts the list of provisions, though you must understand the items I have mentioned are those things consumed by the patients; the boarding of the staff of medical officers and nurses is treated as a separate account, and adds an extra £3,000 [$15,000] or £4,000 [$20,000] to the total bill for provisions, which usually exceeds £10,000 [$50,000] per annum. Drugs, disinfectants, and chemicals usually cost us about £2,500 [$12,500], while dressings and instruments swallow up approximately £3,000 [$15,000]. Altogether the dispensing and surgery departments, exclusive of salaries, involve an expenditure of about £6,000 [$30,000]. I mentioned salaries, which is always a heavy item; £10,000 [$50,000] would not cover it. The nurses get some £4,500 [$22,500] divided between them during the twelve months; the dispensers between £900 [$4,500] and £1,000 [$5,000], and the medical staff £2,000 [$10,000]. An additional £3,000 [$15,000] is required to pay other salaries which I cannot classify. Of course you will understand that I am giving you round figures, and that when I say simply ordinary repairs made on the premises cost about £5,000 [$25,000] you must take it that I do not guarantee to be within a couple of pounds of the exact sum—but I may be, as I am in other figures, under- or over-estimating by £50 [$250] or £60 [$300]. Lighting and heating are costly, and the £3000 [$15,000] which it usually entails will probably be greatly exceeded this year owing to the increase in the price of coal. Our laundress receives £1,700 [$8,500] from us, and the tax collector £2,500 [$12,500]; £800 [$4,000] goes in printing, stationery, and stamps. But though I have not been more than half through the list of expenses, I think I have said enough to show you what an enormous amount of money is required to keep a hospital going for twelve months. Let me just say this: The eighteen largest items on the expenditure side of our balance sheet for last year amounted to the very respectable total of £68,500 [$342,500]. Think of that—write it down on a piece of paper, and you will not complain that hospitals are 'always crying for money,' without the best reasons."—*Tit-Bits.*

Medical Men and the Morphine Habit.—The London *Lancet*, October 27th, has an article on this much-vexed question, taking as its text an article on morphinism among physicians which appeared in the *Medical Temperance Review* for October. It may perhaps be remembered by our readers that Dr. Crothers, of Hartford, Conn., about a year ago gave some statistics, as well as delivered himself of some very decided opinions bearing on this matter, which gave rise to somewhat heated discussions, and which were commented upon editorially in the MEDICAL RECORD. The *Medical Temperance Review* would seem to hold almost similar views upon the morphine habit as does Dr. Crothers, but the writer in *The Lancet* is by no means in agreement with them and says: "If we are to credit the writer the habit of taking opium and allied drugs is more or less prevalent among six to ten per cent. of medical men. The statement is a vague one and no precise data are advanced in support of it, though the reader is referred to a former report dealing with the subject. It would be better for all purposes if a paper of this kind, which contains only the most general assertions, were elucidated by verified details; lacking these its value cannot be estimated or even recognized. It would be idle to deny that medical men, like all other men, are occasionally liable to propensities which do not make for their advantage and from which not even a knowledge of the action of drugs can always deliver them. On the other hand, indefinite assertions, like those contained in this brief paper, cannot be accepted without those proofs which are absent from it. That accidental opium poisoning has repeatedly cut off a useful professional career is unfortunately true. But a morphine habit which controls one in every ten or twenty men is certainly not known to exist in the medical profession. Such a habit, if it does exist, must be quite exceptional. It is probably unknown among practitioners engaged in active duty. We observe that the writer above mentioned speaks of the morphine habit as if it were merely a disease and nothing more. It has become customary with many persons to refer to this and other aggravated forms of self-indulgence in similar terms. They are regarded as vices which have ceased to give pleasure—as master passions which are hated but which will not be denied. Against this tyranny the will is supposed to have lost its power of resistance. There are doubtless cases of habitual excess, the character of which is fairly so described. We are, however, of the opinion that too much has been made of such cases. It cannot be and it is not true that a vice even after long indulgence is always master and cannot be withstood. It is equally certain that apparently confirmed inebriates and morphine

takers have been enabled to release themselves and have remained in a state of freedom. The force of habit, whether innocent or hurtful, is usually very great, but this by no means implies that it must necessarily, even after long duration, annihilate the other controlling forces of will. To what extent it may have done so remains in many cases an unsolved problem, and in this very uncertainty lies the germ of hope. Unless we recognize this potent fact all prospect of reform, all reason for the efforts of temperance even, may be abandoned. No amount of therapeutics will make a bad man good, or a drunkard abstemious, unless he is allowed credit for such will power as he has and is assisted or obliged to use it for his moral reclamation. While, therefore, we do not deny the existence of the states known as dipsomania or morphinomania, we deprecate as pessimistic and subversive of rational treatment the too general tendency to apply these and like terms to all aggravated forms of self-indulgence."

Medical Attachés to German Embassies.—Some Berlin periodicals, in discussing the possibility of an outbreak of plague in Europe, propose that medical attachés should be appointed to the German embassies abroad, and should be assigned the duty of studying the hygienic conditions of the countries where they happen to be stationed, and of promptly informing the German government of the occurrence of cases of infectious disease. The arrangements should be settled by international agreement, and in this way international regulations for the notification and prevention of epidemic diseases might be put on a more satisfactory footing than at present. Precedents already exist for embassies having attachés charged with other than diplomatic functions because agricultural experts, architects, and engineers have for many years held appointments in connection with the German embassies in order that they may inform the government of anything remarkable happening in their respective branches in foreign countries. The position of the medical attaché would be analogous to that of the other technical attachés.—Berlin correspondent of *The Lancet.*

The Pneumonia of the Aged.—Professor Lemoine (*Le Nord Médical*, August 15, 1900, p. 181) discusses the treatment of pneumonia in the aged, so far as it differs from pneumonia in the adult. The differential characteristics of the affection are briefly as follows: As in the adult the onset may be marked by shivering; dyspnœa may occur, but as a rule it is not intense; the pulse does not exceed 90 to 100; expectoration, generally slight in amount, is ordinarily composed of greenish masses; the cough is not very frequent; the temperature follows a similar curve to that in the adult, but is a degree or more lower. The summit of the lung is more often affected than the base. Stethoscopic examination may give the same signs as in the adult, but in other cases absolutely nothing is heard and the diagnosis must depend upon the general symptoms. Between these two extremes we may get all varieties, but as a rule crepitation is absent and subcrepitant râles are most commonly heard. The indications on which treatment must be based are to diminish the afflux of blood, to calm the respiration, to sustain the heart and the general strength. In addition, the elimination of toxins must be aided and the expectoration must be facilitated. Hyperpyrexia is unlikely to occur. Acetate of ammonium and ether are among the most valuable stimulants. Alcohol is often most valuable as a general stimulant except in alcoholics. In these musk deserves to be more widely used. Strychnine and nux vomica are most valuable aids to expectoration because of their effect on the muscular tissue, which is deficient in power in these patients.—*Treatment.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 30, 1900:

		Cases.	Deaths.
Smallpox—United States.			
Alaska, Skaguay	November 24th	1	
Whitehorse	November 24th	1	
Kentucky, Lexington	November 17th to 24th	1	
Louisiana, New Orleans	November 17th to 24th	1	
Michigan, Detroit	November 17th to 24th	1	
Minnesota, Minneapolis	November 17th to 24th	3	
Missouri, St Joseph	October 1st to 31st	1	
Nebraska, Omaha	November 17th to 24th	3	
N. Hampshire, Manchester	November 17th to 24th	3	
New York, New York	November 17th to 24th	1	1
Ohio, Cleveland	November 17th to 24th	23	
Pennsylvania, Pittsburg	November 17th to 24th	3	
Steelton	November 17th to 24th	2	
Texas, Houston	November 17th to 24th	17	
Utah, Salt Lake City	November 17th to 24th	31	
Smallpox—Foreign.			
Belgium, Antwerp	November 3d	..	1
Bohemia, Prague	October 27th to November 3d	19	
British Columbia, Nanaima	November 23d	12	
Ecuador, Guayaquil	September 8th to 30th	..	33
Egypt, Alexandria	November 5th	1	
England, Southampton	November 3d to 10th	3	
France, Paris	November 3d to 10th	..	11
Greece, Athens	October 27th to November 3d	3	
Gibraltar	November 11th	1	
India, Calcutta	October 20th to 27th	..	1
Madras	October 20th to 27th	..	3
Italy, Naples	November 14th	8	1
Mexico, Mexico	November 4th to 11th	..	1
Russia, Moscow	October 27th to November 3d	7	2
Odessa	November 3d to 10th	16	7
St. Petersburg	October 27th to November 3d	7	1
Warsaw	October 27th to November 3d	..	30
San Domingo, Puerto Plata	November 10th to 17th	..	3
Scotland, Glasgow	November 9th to 16th	22	
Spain, Corunna	November 3d to 10th	..	1
Yellow Fever.			
Cuba, Matanzas	November 19th	3	
Mexico, Vera Cruz	November 10th to 17th	9	1
Cholera.			
India, Bombay	October 23d to 30th	..	10
Calcutta	October 20th to 27th	..	8
Madras	October 20th to 27th	..	13
Straits Settlements, Singapore	September 22d	1	1
Plague.			
China, Hong Kong	October 15th to 22d	3	3
Egypt, Alexandria	October 22d to 29th	1	
India, Bombay	October 30th	..	85
Calcutta	October 20th to 27th	..	7
Madras	October 20th to 27th	..	1
Japan, Kobe	November 2d	2	
Osaka	November 2d	11	
Madagascar, Tamatave	October 8th to 15th	4	4
Straits Settlements, Penang	October 16th	..	2

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DISEASES OF THE EYE. By Kent O. Foltz. 8vo, 566 pages. Illustrated. The Scudder Brothers Co., Cincinnati, Ohio.

STATE COMMISSION IN LUNACY. Eleventh Annual Report. 8vo, 701 pages. James B. Lyon, Albany, N. Y.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. 8vo, 542 pages. Illustrated. Printed for the Association, Philadelphia, Pa.

SEXUAL DEBILITY IN MAN. By F. R. Sturgis, M.D. 8vo, 432 pages. E. B. Treat & Company, New York.

VASECTOMY AND URETHRO-STENOSIS. By Reginald Harrison. 8vo, 68 pages. Illustrated. J. & A. Churchill, London.

TEXT-BOOK OF THE EMBRYOLOGY OF INVERTEBRATES. By Dr. E. Korschelt and Dr. K. Heider. 8vo, 594 pages. Illustrated. Swan, Sonnenschein & Co., London.

APPENDICITIS AND ITS SURGICAL TREATMENT. By Herman Mynter, M.D. 231 pages. J. B. Lippincott Co., Philadelphia.

ENLARGED TONSILS CURED BY MEDICINES. By J. Compton Burnett, M.D. 16mo, 100 pages. Boericke & Tafel, Philadelphia, Pa.

ARZNEIVERORDNUNGEN IN DER KINDERPRAXIS. By H. Guttmann, M.D. 16mo, 110 pages. Verlag von S. Karger, Berlin, Germany.

MEDICAL NEWS VISITING-LIST. 192 pages. Lea Brothers & Co., Philadelphia, Pa.

THE PHYSICIAN'S VISITING-LIST. P. Blakiston's Son & Co., Philadelphia, Pa.

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Original Articles.

WOUNDS OF THE HEART WITH A REPORT OF SEVENTEEN CASES OF HEART SUTURE.[1]

BY L. L. HILL, M.D.,

MONTGOMERY, ALA.

WHEN Sir John Erichsen visited Philadelphia in 1874, he said: "Surgery has attained its highest plane, and reached its limit of usefulness, and nothing in the way of improvement or advance need be looked for except in detail of technique." Were this remark of Erichsen applied to-day to the surgery of the heart, it would be as eminently correct as it was woefully wrong then as to surgery in general.

Strange that the credit of the wondrous achievement of completely revolutionizing surgical treatment by the introduction of the methods of asepsis and antisepsis—the chart and compass of all surgical advancement—is due to Erichsen's former house surgeon, Joseph Lister, whose name is imperishably embalmed in the memory of man wherever surgery is taught as a science, and practised as an art.

Wounds of the heart may be either non-penetrating or penetrating—injuring the cardiac wall or opening a cavity. The chief dangers from the former are shock and injury to a coronary artery. Ninety per cent. are penetrating. The right ventricle is most frequently injured, and the left auricle is least so. Auricular wounds are more fatal than ventricular, and injuries to the apex are less dangerous than either. A needle puncture will rarely cause hemorrhage from a ventricle, but excessive bleeding is liable to follow a like injury to an auricle. A wound inflicted during diastole is less dangerous than a similar injury during systole, perpendicular wounds are more fatal than diagonal, and those of the right heart bleed more profusely than those of the left. The presence of the foreign body in the heart, the size of the wound, the number of the wounds, the connecting of cavities, the attending syncope, the involvement of Kronecker's co-ordination centre, are important factors in determining the outcome. Pericarditis, myocarditis, endocarditis, and empyema are frequent secondary complications.

When the wound heals there is a possibility of cicatricial stretching and subsequent rupture as in a case reported by Izzo of a man stabbed in the left ventricle, who was conveyed to the hospital from which he was discharged cured on the twenty-eighth day; a few hours afterward, while lifting a heavy body, he fell and quickly died. At the autopsy the cicatrix of the left ventricle was found ruptured. Blows upon the chest are more liable to cause rupture of the heart after a full meal, as the distended stomach pushes the heart upward and forward, and causes a large area of the organ to be in contact with the thoracic wall and receive the impact. Newton and Gamgee have collected forty-five cases in which traumatisms caused rupture of the heart without opening the pericardium. All were fatal. Only one of Gamgee's cases survived the injury fourteen hours. The fatality is easily understood, for there being no exit, as soon as the accumulation of blood exceeds the limit of pericardial distensibility, the cardiac movements are mechanically stopped. The surgeon not only would be justified, but it is his bounden duty to operate upon every one of these cases, for it is more important, if possible, to rescue a drowning heart than to relieve a strangulated gut. It is possible for a foreign body, as a gun missile, to remain quiescent for years in the myocardium, as in the case of a British officer, reported by Stevenson, who carried a bullet encapsuled for eleven years, or the still more remarkable case of Beers (Cincinnati *Lancet Clinic*, 1898), of an American soldier who survived the lodgment of a bullet in the wall of the left ventricle for thirty-seven years. I can better illustrate the symptoms of these injuries by a brief report of two cases that have come under my observation.

CASE I.—M. J——, female, eight years of age, was brought to my home by her father on the night of January 5, 1897. She had carried in her shirt waist a needle two and a half inches in length, which she had driven into her heart by accidentally falling against a tree.

Her countenance was anxious, pulse rapid and weak, and respiration somewhat labored. She had slight pain about her heart. Upon inspection I found that the foreign body had entered the fifth intercostal space on the left side, and with the pulsation of the heart the head of the needle could be seen to move under the skin—a symptom centuries ago enshrined in the magnificence of indestructible verse:

> "He fell, the spear point quivering in his heart
> Which, with convulsive throbbing, shook the shaft."

The case being one of unusual interest to me, I summoned my friend Dr. R. F. Michel, and my brother Dr. R. S. Hill, and proceeded to operate by injecting ten drops of a four-per-cent. solution of cocaine into the skin. I made an incision an inch in length down to the needle, and extracted it with a pair of dressing forceps. The wound was immediately closed, and the child sent to a relative's house, with instructions to the parent that they detain her in bed, and that she be kept quiet for ten days. She had no subsequent trouble.

CASE II.—Through the courtesy of Dr. J. M. Anderson I had the opportunity of examining Robert F——, colored, twenty-eight years of age, who had received a stab wound in the fourth intercostal space a little to the right of the left nipple. Seen shortly after the injury there was complete relaxation of the extremities, and the pulse was hardly perceptible. The countenance depicted a suffering and distress that would seem to welcome death with the wintry sterility of the grave as a kind and sympathizing friend. Auscultation revealed the heart sounds very indistinct, and percussion elicited increased dulness. It was evident that the pericardium was rapidly filling with blood, and that the heart's action would soon be overcome by compression. The external hemorrhage was slight. The blood was evacuated by enlarging the opening in the pericardium, and the patient's condition at once

[1] Read before the Jefferson County Medical and Surgical Society at Birmingham, Ala., on November 12, 1900.

improved, and he ultimately recovered, though subsequently traumatic pericarditis supervened.

Treatment: I presume no one will question the propriety of operative interference, as experience demonstrates that a little in excess of forty-one per cent. recovered that had been operated upon, as against ten per cent. of recoveries in cases in which no operation had been performed.

For temporary hæmostasis some operators have recommended Péan's forceps and various modifications of it, but they all more or less lacerate the myocardium and can never replace digital pressure. All are agreed that interrupted sutures are preferable in closing a wound of the myocardium; they should be close together and not involve the endocardium. Giordano from his experiments upon rabbits concludes that auricular wounds might be closed advantageously with Lembert's sutures. Silk is preferable to any other material. The needle should be the same as that used in suturing the intestines. The sutures should be passed and tied during diastole. The first suture may be used to steady the heart and facilitate the passage of the others. In sewing the pericardium either interrupted or continuous sutures may be used.

It hardly seems necessary to accentuate the fact of the necessity of perfect cleanliness in these operations whenever the urgency of the case does not require instant intervention as in the patients of Longo and Ninni.

The question of administering an anæsthetic is a mooted one. Ollier says general anæsthesia should not be thought of. Parrozzani operated upon his two cases without an anæsthetic, and observed only slight movement when he cut the skin and in passing the sutures in the myocardium. Giordano made the same observation in his case, but thinks Ollier's statement is too sweeping, as if the pulse is strong and the general condition good chloroform may be administered. Struggling from an anæsthetic is liable to produce detachment of a clot and renew the hemorrhage, as occurred in Parlavecchio's case. I have been able through the valuable assistance received from the writings of Professor Giordano to give here the history of the seventeen recorded cases of heart suture.

Case I.—Farina, of Rome, in 1896, sutured a wound of the right ventricle 6 mm. in length. The dagger entered just above the upper margin of the sixth rib, near the sternum, on the left side. Operation was performed by making an incision four inches in length along the superior border of the sixth rib, which was divided at the sternum. Divarication was made of the fifth and seventh rib. The opening in the pericardium was enlarged, the wound in the right ventricle closed with three silk stitches, and the pericardium sutured. Stimulating injections were given and autotransfusion was practised. The pulse at times became very rapid. The patient died on the sixth day of broncho-pneumonia. At the autopsy the wound in the ventricle was found cicatrized.

Case II.—Cappelen, in 1896, operated upon a man twenty-four years of age, who had been stabbed one hour before entering the hospital. The knife had entered the fourth left intercostal space in the mid-axillary line. The wound was 1 cm. in length, and there was no external bleeding. The left half of the thorax was immovable from compression of the lung due to an accumulation of blood in the pleural cavity. The pulse was imperceptible, and the heart sounds were heard with difficulty. The third and fourth ribs were resected, and the blood in the pleural cavity was evacuated, which permitted the lung to expand. The pericardium was distended with blood, and when emptied a wound of the left ventricle, four-fifths of an inch in length, was observed. One of the large branches of a coronary vessel was cut. The artery was tied, and the wound in the ventricle sutured. The patient was very weak but improved after an injection of a saline solution. He died several days afterward of pericarditis.

Case III.—Rehn, of Frankfort-on-the-Main, operated upon a young man who had been stabbed with a dagger in the fourth left intercostal space in proximity to the sternum. He was found unconscious upon the street and carried to the hospital. The following day his condition was more favorable in the morning, but toward evening there were signs of oppression, and extreme dulness extended to the top of the left lung. An incision was made along the fifth rib, which was resected. The pericardium was greatly distended, and upon being emptied a wound of the right ventricle was observed, from which blood came at every diastole. It was sutured with three silk stitches. They were introduced and tied during diastole The pleura and pericardium were drained. The patient had suppuration of the pleura but eventually recovered. This is the first successful case of heart suture in man recorded. The patient was presented to the Congress of German Surgeons in Berlin in 1897.

Case IV.—Parrozzani, in 1897, operated upon a young man who had been cut three times. Two of the cuts were of no importance. He followed his assailant thirty steps and fell. Five hours after the injury he was carried to the hospital, where it was found that the dagger had entered the seventh left intercostal space in the mid-axillary line. His general condition was extremely grave—"heart beats and pulse almost imperceptible, and respiration rapid and superficial." Immediate intervention without an anæsthetic was decided upon. An incision through the soft parts one and one-fourth inches from the margin of the sternum in the fourth intercostal space was carried for a distance of five and one-half inches, then it descended vertically in the mid-axillary line as far as the superior margin of the ninth rib. The fifth, sixth, seventh, and eighth ribs were cut through in the mid-axillary line with the pleura. The musculo-osseous flap or door was raised, with the cartilages of the ribs acting as the hinges. The pleural cavity was filled with blood and an opening one inch in length was found in the pericardium which was subsequently enlarged to two and a half inches. There was very little blood in the pericardium, because the injury was in the most dependent part and the blood readily escaped into the pleural cavity. A wound in the apex was observed three-fourths of an inch in length, through which the little finger was passed into the left ventricle. This served the double purpose of checking the hemorrhage and steadying the organ for the introduction of the sutures. Four deep silk stitches were used, not touching the endocardium. Passing the needle caused violent throbbing of the heart. The pleura and pericardium were thoroughly cleansed, and the flap was sutured in position. Stimulating hypodermic injections were used, and hypodermoclysis and autotransfusion practised. The operation lasted one hour and a quarter. Recovery resulted. For the full report of this case I am indebted to Dr. G. Sanderson Brock, to whom details were given by Dr. Parrozzani.

Case V.—Parrozzani operated upon a woman who had been stabbed in the third left intercostal space. Half an hour afterward she was conveyed to the hospital. Her condition was exceedingly unfavorable. She was operated upon immediately without an anæsthetic, the operation being very similar to the other, excepting that the fourth, fifth, and sixth ribs were cut through. The pericardium was found filled with blood, and upon its evacuation an opening in the anterior wall of the left ventricle about three-fifths of an inch in length was observed. This was closed with two stitches. Hypodermoclysis and stimulating

injections were employed. The patient died on the second day. The autopsy revealed that the interventricular septum had been cut. There was profound anæmia.

Case VI.—Fummi reported in 1898 that a patient had been stabbed under the left nipple. Several hours afterward an operation was performed, and the pericardium was found dilated with blood. The wound was in the apex but did not open a cavity. It was closed with one stitch. Hypodermoclysis was employed. The patient had empyema but recovered.

Case VII.—Ninni reported in 1898 a patient stabbed in the fifth left intercostal space. The man was quickly carried to the hospital and subjected to an operation without an anæsthetic. An incision was made outward from the sternum along the superior border of the sixth rib. A parallel incision along the inferior margin of the third rib was made. They were united by a vertical incision. The fourth and fifth ribs were cut through, and the shutter was turned back toward the sternum. The pericardium was found enormously distended with blood. There was an opening into the left ventricle through which the surgeon introduced his right index finger, which acted as a stopper, but upon substituting his left so as to sew up the wound a violent hemorrhage followed. Three interrupted stitches closed the cardiac wound, and a continuous suture had shut the pericardium, when the operation was discontinued on account of the patient's death.

Case VIII.—Parlavecchio, in 1898, operated upon a patient who had been stabbed in the fifth left intercostal space. The wounded man went to the hospital. After five hours blood was observed in the pleural cavity. The pulse became very weak and intermittent, and the heart sounds were heard with difficulty. Intervention after eight hours was resorted to under chloroform. The fifth rib was resected. The finger was introduced, and the wound in the pericardium was grasped and enlarged. There was a wound of the apex about an inch and a half in length, penetrating obliquely the left ventricle. It was closed with four interrupted sutures. After thorough cleansing the pericardium and external wounds were closed. The duration of the operation was forty minutes. Recovery took place.

Case IX.—Giordano, in 1898, reported the case of a man who had been stabbed through the second left intercostal space. When he reached the hospital a half-hour after the injury he was thought to be dead. Immediate operation was done without an anæsthetic and without cleansing of the field of the operation. The introduction of the index finger showed that the wound ranged downward and inward. An incision was made extending from the wound to the margin of the sternum; a second incision from the sternal end of the first descended to the superior margin of the fifth rib. The third and fourth ribs were cut through, and an immense quantity of blood was evacuated. When the pericardium was opened a wound in the left auricle, four-fifths of an inch in length, transverse to the axis of the organ, was observed. Bleeding was very free. Four silk stitches were introduced, which was done in less than fifteen minutes. The third rib was placed in position, but a portion of the fourth was resected for free drainage of the pleural cavity. Stimulating injections were given and autotransfusion was employed. Empyema commenced a few days later and the ninth rib was resected. Death occurred on the nineteenth day. The autopsy revealed many abscesses in the right lung. This is the first recorded case of suture of an auricle.

Case X.—Nicolai, in 1899, operated upon a man who had been stabbed in the fourth left intercostal space midway between the margin of the sternum and the nipple. The point of the dagger ranged upward. He was operated upon under an anæsthetic one and one-half hours after the injury. The fourth and fifth ribs were divided, and a wound in the right ventricle was found and sutured. The patient's condition seemed favorable, but death occurred suddenly twelve hours after the operation. At the autopsy the pericardium was found empty, and the sutures were in position.

Case XI.—Tuzzi saw a man who had been stabbed in the fourth left intercostal space. Intervention was done without an anæsthetic. The fourth and fifth ribs were divided as in the previous case. There were two wounds of the myocardium—a penetrating and a non-penetrating. There was a coagulum between the lips of the former. The cardiac wound was sutured, and the pleura drained. Hypodermoclysis was performed. The patient died on the twenty-second day of empyema. At the autopsy it was discovered that the patient had sero-fibrinous pericarditis, and that the wound of the heart had healed.

Case XII.—Longo reported a case in which the knife entered at the fifth left intercostal space two-fifths of an inch internal to the nipple. The patient's general condition was so unfavorable that the operation was performed at once without an anæsthetic. A vertical incision was made from the lower border of the third rib to the superior border of the sixth rib, two-fifths of an inch from the sternal margin. A second incision parallel to the preceding was made through the nipple, and a third united their lower ends. The fourth and fifth ribs were divided. There was found an opening, one and one-fifth inches in length, in the pericardium, which was enlarged, and a wound of the left ventricle was discovered and closed with three interrupted silk stitches. The pericardium was closed with continuous sutures. The patient was transfused with a saline solution, but died in fifteen minutes.

Case XIII.—Ramoni reported that his patient was stabbed at the third cartilage four-fifths of an inch to the left of the sternum. Without an anæsthetic an incision was made about four inches in length along the third rib from the sternum. Two vertical incisions descended from each end of it, and the third, fourth, and fifth ribs were cut through. The pericardium was emptied of blood, and two wounds near the base of the right ventricle were observed. A suture was passed during diastole which provoked a strong systole, causing a laceration of the myocardium and abundant hemorrhage. The finger was introduced and the opening closed with four interrupted sutures, which did not pass through the endocardium. Stimulating injections, autotransfusion, and hypodermoclysis were at this time resorted to. The second wound was closed with two stitches. The pleura was drained. The operation lasted three-fourths of an hour. Recovery took place.

Case XIV.—Marion reported, in 1899, a patient who had been shot through the breast. The fourth, fifth, and sixth ribs and a part of the sterum were cut. The wound of the myocardium was sutured. The autopsy showed that the missile had passed entirely through the body.

Case XV.—Rosa reported, in 1899, that a man upon whom he operated was stabbed in the fifth intercostal space. Operation was performed without an anæsthetic. An incision four inches in length was made along the fifth rib. It was resected, and a severe hemorrhage from a wound of the lung was stopped with a stitch. The sixth, seventh, and eighth ribs were cut in the anterior axillary line. The pericardium was emptied of blood, and a wound of the left ventricle, near the base, three-fifths of an inch in length was observed, but the operator could not say whether it

penetrated the cavity. It was closed with one stitch, and the pericardium and pleura were drained. Recovery resulted.

Case XVI.—Pagenstecher reported his case in 1899. The dagger entered the fourth left intercostal space beneath the nipple. The patient came under observation a half-hour after the injury, and it was discovered that there was no external bleeding. The pulse was imperceptible, and respiration had almost stopped. The corneal reflex was abolished. Dulness extended over almost the whole left side of the chest. The patient was operated upon sixteen hours after the injury by an incision along the fifth rib, which was resected about two and one-half inches. The opening in the pericardium was enlarged two inches, and a wound was observed of the left ventricle about one and one-third inches from the apex and one and two-fifths of an inch long, from which ran a stream of blood. Three deep celluloid sutures and one superficial one were used. The pleura was cleansed and the pericardium sutured. The threads of the knots in the myocardium were left long, so as to come through the external wound. Pulling the threads on the ninth day caused two to come away, and the other two came ten days later. Recovery took place.

Case XVII.—Maselli reported, in 1900, the case of a man who had been stabbed below and internal to the left nipple. He revived a little after injections of ether and caffeine. He was operated upon one and one-half hours after the injury without an anæsthetic. A transverse incision was made from the margin of the sternum to a point beyond the nipple. About two and a half inches of the sixth rib, which was cut by the weapon, was resected. The lips of the wound of the pericardium were caught with Péan's forceps and drawn toward the external opening. The finger was introduced, and a wound of the left ventricular wall discovered near the apex, which was closed with two sutures. The pericardium was cleansed and continuous sutures were used. The pleura was drained with gauze. Stimulating injections, hypodermoclysis, and autotransfusion were employed. The operation lasted more than an hour. At first the patient improved, but twelve hours later symptoms of collapse appeared, which did not yield to a repetition of stimulating injections and hypodermoclysis. The autopsy showed that one of the stitches in the myocardium had become untied, but the edges were in apposition, and the pericardium was empty.

John Bell, who was far in advance of his time, taught and practised pericardiotomy, removing foreign bodies and washing out the sac. Dr. John B. Roberts, of Philadelphia, in 1881, suggested heart suture, and Dr. Del Vecchio, of Naples, in 1894, demonstrated its feasibility before the Eleventh International Medical Congress in Rome, by his experiments on dogs. Two years later the human heart was sutured by Farrina and Cappelen. It is surprising to find the statistics collected by Fischer, of Breslau, in 1868, quoted by leading text-books on surgery as late as 1900 as authoritative in computing the prognosis in this class of injuries. The successful suturing of the heart by Rehns, Parrozzani, Parlavechio, and others has revolutionized the treatment and changed the probable outcome. Fischer's statistics, though a monument to his untiring zeal and energy, are now like an antiquated sign-board on a discarded highway; but

> "Faith, fanatic faith, once wedded fast
> To some dear falsehood, hugs it to the last."

Anti-Cigarette Laws.—The Vermont legislature before its recent adjournment passed a bill prohibiting the sale of cigarettes in the State. The bill passed both houses of the legislature and has been signed by the governor.

INTERNAL HEMORRHAGE, THE RESULT OF TRAUMATIC RUPTURE OF ADHESIONS DUE TO ACUTE APPENDICITIS, WITH THE REPORT OF A CASE.

By LOUIS J. LADINSKI, M.D.,

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The patient is a boy eleven and one-half years old, whom I saw in consultation with Dr. M. Girsdansky. Family and previous history is negative; there is no personal or family history of hæmophilia.

On Wednesday, August 1, 1900, he complained of slight cramps in the abdomen; at no time, however, was the pain severe enough to prevent him from playing and jumping about. On the same day, at about 7 P.M., while sliding down the balustrade, he lost his hold and landed with considerable force upon the floor. He was picked up and carried to his room, complaining of severe pains in the abdomen and suffering from nausea and vomiting. On the evening of

Fig. 1.—Site of Rupture Shown at Junction of Concave and Perpendicular Portions of Specimen.

August 2d, Dr. Girsdansky was called in to treat the patient. He found him lying in bed with legs drawn up and moaning constantly; his face pale, anxious, and drawn; breathing was labored, pulse 120, small and hard, and occasionally irregular, and the temperature was 101° F. On examination he found the abdomen to be painful and tender; tenderness was especially marked in the lower abdomen. The boy had urinated regularly and normally, and had had a movement of the bowels. He ordered small doses of calomel and ice applications, and decided to wait for surgical interference till the next morning, when, on finding the patient much worse, he invited me to see the case with him.

I saw the boy at twelve o'clock on the 3d of August, about forty hours after the fall, and found him in a condition of extreme collapse; his pulse ranged between 130 and 140, small and irregular; his temperature was 104°, and the breathing rapid and shallow. There was general cyanosis; the face was anxious and drawn, and the eyes were deeply sunken. The abdomen was very much distended, extremely tender and sensitive, and was tympanitic above and boggy below. There was distinct evidence of fluid in the peritoneal cavity. The pain and the tenderness were slightly

more marked in the region of the appendix. In short, there was every sign and symptom of a general peritonitis.

The differential diagnosis was between hemorrhage from some internal organ, rupture of the bladder, rupture of the intestine, and general peritonitis due to a rupture of an unrecognized appendicitis. Rupture of the bladder was dismissed from consideration for the reason that the urination was absolutely normal. Rupture of the intestine was excluded because the bowels had moved, and there was no evidence of gas in the peritoneal cavity. The collapse, cyanosis, and the high temperature pointed to a septic condition which could not be accounted for by a simple internal hemorrhage. Considering the fact that the boy had had an attack of abdominal pain previous to the fall, and viewing all the signs and symptoms in the light of past experience, a diagnosis of general peritonitis, due to ruptured appendicitis, was made.

Though a fatal prognosis was given, the parents accepted the slight chance an operation offered. The boy was transferred by ambulance to my service at Gouverneur Hospital, and was at once placed upon the table and prepared for operation. A median incision was made, and when the peritoneal cavity was opened, it was found to be filled with blood. As much as possible of the blood was sponged out and mopped up. The appendix was sought for and was isolated from the surrounding parts by means of pads; and on carefully exposure and drying of this region it was found to be the site of the hemorrhage. The appendix, which was unusually long, was doubled up like the letter U, being held in that position by the adherent meso-appendix, and lay in front of and to the inner surface of the cæcum, to which it was attached by recent adhesions. The entire appendical region was injected and congested. At the bend of the meso-appendix there was a rent to the extent of about a half-inch, in which several small spurting vessels were distinctly made out. The meso-appendix was ligated; the appendix was separated from the adhesions and removed; the blood and clots were wiped away, and the peritoneal cavity was washed with saline solution and the wound closed. The following day the temperature dropped to normal, and the boy made an uneventful recovery, being discharged from the hospital thirteen days after the operation.

The fall undoubtedly caused the tear in the meso-appendix, which was the source of the hemorrhage in the peritoneal cavity, and the sepsis was due to the appendicitis. The case is undoubtedly unique. As far as I can learn from the literature up to date, there has never been reported a similar complication in acute appendicitis. Dr. Edebohls, in his excellent résumé of the literature of appendicitis, cites cases of hemorrhage complicating appendicitis as a result of ulcerative processes of the small intestines;[1] of the sigmoid;[2] of the right external iliac artery;[3] of the right iliac vein;[4] and in a conversation with him Dr. Edebohls informed me that he had a record of a case of fatal hemorrhage due to the slipping of a ligature of the artery of the meso-appendix, but he corroborates the statement that there is no previous record of a traumatic internal hemorrhage from vessels of the meso-appendix. The case is of further interest because of its very close similarity to general peritonitis, the result of perforative appendicitis.

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[1] Osler. Montreal General Hospital Report, 1880, i, 330.
[2] Stedman: Lancet. London. 1893, i, 1061.
[3] Powell: New Orleans Medical and Surgical Journal, 1855, xi., 468; and Sourdille: Bulletin de la Société d'Anatomie de Paris, 1894, lxix., 447.
[4] Fowler: Annals of Surgery, Philadelphia, 1894, xix.; and Lewis: Medical Record, New York, 1894, xlvi., 463.

INSANITY, ITS CAUSES: IS THERE IN WOMAN A CORRELATION OF THE SEXUAL FUNCTION WITH INSANITY AND CRIME?

By MARY DIXON JONES, M.D., F.R.M.S.,
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That the brain is the organ of the mind must be recognized as a fundamental fact, as an axiom in mental science and in the pathology of "mental diseases."

The brain, with its wonderfully complex structure, its many varied and complicated parts, is the organ or instrument by which the intellectual and moral powers make their manifestations; and any indication of mental disease or inability to carry on any of the mental processes must come from some abnormal condition, disease, or structural lesion of the brain. If the mental faculties make abnormal presentations, or if insanity in any form occurs, it is only because some tissue or structure of the brain is diseased or in some temporary or chronic pathological condition. It is not that the mind—the mentality, the thinking part of our being—is diseased. And whenever there is any morbid or diseased condition of the brain it will be shown in the mental operations. They will be more or less disturbed or abnormal. When the brain is diseased, as from a musical instrument out of repair there are given forth uncertain sounds. One part may be diseased and another portion sound, so that there may be a union of abnormal and normal manifestations; but we will ever find the causes of insanity to be in the varying conditions of the brain substance. This is the only true theory, any other leads into mazes of doubt and mystery, and to an infinite number of vague speculations.

The brain is the great masterful organ of the whole body, surpassingly wonderful in every part of its anatomical structure, and far beyond our comprehension in its mode of acting, the manner of its manifestations, and in its methods of giving expression to thought, feeling, and the emotions.

We cannot begin to comprehend the wonders and powers of the human brain, nor can we understand all the high mysteries of what is the mind, or what is the spiritual part of man. "God breathed into him the breath of life, and man became a living soul." So the living soul, or mind, is of God. It is immortal, eternal, everlasting. It does not get sick or die, and from it does not come mental disease.

That the brain is the instrument or organ of the mind we have the testimony of many eminent writers. Sir William C. Ellis, superintendent of the Middlesex Lunatic Asylum in England, declared:[1] "Insanity is a disease of the brain." J. M. Cox in 1805 said:[2] "I am inclined to believe that in every case of insanity, be the remote causes what they may, the proximate causes reside in the brain." Dr. John S. Gray, who has done excellent work in this department, at one time editor of *The Journal of Insanity*, and professor of psychological medicine in Bellevue College, 1868, said:[3] "Insanity is now generally recognized as a disease of the brain. A necessary antecedent to madness is a disordered physical state of the brain, that it never occurs in a person of sound brain." C. B. Coventry, professor of obstetrics and medical jurisprudence, Geneva College, wrote:[4] "Insanity is only a symptom of derangement of some portion of the brain. That the brain is the instrument or medium of all mental and moral manifestations, is a fact so clearly established and susceptible of demonstration."

[1] "A Treatise on the Nature, Symptoms, Causes, and Treatment of Insanity," London, 1838.
[2] "Practical Observations on Insanity," p. 42.
[3] Journal of Insanity, 1872, xxix., p. 261
[4] Trans. of the Med. Soc., State of New York, vol. v., 1841–43.

Henry Maudsley says:[1] "Insanity is disorder of the brain producing disorder of the mind." Dr. Folsom, lecturer on hygiene and mental disease in Harvard University, wrote:[2] "No one will pretend to deny that the brain is the organ of the mind, and that anomalous action of the mind depends directly upon abnormal conditions of the brain, idiopathic, functional, or reflex." Tuke says:[3] "Insanity consists of morbid conditions of the brain," and Morel declares[4] that "all these extraordinary phenomena have their seat in the brain, and we will find when we prove them, that it is the brain that is not sound (c'est que le cerveau n'est pas sain)."

Going far back to the close students and clear thinkers of ancient times, Hippocrates more than two thousand years ago declared:[5] "It is by the brain that we think, comprehend, see, understand, that we know the evil and the good, the agreeable and the disagreeable. . . . It is, too, by that we are fools, by that we are delirious, and by that the fears or terrors besiege us by night and by day." Lord Bacon, with his clear intuition, said: "If ever the true nature of insanity was discovered it would be found to exist in corporeal changes, or the effects of external agents acting on the gross machines, not on the immaterial principle."

F. Winslow,[6] in his book on "Diseases of the Brain," tells us "Defour attempts to prove that the brain has directly no connection with insanity, that alienation of the mind is consequent upon some affection of the nervous ganglia of the abdomen, and that Fodéré imputes insanity to an alteration of the vital principle, and that Pinel is of opinion that insanity frequently arises from visceral complications."

Bancroft says: "I fully admit that a large proportion of cases of insanity even in both sexes are of reflex origin, and not the result primarily of cerebral disease." Storer[7] tells us that Workman, of Toronto, argued for the extracerebral causation of insanity that, unless in confirmed low dementia and idiocy, insanity has no necessary connection with diseased brain properly so-called. Storer admits that "the brain is the seat of insanity, but not always of its cause; that we are compelled at times to seek the ultimate cause of insanity outside of the brain," adding: "Of the various forms of insanity occurring in females, the majority of them are owing to functional or organic diseases of the uterus and its appendages."

So an infinite number of causes of insanity are given by different writers. Scarcely an organ or function of the body, or any human act or passion but has been presented as a cause.

Forbes Winslow makes the inquiry: "Whether there is any specific and clearly definable characteristic organic alterations in the encephalic mass invariably present in insanity and that can be considered to stand in relation to cause and effect." He adds: "I have often been much surprised when examining the heads of patients who have died from the effects of acute insanity, by the remarkable absence, or even an approximation to an adequate physical cause of the fatal disease."

There is reason to believe that in all cases of insanity there will be found in the brain some corresponding pathological condition. In many organs of the body we have often observed that even profound pathological changes cannot always be recognized by the naked eye.[1] I believe in all cases of acute or chronic insanity there are structural changes in the brain. John S. Gray says:[2] "We are every day discovering structural degeneration of brain tissues which throws more and more light on causation."

Storer asserts that insanity may exist without structural changes in the brain, quoting the following authorities to sustain his views: Bell, of MacLean Asylum, "Autopsies of the insane generally present no material lesion of the brain"; Worthington, "Insanity is unattended with any organic cerebral change, the disease is very commonly consecutive to disorders of the general system;" Bucknell, "A large number of brains of the insane we have diligently investigated with a first-rate microscope. The results appear to us to have afforded no distinction between the sane and the insane brain."

In opposition to these views, Armstrong declares that in regard to the anatomical pathology of insanity he has never seen the body of a patient who died mad in which there was not disease of the brain; that he has never seen an autopsy without some one unequivocal appearance of organic change presenting itself to the careful and patient examiner. Portal writes as follows: "Morbid alterations in the brain and spinal marrow have been so constantly observed, that I should greatly prefer to doubt the sufficiency of my own senses than to believe that mental disease could exist without any physical disease of this viscus." Dr. Brigham, one time editor of *The Journal of Insanity*, says: "On examining the heads of those who die insane, some disease of the brain or appendages is generally found."

Probably, if these diseased portions of the brain were prepared by the best processes for microscopical investigation, we should find a more wonderful record than we have yet conceived of. Dr. Davison, of the Lancaster County Lunatic Asylum, says he scarcely ever met with a single instance where traces of disease either of the brain or membrane were not evident. Dr. Clutterbach, of Great Britain, says: "I think we are warranted in attributing every disorder of the mental functions to a diseased condition of the brain as its immediate cause, of which the derangement of the intellect is but a sign or symptom." Another writer adds: "The reason why it is not detected is owing to our defective means of examination." Ellis in his excellent work wrote:[3] "We know quite as little of the anatomy of the brain as of any other part of the human body." E. C. Mann declares that "the pathology of insanity is as yet in its infancy." Still we should endeavor to look into it, for, as Maudsley says:[4] "We have not to deal with disease of a metaphysical character which the methods of inductive inquiry cannot reach, nor the resources of the medical art touch, but with disease of the nervous system, disclosing itself by physical and mental symptoms."

The question is asked, Is there in woman a "correlation of sexual function with insanity and crime?" Would not this prove some defect in the formation of one-half of the human race? As little could I believe that menstruation, when normal, originates morbid impulses. Can any normal function give rise to abnormal impulses? Is it likely that in a young girl, in this her first function of womanhood, are originated

[1] "Responsibility in Mental Disease." International Scientific Series, New York, 1881.

[2] Boston Medical and Surgical Journal, 1880.

[3] "Dictionary of Psychological Medicine."

[4] "Traité des maladies mentales," 1860, p. 3.

[5] "Les maladies sacrées."

[6] "On Obscure Diseases of the Brain and Disorders of the Mind," 1868, p. 774.

[7] "Insanity in Women," Horatio R. Storer, 1871, p. 37.

[1] I said in the American Journal of Obstetrics, February, 1888, p. 158: "We cannot always tell by naked-eye appearances whether there is disease or not; apparently the healthiest ovary I ever removed from the human body contained in it an encysted sarcoma, yet before its removal I knew well from the history and examination that it was diseased, but the naked-eye appearances did not show it."

[2] Journal of Insanity, October, 1872, p. 268.

[3] "A Treatise on the Nature, Symptoms, Causes, and Treatment of Insanity," London, 1838.

[4] New York Medical Journal, 1874, p. 561.

morbid impulses? Many a young woman I have seen suffering almost untold agony during this period, yet there were no abnormal impulses, nor was the young girl prompted to any crime, nor did she manifest any criminal intent. She was an angel in goodness, purity, and innocence, and a martyr in her sufferings.

Menstruation naturally should be a normal function, and should not be accompanied by any suffering or pain.[1] Only past violations of the laws of health make these conditions of suffering. I know women who during all the long years of their lives had never one painful menstruation. But even abnormalities of the menstrual function and the sufferings thereof have no correlation with, nor do they point to or lead to crime. The criminal intents are in the individual's mind and heart. Nothing could be farther from a true presentation of the subject than that the process of menstruation, or abnormal conditions thereof, affect a woman by originating morbid impulses and criminal intents.

Just as impossible is it to believe that that most complex function, ovulation—as yet unexplained—when normal is, in any of its processes, a source of irritation, or of the least disturbance to the mental organization; nor does this high function originate morbid impulses. Ovulation is a normal process, controlled by fixed laws, and when normal makes no mental disturbance, nor has it any connection with or tendency to produce insanity. I believe the performance of any and every function, when normal, contributes to and helps perfect the general health, mental and physical. The whole system, every part and every function, in a state of health is in such harmony that it is almost the music of the spheres, and even more beautiful.

It is true and is recognized by many eminent physicians that a disease of the genital organs in woman may be a source of great irritation and disturbance to her whole system, and may cause such exhaustion and prostration as to produce extreme nervousness, and, in some cases, more or less abnormal manifestations, and even mania and insanity. But these mental abnormalities can take place only in those who have some neurosis, brain lesion, or disease of the brain of some kind, or an inherited tendency thereto. In over one hundred laparotomies performed in the Woman's Hospital of Brooklyn for some of the worst and most varied forms of pelvic disease, there were four cases of abnormal mental conditions.

Case I.—Ovaries and tubes showed most serious conditions of disease. The cervix and perineum were lacerated, the torn edges of each covered by hard cicatricial tissue. All these conditions were not only sources of suffering and ill health, but apparently of abnormal irritations to her nervous system. Her mental conditions were so disturbed that her friends thought she was becoming insane. The patient told me that she felt as if she must kill some one, that many times she felt like killing her own children.

This woman, no doubt, had some inherited tendency to insanity. There was some lesion of the brain, and the diseased condition of the pelvic organs proved to be a source of increased irritation to this already sensitive and diseased brain. These pelvic conditions were also destroying her physical health, and rendering her system less able to overcome and prevent the devastating results of the brain lesion. Such a diseased condition of the genital organs would in the most sane woman have been a source of great distress and disturbance to her general health. This mentally affected woman was less able to bear it; it was such an irritation that it had a tendency to increase or excite an abnormal mental condition. Indeed, this diseased condition of the genital apparatus may have been at first the exciting cause to an already diseased brain to awaken the abnormal manifestations; but it was only because of a pre-existing brain lesion, or the brain was by some defect, disease, or inherited tendency predisposed to insanity.[1] I have repeatedly found equally and profoundly diseased conditions of the genital organization, in women suffering infinitely more, and not the least indication of, or tendency to, mental aberration.

We often find some of the worst forms of disease of the genital organs, continued suffering for years, accompanied by the greatest prostration in those who are mentally sound, or who have no structural lesion of the brain or inherited tendency thereto, and there will be no indications of insanity. Manifestly these diseased organs in this partially insane woman were not only destroying her health, taking her strength, endangering her life, but were an irritation to the whole nervous system, and increasing her tendency to insanity. The removal of such hopelessly diseased structures and repair of the surgical injuries were certainly demanded in her case, and would have been a blessing to any woman who had similar conditions, whether sane or insane. The diseased tubes and ovaries, so bound in adhesions, were removed; as was the cicatricial tissue from the cervix and perineum, and the gaping wounds were sewed up. All indications of insanity disappeared in her case; she was under observation some two or three years, apparently in good mental and physical health. I saw the patient last in August, 1889. She was well and gave every indication of good health, both of body and of mind, and with proper care she may continue to grow stronger and stronger, mentally and physically. Yet, from adverse causes, there may be a return of the insanity.

Case II.—In 1887 I was requested by a physician in Bridgeport, Conn., to see a patient in the neighboring town of Ansonia. The patient was twenty-five years old, a teacher by profession, married six years; no children; weighed seventy-five pounds; temperature 101°. For five years she had been an invalid, unable to attend to her household duties. She was now confined to her bed, nervous, hysterical, and at times wildly insane, more than once threatening to take her own life. The patient was so weak, and so great were her paroxysms of pain, that a number of times her husband and mother thought she was dying.

She was carried in her husband's arms to the Woman's Hospital of Brooklyn, of which I then had charge, and while there she had hallucinations that could not be dispelled. The uterine appendages were found to be enlarged, sensitive, and low down behind a retroverted uterus. Every evacuation of the bowels caused extreme pain and almost a deathlike weakness. Menstruation was accompanied by suffering and a prostration so extreme that it did not seem possible for her feeble frame long to endure it. The patient had pyosalpinx on both sides and pelvic peritonitis. There seemed to be no other help than the removal of the diseased organs. After consultation it was decided to perform the operation, which was done in July, 1887. Dr. A. M. Jacobus was present. The patient made a good recovery, and at the end of the second week went up and down stairs without assistance, and rode out. At the end of the fourth week she

[1] I said in an article, Amer. Jour. of Obstet., February, 1888, p. 173: "The functions of ovulation and menstruation are physiological and their healthy performance certainly has a benign effect upon all the organs and functions of the body." In the Medical and Surgical Reporter, Philadelphia, May 27, 1893, I said: "A woman with a healthy genital organization goes through the function of menstruation as naturally, normally, and painlessly as the digestion of food by a vigorous stomach."

[1] I am glad to find a corroboration of my views by so excellent an authority as T. Claye Shaw ("St. Bartholomew's Hospital Report," vol. xxii., 1886, p. 105). "It seems the uterine affectioes do not cause insanity unless there is already a predisposition to it."

accompanied her husband home, and that day walked as much as a mile. Subsequently her general health and mental state still more improved, and she was soon able to attend to her household duties. The ovaries when examined microscopically were found to be not only in a state of intense oöphoritis, but there were large gyromatous formations; which latter, no doubt, were the cause of, or certainly intensified, the morbid conditions of the nervous system.

Such is about the report I felt justified in making of this case in 1890 and 1892.[1] I supposed the patient was well, that her abnormal mental conditions were relieved. I had then, and have still, no doubt that the large, solid, gyromatous formations impinged upon and compressed the nerves so as to cause severe reflex irritations. Yet all this suffering I do not believe would have caused insanity in this woman unless she already had some disease of the brain, or an inherited tendency thereto.

After the removal of the incurably diseased structures her health was so much better in every way that I thought she was cured both mentally and physically. But subsequently, amid the multiplied discouragements of her household—no pleasant lookout for a fine nature previously educated—there came again the depression and melancholy, and the slighter symptoms of insanity. I could imagine that if it had been possible for this woman to have the happiness of children, with that brightness and ever new delight she might have passed through life without another symptom of insanity. The removal of these diseased structures had, no doubt, greatly improved her health, and may have saved her from a more helpless madness; and, under more favorable circumstances, she might have been cured.

When these organs are incurably diseased I believe it is a blessing to any woman to have them removed. The removal not only saves much suffering, but in many instances saves her life, and tends to cure the mental malady.

Case III.—The third patient, Mrs. F——, with indications of insanity. Blood cyst in one ovary, endothelioma in the other; intense oöphoritis, waxy degeneration of the ovum. There was a great mental disturbance. The patient had suffered for some years, and was unable to attend to her household duties. After the operation she regained her health and improved in mental condition. She was under observation for several years, and at times I thought her mind was a little unbalanced. Yet I believed that after removing this source of irritation and suffering and increasingly bad health, there were, with proper care, many chances for the brain gradually to recover its wonted good health.

Case IV.—On May 30, 1888, a patient, Mary G——, was brought by her mother to me. She was an epileptic, had had repeated attacks of peritonitis, and now complained especially of great distress in the pelvis. One ovary was enlarged into a blood cyst, the size of an orange; there was pyosalpingitis of both tubes, and the appendages on each side were bound in inflammatory adhesions. I informed the mother and daughter that these organs could not be cured, and that they were not only a cause of increased suffering, but attended by some danger. The mother and daughter were both anxious that the operation should be performed. They called again, and in a few days the mother brought the daughter to the hospital, 725 Greene Avenue. It was deemed advisable to perform the operation as soon as possible. It took place December 13, 1888. The tumor was found to be a blood cyst of the ovary, developed from an endothelioma. This blood cyst was bound firmly by pseudo-membranous adhesions to the walls of the pelvis, so also was the other ovary. The tubes also gave evidence of long existing disease. The patient made an excellent recovery, and was able to be up in three weeks, free from pain, and every day seemed to grow stronger and better, and did not at the time have a return of the epilepsy.

As this operation seemed to be of such essential benefit, wishing to remove all trouble I passed the patient over to the department of general surgery for the depressed bone of the skull to be raised, several physicians whom she had consulted having considered this the cause of the epilepsy. The operation was successfully performed, January 25, 1899, and from it the patient made an excellent recovery, but after it the attacks of epilepsy seemed to recur, though they again gradually diminished in number. Certainly the patient was cured of her pelvic trouble, and to that extent her general system was benefited. But epilepsy is a disease or defect of the brain, and after we have removed what may be the exciting cause, the trouble is still there, as Hippocrates,[1] whom Fodéré[2] calls "le divin vieillard," says of epilepsy: "The truth is the brain is the origin of this affection as of all other great maladies."

When the ovaries are diseased their removal does good, but when the organs are normal, their removal can result in no benefit, but rather in harm to the individual. Professor Schroeder stated that he had operated twelve times for the removal of healthy ovaries for neurosis. I said in an article, 1893: "I denounce the removal of the uterine appendages for any cause, neurotic condition, or constitutional disturbance, or for any reason except incurable disease of the organs themselves; and when thus diseased they are a continual injury to the system, and their removal is a lasting benefit."[3] In the same article I said:[4] "Even if the epilepsy results from deep lesion of the nervous system, yet a disease of the uterine appendages will aggravate the conditions and be a source of increasing suffering, and there is no reason why a person should not be relieved as much as possible."

I further remarked, "pelvic disease may in some so disturb the nervous system as to cause some form of insanity;" but this can be only in those who have a tendency to or a pre-existing brain trouble. I continued: "The removal of the diseased structures will assuredly relieve the physical suffering of the patient in this direction, and there is no reason why sick women should not be relieved as much as possible. The same in cases of insanity, when the uterine appendages are profoundly diseased and are only a source of suffering and danger, is there any reason why they should not be removed?" I closed the article by saying, "I plead, in the interest of humanity, for these poor overburdened women."[5]

From *The Journal of the American Medical Association*, September 1, 1900, we see that this important

[1] New York Medical Journal, May 10, 17, 1890, p. 511; and Buffalo Medical Journal, November, 1892.

[1] "Les maladies sacrées."

[2] "Médecine légale," 1813, p. 17.

[3] In the Amer. Jour. of Obstet. February, 1888, vol. xxi., p. 158, I say: "I would not remove healthy ovaries for dysmenorrhœa, or any suffering in the regions of the ovaries. I would not remove them for epilepsy, believing the lesion to be elsewhere. . . . I would not remove them for mental or neurotic disease. I have never operated on a case but I had full and substantial reason to diagnose incurable disease of the appendages." I said again in the New York Medical Journal, May 10, 18, 1890, p. 511, "I make the 'uncompromising' sweep of excluding all cases from this operation except where there is hopeless disease of the organs themselves."

[4] The Medical and Surgical Reporter, Philadelphia, May 22, 1893.

[5] But I realize the difficulty as stated by some neurologists, and for their opinion I have the most profound respect. T. Claye Shaw says in St. Bartholomew's Hospital Report, vol. xxii., 1886, p. 105: "Many women are too violent to be examined, in others there may be danger of setting up delusions of a sexual nature."

subject was presented by several of the learned members before the association at its late meeting. Dr. G. H. Noble, of Atlanta, Ga., in an excellent paper put forth the question, "Do you regard malformations and traumatisms of the female genital apparatus as a cause of insanity?" He gives the reply of Dr. Maury, of Memphis, who has operated a number of times and who states that he could "not recall a case of mental recovery, and that his cases of surgical traumatism showed evidence of previous insanity." Dr. Noble quotes Hobbs as saying: "I have never yet seen a patient entirely relieved of a mental disease as the result of operative treatment." Dr. Noble closes his article with the timely words, "Have we the right to deny insane women the privilege their more fortunate sisters receive?"

Operative treatment in time might possibly save many who have a tendency to insanity. But this tendency in them and (because of this tendency) insanity may be excited by various adverse causes, physical or mental. Dr. Vander Veer, of Albany, answered Dr. Noble's question by saying that he did not believe traumatism and malformations contribute to insanity. How could we think otherwise when there are millions of women who suffer from these traumatisms who do not go insane? It is only those whose innate insanity is developed in connection with, before, or after the traumatism.

Dr. Carpenter, professor of nervous and mental diseases in Ohio Medical University, in his paper quotes Krafft-Ebing as maintaining that the influence of diseased generative organs in women should not be underrated as a physical cause of insanity. Dr. Carpenter adds: "It is questionable if medical knowledge and experience would justify operating on the defective classes. . . . All our asylums have representatives from these classes who have not only been not benefited, but in reality have been made worse by the operation."

Dr. H. A. Tomlinson, superintendent of St. Peter's Hospital, Minnesota, in a paper presented before the American Medical Association, September 3, 1899, tells us that in "only ten out of the four hundred and fifty women was there any exaggeration of the mental disturbance during the menstrual period, and only two complained of physical discomfort: two women in whom there was apparently a distinct relation between the menstrual disorder and mental disturbance. In both cases the uterus and ovaries were removed, and there was not only no improvement in the mental condition, but a distinct increase of disturbance after the direct effect of the surgical procedures had subsided, and more rapid determination of dementia followed the artificial establishment of the menopause. Many of the women have been operated on, and all needing local treatment received it, but in the majority of cases the relief of the pelvic disorder has been practically without influence on the mental condition of the women."

Dr. Tomlinson says finally: "We have not found that there is any particular form of insanity associated with pelvic disease. In fact, most of the cases, after careful examination and study in the hospital failed to disclose any evidence of severe pelvic disease, or any connection between the insanity and disease of the generative organs."

Dr. R. M. Bucke[1] reports the results of one hundred and ninety-five operations: "In three cases the patients died as the result of the operation, in nearly all the rest of the cases the physical health of the patient has been restored or greatly improved." As regards the mental health: "In thirty-nine cases the patients recovered from insanity. In thirty-two cases there has been improvement in the mental insanity of the patients. In thirty-five cases there has been no improvement in the patients' mental condition. So that seventy-two out of one hundred and six cases who survived the operation either recovered their mental health, or this was improved." The author remarks on page 11, "It is my opinion that very few of these cases would have recovered, or greatly improved if they had not been operated upon. Some of them who did well must have very soon died had no operation been done."

Dr. Bucke gives some most remarkable cases, for instance the following, the patients recovering their mental and physical health soon after the several operations: 1. Chronic mania three and a half years' duration, two cystic ovaries removed. 2. Chronic mania two years' standing, lacerated cervix repaired. 3. Chronic mania over seven years' duration, cystic ovaries removed and lacerated cervix repaired. 4. Destructive mania for five years, both ovaries removed—one a multilocular cyst, size of an orange, the other ovary adherent and atrophied. 5. Three years insane, ovariotomy and ventral fixation. 6. Chronic mania sixteen years' standing; ovaries enlarged and cystic, tubes adherent; removal of tubes and ovaries. 7. Delusional mania five years' standing: both ovaries removed, one a cyst of fifteen pounds. 8. Delusional mania two years' standing, trachelorrhaphy. Many other cases are referred to, all so successful that one is strongly impressed that those who are suffering and need an operation should be helped; yet the eminent authority, Dr. Percy Smith, of London, says, "he could not accept the views held by some American gynæcologists that the uterine appendages should be removed in insanity." Still we see that a certain number of patients are relieved of at least a portion of their distress. F. Claye Shaw in 1886,[1] speaking of one of his patients who was more violent during the periods, said: "I think the operation of oöphorectomy would have much relieved her symptoms." Dr. Smith stated that "in asylums in only a small proportion of cases in females was the mental disorder due to disease of the sexual organs."

I believe in no case is mental disease due to a disease of the sexual organs. Dr. Holmes, ex-president of the Canadian Medical Association, years ago came to the conclusion that "puerperal insanity is nearly always dependent upon some lesion of the generative organs." Yet there are millions of women who have lesions of the generative organs and no tendency to insanity.

Dr. Kellogg is of opinion that "pelvic disease in women may be, and at times is, the cause of insanity, and that the removal of the pelvic disease by operation is often followed by a relief or cure of the mental alienation."

This subject was presented before the British Gynæcological Society, January, 1900. The president, Dr. H. McNaughton Jones, made the address on the occasion: "The Correlation between Sexual Function, Insanity, and Crime." Dr. Jones is authority on all gynæcological questions. His work on "Diseases of Women" is one of the best published—comprehensive, accurate, and reliable. He scans every fact and brings it in line for medical instruction. In his address before the Gynæcological Society, after presenting the many different views, he says: "Personally I at present take the view that, in the great majority of cases in which there are gross lesions of the sexual organs present in insane women, and even when the lesion has preceded the insanity, there still has been pre-existing to the lesion what Robert Barnes well calls 'an antecedent nervous condition as a predisposing factor.'"

Let us glance for a moment at some of the causes of insanity as presented by various authors. E. Es-

[1] American Journal of Insanity, July, 1898, No. i., vol. v.

[1] St. Bartholomew's Hospital Report, vol. xxii., 1886, p. 105.

quirol in 1858 published a learned work on "Maladies Mentales," and in it he states that "the causes of mental alienation are as numerous as various." This work, he says, was the result of forty years of study. But this great scholar not being fixed by the fundamental fact that the brain is the organ of the mind wanders in much mystery, and gives a countless number of theories and untenable suppositions as the causes of insanity. They may be interesting, but lead only to more confusion in the scientific discussion of this most important subject.

His first cause of insanity is "climats," saying: "Cold climates are not those which produce le plus de fous, mais bien les climats tempérés." Then we might expect an army of insane people in all temperate climates. According to the table he gives, the greatest number of insane people are in May, June, July, August, and September.

Third cause of insanity, "âges." Esquirol says of insanity in infants that some vice of conformation or infantile convulsions may throw them into imbecility and idiocy; of the insanity of puberty, that in the young insanity may have a rapid march; that mental alienation may be divided relatively to age—imbecility for the infant, mania for the youth, melancholy for the aged, and dementia for the advanced age.

We do not find that the young or old as they approach any particular age have any special tendency to insanity.

Fourth cause of insanity, "sexe," as if mental disease was any more confined to sex than are chills, fevers, consumption, etc. The author says: "Cœlius Aurelianus asserted that women were less subject to insanity than men." This, says the author, was true at the time of Cœlius, is still true in Italy and in Greece, but in the north of France the contrary condition exists ("le nombre des femmes aliénées y est plus considérable que celui des hommes"). He tells us from 1745 to 1775 Raymond did not find the difference between the two sexes among the insane at the Hospital of Marseilles, and that in 1786 Tenon found there was almost an equal number among the men and the women in the public and special houses of Paris; in 1802 Pinel established the difference of one man to two female aliens in comparing Bicêtre to La Salpêtrière; that in 1807 and 1810, among the hospitals of the principal cities of France, there were found about six thousand aliens, five men to seven women.

The director of the Hospital of St. Luke reported that he received annually in the hospital nearly one-third more women than men. In the hospital of Berlin the proportion of men to women is one to two. In the hospital of Pennsylvania the proportion is the reverse, one woman to two men.

So we might go on in these endless endeavors. We would find continually varying proportions. Insanity is not controlled by sex, or necessarily found proportionally more in one sex than in the other. Just as well raise the question in regard to scarlet fever, how many female children have it and how many male. Richard Grundy[1] tells us that "Dr. Thurman, of York, England, and Dr. Jarvis, of Dorchester, Mass., agree that Esquirol's conclusions are based upon imperfect premises. Their investigations lead them to the conviction that 'males are somewhat more liable to insanity than females.'" He says: "The statistics of seventeen asylums in the United States show the admission to be in the following proportions: 38,416 patients, there were 20,233 males and 18,213 females."

F. E. Fodéré[2] says: "Among the many maniacs confined to my care a great number are of the female sex."

Esquirol gives the fifth cause of insanity, "temperament," and says: "The tempérament sanguine is one of predisposition to mania. The nervous and lymphatic temperament is favorable to the production of mania and monomania. Of two hundred and sixty-five aliens Haslam found two hundred and fifty whose hair was dark, and sixty who had light hair. In Pennsylvania Hospital out of seventy aliens only one had light hair, fifty-six had the eyes blue or light."

What has the color of the hair to do with insanity any more than the shape of the nose or size of the ear? Yet the author on page 40 says: "In general, those who have the hair dark, who are strong, robust, of a sanguine temperament are the maniacal, furious, the march of their insanity is more acute. Those whose hair is blond, who have blue eyes, a lymphatic temperament, become maniacal and monomaniacal, their *folie* passes easily to a chronic condition, and degenerates into dementia."

Sixth cause of insanity, "professions," manner of living. Those who give themselves up to study present a condition favorable to the development of mental alienation. He quotes Dryden as saying that "men of genius and fools are very near together," and says: "The frequency of *folie* always corresponds with the professions which make men more depend upon social vicissitudes, that Aristotle demanded to know why great legislators are all melancholic;" and M. de Humboldt is said to have seen very few aliens among the savages of America. Carr says he rarely saw one in Russia. Esquirol says in France there are less "*fous*" in the country than in the cities; that in England, where we find united all the excesses of civilization, *folie* is more frequent than elsewhere. The badly assorted marriages, or those contracted between parents above all in families in which there is an hereditary disposition to insanity, the habits of alcoholic drinking, etc., are the causes which multiply insanity in England. He quotes J. J. Rousseau as saying: "Without doubt civilization occasions some maladies and augments the number of others."

Is it reasonable to suppose there are proportionally more insane people among the educated, and among those most advanced in civilization, than among the uneducated and uncivilized? We have no means of knowing the number of insane people among the uncivilized nations, but we do know that the brain, like every organ in the body, will be more healthful by judicious and regular exercise. Exercise tends to balance the circulation and prevent localized congestions.

The author next tells us, "that excesses in eating should be placed among the causes of mental alienation." On page 50 he speaks on the influence of marriage upon the production of mental alienation. Marriage in itself is calculated to produce contentment, harmony, and happiness. Even if the marriage should prove unhappy, and there may be thousands that do, yet the parties do not necessarily become insane; and if insanity should occur in a happy or unhappy marriage, it is because there is a previous disease of the brain, or hereditary tendency thereto.

Seventh cause, "passions." Esquirol says: "Those which produce most frequently insanity are pride, fear, fright, ambition, and distresses from financial reverses." The author adds that heredity is the most ordinary predisposing cause of insanity, that children who are born before the parents become insane are less subject to mental aberration than those born afterward. The author continues: "Menstruation often produces mental alienation; leucorrhœa also insanity. Pregnancy is a cause of insanity, but sudden or violent *folie* is more frequent after confinement, and during the period of nursing (l'allaitement). At La Salpêtrière of six hundred insane women fifty-two had

[1] Columbus Review of Medicine and Surgery, August, 1860, p. 69.

[2] "Traité de médecine légale," 1813, vol. i., p. 209.

lost their reason after l'accouchement or lactation. Some females become aliens after each confinement."

Menstruation, pregnancy, and lactation are all normal functions and are not a cause of insanity; but, from disease of the brain, a woman may become insane while performing any of these functions.

Esquirol gives beautiful lectures on all the foibles of humanity, placing them as the causes of insanity, forgetting that there are millions who have all these foibles and do not go insane. He says: "Blows upon the head, even in earliest infancy, predispose to insanity." What child does not get repeated blows upon the head—do all become insane? He says: "First dentition if causing convulsion in infants predisposes to insanity."

He next gives the republican form of government as most favorable to the production of insanity, then names a number of affections and passions that lead to insanity, making almost every passion and every incident in human life a cause of insanity. Esquirol's work, "Les maladies mentales," is almost universally quoted, but probably it might have been better if the learned author had written not quite so many pages, or if he had prayed the beautiful prayer with which Benjamin Rush opens his book.[1] Rush says: "I humbly implore that Being whose government extends to the thoughts of all his creatures, so to direct mine, in this arduous undertaking, that nothing hurtful to my fellow-citizens may fall from my pen, and that this work may be the means of lessening a portion of some of the greatest evils of human life."

Dr. Benjamin Rush gives many causes mentioned by Esquirol. Rush's book was written in 1812, Esquirol's in 1858. Dr. Rush says: "I shall now mention climate, state of society, form of government, revolutions, and religion." He makes the same quotations from Dryden, Humboldt, and several others as appear in Esquirol's book. Dr. Rush says: "A predisposition to madness is said to be connected with dark-colored hair. Mr. Haslam informs us that this was the case in 205 out of 265 patients in Bethlem Hospital. Of nearly 70 patients who were examined in our hospital, in the year 1810, with reference to this fact, all except one had dark-colored hair. In the month of April, 1812, I requested Dr. Vandyke to direct his inquiries more particularly to the color of the eyes in the maniacal patients in our hospital, and he discovered that 56 out of 79 of them had light-colored eyes, of which number but 6 had fair hair. Women in consequence of the greater predisposition imparted to their bodies by menstruation, pregnancy, and parturition are more predisposed to madness than men."

Here I feel I must, in the cause of truth, differ from this great man. Neither menstruation, nor pregnancy, nor parturition predisposes to madness. Dr. Rush continues: "In St. Luke's Hospital in London, the proportion of women to men who had been admitted in a given number of years, is in the ratio of three to two. But this disproportion of women to men who are affected with madness is by no means universal. In a hospital for mad people in Vienna, 117 men were admitted in a given number of years, and but 94 women. In a hospital of the same kind in Berlin, twice as many males were admitted in a given time as females. More of the former than the latter have been admitted into the Pennsylvania Hospital. Certain climates predispose to madness, also certain forms of government."

Mr. Forbes Winslow[2] on many points agrees with Esquirol. He gives the "seasons" as a cause of insanity, and follows Esquirol in supposing there is more insanity among women, saying: "In England, and I believe in most other countries, insanity is more prevalent among women than among men. . . . The greater liability of the female sex to become insane is associated with other peculiarities worthy of consideration."

It is not "sex," that causes insanity, but the disease of the brain in either sex. On page 227 he says: "Domestic cares are the chief cause of insanity in women." Millions of women undergo the greatest labors and the most taxing domestic cares and show no tendency to insanity; indeed, it is not those who have the most domestic care who go insane. Mr. Winslow says, page 228: "Of course woman from her formation and the duties she has to perform in life is liable to become mentally unhinged." Then woman is imperfectly made, if, from her formation and duties, she is "liable to become mentally unhinged." Such an assertion is almost a libel on the Creator's wisdom.

Winslow says: "Drink is at the head of the real causes both of insanity and crime." Then he gives the moral and physical causes of insanity—pecuniary difficulties, domestic troubles, loss of relations, mental anxiety, overwork and worry, intemperance, accidents, sunstroke, privation, starvation, sexual excesses, pecuniary anxieties, and a host of other things.[1]

Winslow continues: "Among the tendencies that serve in fostering this malady, European civilization shows itself as one of the most potent. Mental alienation is scarcely ever met with among the Asiatics, or Africans, or among the savages of America. The number of insane people is largest in those countries where the most liberty is allowed. What we call European manners, social conditions and progress offer conditions which can be accepted only at the risk of our health and morals. At the present day there is more insanity than in the middle ages, there is less in Russia than in England and France, and there is very little among the Turks, Arabs, and in the uncivilized parts of the world. In those parts of the world where the mind has but little to occupy itself, there is less likelihood of mental derangement."

The tendency of all advancement in civilization, with improved conditions of public health, should tend to lessen the number of insane people. Dr. Henry Maudsley[2] says: "A higher mental development must tend to prevent insanity. The intellect suffers more from rusting and disuse than it does from its utmost use. . . . One fact," says he, "which the statistics of insanity in England has clearly shown is that the purely agricultural counties furnish the largest percentage of insanity in proportion to the population; that is to say, there is more madness where there are the fewest ideas, the simpler feeling, and the coarsest desires and ways."

In Pinel's great work, second edition, 1809,[3] we find given (page 11) the following causes of insanity: "Age, sex, climate, the manner of life, certain epochs

[1] "Medical Inquiries and Observations upon Diseases of the Mind," 1812.

[2] "Mad Humanity," by Forbes Winslow, London, 1898.

[1] Considering the vast number of causes of insanity, and the infinite number of cases, one will appreciate the kindly consideration of the superintendent of the Provincial Lunatic Asylum, of Toronto, Canada West, in planning for or thinking of the accommodation of the increasing crowd. He says: "Now if any one of these agencies may be regarded as adequate to the overthrow of reason how many lunatics should this province contain? Intemperance alone would people fifty asylums as large as our present one. Jealous husbands and wives would probably fill thirty. Political excitement would tenant a madhouse in every county and one of superior class and size in the metropolis. Religious controversy would send in half the clergy of this province, and large detachments of the congregations. Slander, excessive study, remorse of conscience, would leave few in Canada at large."

[2] "The Pathology of the Mind," 1896, p. 29.

[3] "Traité médico-philosophique sur l'aliénation mentale." Par Pinel, professeur à l'école de médecine de Paris, et médecin-en-chef de l'hospice de la Salpêtrière.

in the life of woman such as puberty, pregnancy, childbirth, et ce qu'on appelle l'âge critique.

On page 418 he says: "The most ordinary physical causes are: The original disposition, the suppression of periodical discharges, accidents during childbirth, the abuse of alcoholic liquors, blows upon the head. The moral causes: Terror, disappointed love, reverses of fortune, domestic trouble, and religious excitement, or exalted devotion."

Aretæus, who lived in the time of Vespasian (Homer and Hippocrates being the only authors he quotes) gives as causes of insanity: "Drunkenness, excesses of the table, venereal pleasures, or anything that causes obstruction to an habitual excretion. Occasionally women will become affected with mania from amenorrhœa."

Dr. T. S. Clouston, superintendent of the Edinburgh Royal Asylum, in his learned work[1] makes rather a new departure in regard to the technical names of insanity. He speaks of syphilis as a cause of insanity, calling it "syphilitic insanity." Syphilis in the system must affect the brain, as it does every organ in the body, but why call it "syphilitic insanity"? The author places alcohol among the most common of all causes, denominating one form "alcoholic insanity," and says: "There are few of the unfavorable conditions of life that cause more human degradation than the excessive use of alcohol." Of "rheumatic choreic insanity," he says that in many cases rheumatism was the true cause of both the chorea and the insanity.

He next gives, page 521, "uterine and amenorrhœal insanity." Can we admit such a technical name as scientifically accurate? With this mode of nomenclature we may have an infinite number of forms of insanity. The author speaking of "disorders of menstruation and their relation to insanity," says: "Two kinds of insanity resulting, acute mania and melancholia." Unnumbered women have disorders of menstruation without the least tendency to either of these two forms of insanity. The author next tells us that "disturbed menstruation is a constant danger to the mental stability of some women"—only to those who have some brain lesion or disease, or an inherited tendency thereto. The author says: "The constant difficulty the physician has, is to know whether the disordered or suspended menstruation is a cause of insanity or a symptom."

It is neither a cause nor a symptom. The cause of insanity is some disordered condition of the brain. Suspended menstruation may come from various causes of ill health. Many women have disturbed or suspended menstruation without the least indication of insanity, yet the author continues: "Insanity in some few cases actually results *de novo* from this as an exciting or predisposing cause."

Insanity comes only from some abnormal condition of the brain, therefore we cannot see that these cases can be termed "uterine or amenorrhœal insanity."

The author tells us, "the risks to the mental functions of the brain from the exhausting causes of menstruation, maternity, and lactation, from the nervous reflex influences of ovulation, conception, and parturition are often enormous."

Might we not just as well speak of the "enormous and exhausting causes" of continued breathing, the incessant action of the heart, and the unparalleled demands of the continued function of digestion, the constant demand for nutrition of the whole body, and of how they are "risks to the mental functions of the brain"?

All these are natural physiological processes, and certainly can be performed without any risks to the mental balance.

[1] "Clinical Lectures on Mental Diseases," T. S. Clouston, fourth edition, London, 1896.

Next we have in large type "ovarian insanity (old maid's insanity)." The author observes: "There is a somewhat ludicrous form of insanity that Dr. Skae called 'ovarian,' and more correctly I think, 'old maid's insanity.'" Both of these terms seem exceedingly inappropriate and unscientific. Dr. Clouston adds: "The disease usually occurs in unprepossessing old maids. The ovaries are not disturbed in function or diseased in structure."

Of insanity of masturbation, Clouston says: "The subjects will be found to have had early indication of brain disease, or a neurotic heredity." This explains why they are insane, and probably gives a reason for the vice named.

In lecture XV. on "puerperal insanity, lactational insanity, the insanity of pregnancy" the first sentence is: "Childbirth, nursing, and pregnancy in women are liable to act as exciting causes of mental disease." Can we accept the doctrine that normal functions act as exciting causes of mental disease? I challenge the whole theory. Then all women should be shut up in some immense La Salpêtrière.

The author says: "The regular performance of the reproductive functions is of the highest importance to the mental soundness of the female. Disturbed menstruation is a constant danger to the mental stability of some women." Aretæus said: "Mania from amenorrhœa." Pinel repeated that "pregnancy, childbirth, and suppression caused insanity." Krafft-Ebing, in conservative words, tells us the same. Esquirol more plainly declares: "Menstruation often produces mental alienation. Leucorrhœa also causes insanity."

Neither menstruation nor leucorrhœa has the power to change the structure or condition of the brain, therefore they cannot be a cause of insanity. It can also be shown that the brain affects the genital and other visceral organs more than these organs or their functions affect the brain. We see how the brain may quicken the heart's action, make more rapid breathing, hasten the circulation—sending the blood bounding with increased quickness, the flush on the face, the heat and excitement of the whole system. The mental agitation increasing, the heart with its immense machinery of muscles and multitude of blood-vessels may be overpowered, give way, and by the dominating power silenced into the stillness of death.

Continually we are realizing how the brain will disturb the process of digestion, and that mental excitement may take away the appetite, interfere with the secretion of the gastric juice, the bile, the secretion from the spleen, or so change the lacteal secretion as to produce in infants convulsions and death.

Great mental excitement many times causes excessive menstruation. It may even suspend menstruation. It may cause premature labor. A mother said goodby to her dying babe, and walked into the next room. Her great grief had stimulated to action all the immense muscular structure of the uterus and the whole system in sympathetic action, and she thus brought forth the child before its time. "When Phinehas' wife heard that her father-in-law and her husband were dead, she bowed herself and travailed; for her pains came upon her." It was grief in the mind that was producing the revolution in the system.

"Puerperal insanity." There is no insanity which should be regarded as necessarily belonging to the puerperal state. It is only possible that insanity may be developed at that time, and we will find the subjects of it have some inherited insane neurosis. The author says: "The pains of labor, the mental excitement and stress, the maternal emotions, the sudden diversion of the stream of vital energy from the womb to the mammæ." All this is normal. The author well adds "acting on an unstable brain hereditarily." That is the secret—acting on an unstable brain. And

the author further emphasizes the fact by saying: "I know a woman (page 552) K. B——, who had six attacks of puerperal insanity, having one after the birth of each child." We see the cause was in the patient. Another woman may have had twice six children and no attack of insanity. The author then gives another proof of the same—what he calls "a typical case of puerperal insanity. K. G——, æt. twenty-three; sister and aunt had been insane. The patient had pains in the head before delivery. On post-mortem, brain intensely congested." Here was the reason of the insanity, the hereditary tendency and the congestion of the brain.

Normal labor makes no insanity. Scripture says: "Thou art He who took me out of my mother's womb." Infinite wisdom devised the plans and fixed the laws, so there can be no imperfection by which insanity should ensue.

Clouston in his work on page 560 heads the chapter, "Lactational Insanity," and opens by saying: "Nursing in woman is a cause of mental disease sometimes." Lactation is a normal function, not necessarily attended with any ill health, nor does it cause insanity or mental disease. Women become insane during lactation only because of some brain lesion. As confirmatory of this, the author, on the next page, gives "a typical case of lactational insanity." The patient "had headaches, noises in the ear, giddiness, flashes of light before the eye." All these are indications of some local disease of the brain.

The next chapter is headed "The Insanity of Pregnancy." The first sentence is: "Few women carry a child without being influenced mentally thereby in some way or another." They are influenced mentally by the coming joy, the added responsibility, and how best to care for and promote the happiness of the little one. The author continues: "In this state (pregnancy) many women have endless caprices, unfounded dislikes, causeless weeping and laughing, stealing, lying, etc." I can't see that unfounded dislikes, stealing, and lying are symptoms of "this state." Yet the author asserts that "a considerable number of women are mentally unsound during pregnancy." All this may be true of women in the Royal Asylum of Edinburgh, but it is not so with women of the outside world. If insanity results from pregnancy, then there has been a sad failure in the formation of women. Insanity may be developed during pregnancy, but only in those women who have some insane neurosis. The author, as if to prove this point, says: "I have a patient K——, who has been five times pregnant, and five times insane, each time during pregnancy." Many other women may be twice five times pregnant, and yet not one time insane. The author further substantiates the fact by saying: "I had one patient who had six different attacks of insanity, two of pregnancy, two puerperal, and two of lactation—in each she was most determinedly suicidal and homicidal, strangling and killing her first child, and attempting at least six different times to take her own life."

The insanity in each individual case results from a state of the brain, not from the physiological functions the patient may be performing. As further to prove this point, the author gives two more instances of puerperal insanity. "One, K. M——, thirty-four years old, with an *insane heredity;*" the other "K. O——, thirty years old, and *hereditary history of insanity.*"

In lecture XVI. on "The Insanities of Puberty, Adolescence, the Developmental Insanities" the author says: "Puberty is the first really dangerous period in the life of both sexes as regards the occurrence of insanity; but is not nearly so dangerous as the period of adolescence a few years afterwards, when the body as well as the functions of reproduction have more fully developed."

Neither puberty nor adolescence is a dangerous period, and at neither period is there in the normal processes any tendency to insanity. Nor are there any insanities that are an outgrowth of, or that necessarily accompany, physiological development, which should be called, "developmental insanities." Would not this put a note of interrogation as to the wisdom of our formation? It is only that insanity may occur during these periods in those who have already disease of the brain, or an inherited predisposition thereto. The process of normal development gives no "peril to the healthy mental balance."

The author next says: "The following is one of the most characteristic cases of early insanity of puberty I have met with: K. P——, aged eleven and one-half years. His mother had an attack of puerperal insanity (mania), and attack of acute delirious mania, and she died melancholic. An elder brother at the age of nineteen had adolescent insanity (mania), and became demented. A sister became insane, and another sister was devoid of all moral feeling or self-control."

Does not all this explain why the boy had insanity at puberty, or at any other period? It was an inherited predisposition; and from such cases the conclusion should not be drawn that "puberty is a dangerous period as regards the occurrence of insanity." Puberty has nothing to do with the origination of insanity. It was an inherited mental disease in the boy, and in consequence, as is stated, he had five attacks; yet the author says: "I look upon such a case as an example of the evolution of a new function." Does nature then evolute a new function by producing, or accompanying it with, 'attacks of insanity"? The author incidentally remarks it was "a brain strongly predisposed by heredity to insanity." This explains.

Dr. Clouston next gives a remarkable case of adolescent insanity, as he says, "terminating in recovery." The following is the history, and in the same line are revealed the fundamental facts: "The boy had neurotic heredity, his mother having had puerperal mania after the birth of almost every child, his father having been nervous, two sisters and one brother having attacks of mania."

Does not such an heredity sufficiently explain the "adolescent insanity"? On the next page the author says of this patient: "His whole mental state suggested secondary dementia. . . . It seemed to be in truth a toss up between recovery and dementia. . . . Fortunately," continues the narrative, "the recuperative power of his brain and constitution prevailed. . . . In six months from the commencement of his illness he was quite well in mind and strong and stout in body." When I had read thus far, I made the note: The boy will probably have "adolescent insanity" by the time he is forty or fifty years of age. The narrative continued: "He became insane in eighteen months, recovered, kept well for a time, then had another attack of mania, which ended in secondary dementia."

It was clearly a case of hereditary insanity. The author says: "Another case of adolescent insanity, heredity very neurotic, mother very nervous, aunt insane, and father drunken. He sank into dementia in about two years."

Of a similar case the author asserts: "There seemed absolutely no exciting cause whatever for the attack but the completion of the period of adolescence"; yet Dr. Clouston states: "He came of one of the families of the fishing village of New Haven, that must have had some very unstable mental stock introduced into them many generations since, and in many of which now there is an enormous amount of insanity or epilepsy."

Why attribute this case of insanity to "adolescence," when here is the efficient cause? Adolescence is not a cause of insanity.

Causes of insanity as presented by Dr. Regis.[1] Dr. Regis says: "There exists in no part of the economy a sympathy more intimate than that which connects to the nerve centres the organs of generation, and it is not rare to see the processes physiological and pathological of these organs determine some intellectual disorders which go even to madness or insanity, and in particular à la puberté, à la menstruation, à la menopause et aux affections locales de l'uterus et de ses annexes."

I do not believe the physiological processes or functions of the organs of generation ever cause madness or insanity; and not one developmental process has a tendency to, or does lead to, insanity. The insanity is from some other cause.

The author says: "The physiological disorders connected with puberty are various." He then gives a long list, adding: "Above all the young boys are awakened to a very marked propensity to suicide, wicked tendencies, impulses to robbery, to incendiarism, and to murder." Continues the author: "Other phenomena more grave may join these and lead to a veritable state of mental alienation."

Puberty is normal development; there can naturally be no insanity or psychological disease connected with nature's normal processes.

Next Dr. Regis speaks of menstruation (folie menstruelle) insanity, and says: "With most females, even in physiological condition, the return of menstruation is accompanied each time by trouble, intellectual and moral." Adding: "During menstruation females are subjected to singular caprices, fantastic tastes . . . some have a spontaneous tendency to wrongdoing, and give themselves up to irresistible impulses."

All these views may seem to be very scientific as one passes through the wards and immense halls of La Salpêtrière. But outside of that hospital there is a great big world, and there are untold millions of women who pass through the menstrual period without any of these psychical symptoms, or any form of menstrual insanity. Normal, healthful menstruation is accompanied by none of these supposed changes. I have seen hundreds of women pass through this period without the least pain or disturbance, mental or physical. I have seen thousands of young girls, at different schools and colleges, going regularly through the function of menstruation without the least trouble, intellectual or moral. Nearly ten years I spent in colleges for young women, over three years I was a student, and six years a professor of physiology and belles letters, and subsequently for many years had charge of a young ladies' boarding-school. Thus many thousands of young women came directly under my observation, and never had they thought of such a thing as intellectual or moral trouble during the period of menstruation. With hundreds and hundreds of young girls each year menstruation passed off so quietly that it was not thought of or recognized, nor was the time of its occurrence known. The young ladies continued just the same at their studies, and were apparently just as ambitious to excel, and answered just as brilliantly in their recitations.

Dr. Regis says: "Authors have reported a certain number of cases of insanity connected with the menstrual period, which can leave no doubt of the reality of its existence."

If there were many more cases cited, that would not prove the rule, and no such conclusion should be drawn. They were all insane people. If normal menstruation had a tendency to produce insanity we might well doubt and fear the results of any normal function of the whole body.

[1] Journal de médecine de Bordeaux, vol. xiii., 1884, p. 413. Also, "Dictionnaire encyclopédique des sciences médicales," Paris.

The author continues: "As to the troubles of this function, and notably the suppression of menstruation and dysmenorrhœa, their action upon the intelligence is more evident and more frequent still, and it leads also frequently to folie, to theft, to incendiarism, to homicide, to periodic dipsomania, but above all there is the impulsion to suicide which predominates in this variety of alienation."

The author quotes Esquirol. As H. R. Storer[1] says: "Each successive text-book has repeated the errors, or many of them, of its predecessors."

In my large and extensive practice of over thirty years, though I saw many sick women suffering from menstruation, which most frequently I found a symptom of more serious conditions, yet I never found, with the exception of the four cases referred to, one woman who gave any indication of the least mental or intellectual trouble.

"Folie de la menopause." Dr. Regis says: "The menopause, so justly called the âge critique, is a period dangerous to pass through for many women, and it is very frequently the occasion of perturbations intellectual and moral, and psychological changes which can go even to madness or insanity. . . . It is not doubted that among the most part of women, normal or not, the time critique leads to revolutions more or less profound of the organism, and that among some these modifications of intelligence attain the proportion of true insanity."

The menopause is not a dangerous period to pass through, many women pass through it without the least disturbance. The author continues: "Above all there is a tendency to dipsomania, to theft, to homicide, to incendiarism, but still more to suicide."

This is almost a libel on the natural formation of one-half of the human race, that such manifestations should take place in natural physiological processes. Can any one recognize it as reasonable that there is a tendency to madness in the normal suppression of menstruation? No function when it is normal, or the normal change of the system, goes naturally to insanity.

The author next speaks of the local affections of the uterus and the uterine adnexa, saying: "If the physiological processes which have for their point of departure the organs of the genetial organization are frequently the object of intellectual troubles, the maladies of these organs are perhaps more frequently so."

I have seen many women with the worst forms of disease of the uterus and the uterine adnexa and not the least indication of intellectual disturbances. Among all the women I have attended for diseases of the genetial organization, I have found only four with a tendency to insanity, and they had not the worst forms of these diseases. Besides I have reason to believe they had manifestations of insanity before the development of these troubles.

Causes that by changing the structure of the brain may produce insanity. Recognizing that the brain is the organ of the mind, and that abnormal conditions or diseases of the brain are the causes of insanity, our next question is, What are some of the causes that will more directly produce these abnormal or diseased conditions in the brain structure? Such morbid changes, however produced, will be found to be the true causes of insanity.

I will name first heredity. Heredity may change the normal structure of the brain, producing permanent defects and degenerations. Heredity determines, in a large measure, the character, form, power, and constitutional tendencies of a child's brain. Mental defects in the parent, insane neuroses, or neurotic tendencies will leave their mark and impress on the young brain, probably producing various tissue

[1] H. R. Storer · "Insanity in Women," 1871, p. 27.

changes. While a good heredity may give a breadth, a light, a clearness, and a joy to this wonderful formation, a bad heredity will stunt it, darken it, make its nature less fine, and leave upon it its sad impressions and imperfections. Children are what their parents are. From whom else can they get their physical formation, or constitutional tendencies, or their make up? They partake of the conditions of their parents, inherit their physical and mental characteristics, and their defects.

These physical and mental defects may decide the character of the descendants. A parent may have untoward conditions from unhealthful living or previous inheritance, and the children will take on these conditions. A violation of the laws of health, in time, makes physical changes in the constitution of the parent. These physical changes or degenerations of one kind or another the children inherit.

Whatever disease or ailment our parents or ancestors may have, a tendency to it will be reproduced in the descendants. The condition of the brain of the parent or any changes in it from untoward circumstances may, in the child, become a constitutional imperfection. Scripture says: "The fathers have eaten sour grapes, and the children's teeth are put on edge." Other momentous words are: "The sins of the parent are visited upon the children to the third and fourth generation." Hippocrates wisely said many years ago: "Where is the malady with which the father or mother is afflicted that affects not the children?" And speaking of epilepsy, he says: "It is as the other maladies, by heredity."

The peculiar make-up necessary to produce any disease may be given by heredity. Thus from inheritance some brains are naturally better than others, have less liability to disease, and are less predisposed to abnormal conditions. So some, by inheritance, have better and stronger lungs, healthier hearts, and stomachs less predisposed to disease. When the lungs are small and contracted, slight causes may bring on disturbances, and induce most serious conditions. Hearts that are feeble in their action, one part or another being diseased or defective, may even from slight excitement have most serious results, as stomachs naturally predisposed to disease may have most distressing forms of indigestion.

A tendency in the parents to disease, or any evil predisposition may be inherited, as one auther says: "I know now the history of one family in which there has been insanity for five generations, and of another family in which it has been for four generations."

The records of all insane asylums show that one-third or one-half of the insane patients have hereditary taint of insanity. If the true history could be ascertained, probably it would be found that all have this taint; and probably the reason why there are so many insane persons in the various asylums in the world is the propagation of this insane neurosis. It may skip a generation, but it is still there. It is a cause that always operates. Moreau de Torey says that "nine-tenths of the cases of insanity come from inheritance." Dr. Edward Jarvis[1] said: "According to the British reports, twenty-two per cent. of all whose history could be ascertained, owe their lunacy solely to hereditary taint." Pinel said in 1809: "In many successive generations some one of the members of certain families have attained this malady."

Henry Maudsley says: "The insane neurosis, which the child inherits in consequence of its parents' insanity, is as surely defect of physical nature as is the epileptic neurosis to which it is so closely allied. Past all question, it is the most important element in the causation of insanity."

A second cause of brain injury that may result in insanity is: "The use and abuse of alcoholic liquors." This is universally given as a cause of insanity. It causes insanity by changing and injuring the brain structure. Prof. Charles L. Dana in his excellent work[1] says on page 25: "Excessive indulgence in alcohol is a most prolific cause of nervous disease." An editorial in the *British Medical Journal*, page 848, 1900, says: "Alcoholism is responsible as an etiological factor for twenty-five per cent. of all male cases of insanity admitted to our asylum."

There is a large record that cannot be put down, how alcohol is silently doing its work of evil, poisoning and making the most deleterious changes in the brain structure. A few years ago I was making microscopical investigations in the minute anatomy of the pathology of the kidneys, and I clearly saw how during life the millions of fine cilia were destroyed and rendered inactive in those who habitually use alcoholic drinks. In the same manner the fine structures of the brain may be injured and made inactive. Alcohol hardens and deadens the wonderful complexity of fine fibres, so that they cannot respond with their more than electric quickness and brightness; and an untold injury does it do to these marvellously complex structures, the convolutions of the brain. We cannot weigh or measure the immensity of these injuries.

Alcohol has its deleterious effect upon all the vital organs, and, in a measure that we cannot conceive of, disturbs the secretions and excretions, and thereby does direct and indirect damage to the whole system. It benumbs the brain, deadens the perceptions, and no child of a drunkard can be as bright as he or she otherwise would be. The drunken man has not his normal mental faculties. As one says: "Drunkenness, a brief chronicle of insanity, winding up with a temporary dementia." Benton said: "If a drunken man gets a child, it will never likely have a good brain." One of the leading physicians in America showed by his statistics that "out of three hundred idiots, whose history could be traced, one hundred and forty-five were the children of drunken parents. . . . I may state that quite thirty per cent. of lunacy in all parts of the universe originates in habits of intoxications."

But the most serious of all: We must recognize the great facts of physiology—children take on the then conditions of the parents. The temporary condition of either one may affect the child. The father is in a drunken stupor, this "temporary insanity" is transmitted, not the otherwise brightness of his ordinarily active mind. Yesterday, as I hastily passed along the street, on the pavement was lying a man in a dead drunken stupor. I had never before had the opportunity of looking into the face of a man while drunk, so by a hasty glance I learned all I could. The head was lower than the body, the face red and purplish. His brain was wonderfully shut up and benumbed in this insanity of intoxication. The child begotten has little brains, can't have much vigor of constitution, is a true impress of this temporary dementia, and notwithstanding the public-school training the child may still be stupid, ignorant, and with an unsteady mental balance. Unnumbered instances —how many thousands of children—are thus injured! Deprived of their natural birthright, their rightful inheritance, losses of inestimable value which time nor eternity can make up! The light they might have had, the clearness, the broad comprehension, where there is now darkness and an inability or imbecility. What a devastation! A consideration of these things is the greatest and most powerful lecture that can be given against drunkenness. It is a crime against their own children, and it is the destruction of future generations. The London *Lancet* in an editorial (August

[1] Norfolk Medical Society, Massachusetts, May 14, 1861.

[1] "Text-Book on Nervous Diseases," 1897.

11, 1900, page 411) said: "The intoxication of married couples on their wedding night has been believed to result in the production of offsprings suffering from imbecility or other forms of cerebral disease." Still goes on the injury to the bright spirits that should come without a flaw, stain, or drawback.

Considering all this, is it any wonder that insanity is on the increase, and that the children of drunken parents go insane, or are in a measure idiotic? All of which tells on the advancement of the human race, on the country's resources, and on the history of the world.

The third cause of deterioration of the brain, and indirectly tending to produce insanity, is the condition of the stomach and the state of digestion. If the digestion is not good, not so good nutrition is carried to the brain, the brain cannot be as well nourished or make as good tissues; and the results of this continued indigestion may, and gradually does, change the structure of the brain. The brain cannot be as sound or healthy, and thereby insanity may ensue.

As to the "correlation of the genital organs and functions in women with the brain or with insanity," there are other organs in the body that more decidedly and more directly affect the condition and health of the brain, and produce more marked anatomical changes, and more serious results than can possibly come from the sexual organs and their functions.

Fourth cause: An abnormal and unhealthy condition of the general system. Thus any organ in the body may be more or less diseased. Ancient physicians seem to have caught a glimpse of this subject when they speak of splenic difficulties, etc. Continued inactivity of the bowels and constipation would most deleteriously affect the nutrition and texture of the brain. It is impossible that the brain should have as good nourishment, or be made of as healthful material when there is habitual constipation.

Fifth cause of injury to the structure of the brain, and thereby a cause of insanity. Diseased lungs, and breathing of bad air. If the lungs are not fully expanded, the blood is not thoroughly purified, and a more or less diseased condition of the brain must necessarily ensue. The breathing of impure air tends to make tubercles and phthisis and an unhealthful condition of every tissue of the body, and will similarly affect the brain. The brain will necessarily be deteriorated in structure. I can but think this breathing of foul air is one of the most fruitful sources of injury to the texture of the brain and produces an unhealthful, diseased condition of that organ. By impure air the brain suffers as do other organs of the body. It is everywhere recognized that impure air produces in many persons scrofula. Lugol found insanity to be by no means rare among the parents of the scrofulous and tuberculous. Schroeder van der Kolk was of opinion that hereditary predisposition to phthisis might develop into or predipose to insanity; and, on the other hand, insanity predisposes to phthisis. We need not wonder then that authors so often notice the fact that insane patients are consumptive. Clouston says: "The frequent association of scrofula with idiocy and congenital imbecility is well known." Both may result from the same cause, as I have stated; breathing impure air will cause consumption, and tends to produce pathological changes in the brain.

Clouston also calls attention to the common occurrence of pulmonary phthisis as a cause of death among the insane, and says that it has been noted by those having charge of the older lunatic asylums.[1] Maudsley says: "Tubercle is often found in the bodies of the insane who have died without ever having been thought to have tubercle," adding: "The frequency of phthisis among the insane in asylums is great, but the inference that insanity directly predisposes the phthisis has been invalidated by proof."

Insanity does not predispose to phthisis, nor does phthisis predispose to insanity, but the same cause may produce them both. Maudsley asks: "Does insanity affect the progress of phthisis?" The seriousness of the existing conditions decides as to the progress of either disease.

Sixth: Another prolific cause of disease of the brain is unbalanced circulation. A whole world of meaning is in this. If we could only weigh or measure its import! The question of the fundamental principles of health and hygiene does not seem to have been especially dwelt upon in relation to diseases of the brain. We must come back to first principles. The brain is a physical organ of the body, and is controlled by the same laws of health as are other portions of our physical being. If the external skin, the feet, and extremities are cold, the blood will be driven from these parts and necessarily congest in other portions of the body. The blood is where it should not be, and frequently from this results more or less congestion of the brain. Congestion is the first condition of brain disease, and then may follow inflammation; and from the inflammation may in time be developed fibrous tissues and atrophy, or more serious conditions of disease, suppuration, abscess, or any abnormal formation. Dr. Benjamin Rush tells us that as one of the first symptoms "there is a sense of fulness, and sometimes pain in the head." This would be a direct result, and one of the first indications, of too much blood in the brain. Dr. Rush's theory is that "madness is seated primarily in the blood-vessels of the brain." Certainly in congestion and inflammation we always find the blood-vessels more or less changed. I have studied various diseased tissues under a power of 300, 400, 700, and 1,000. The blood-vessels always were changed according to the state and chronicity of the inflammation. All this may be the direct result of unbalanced circulation.

M. Parchappe remarks that "in acute insanity the prominent alterations are hyperæmic conditions." This would be directly produced by unbalanced circulation; and, if the hyperæmia continues, then we have, as Parcheppe terms it, "chronic insanity; the predominant alterations are atrophy of the convolutions and induration of the two substances."

If the congestion continues there would be first inflammation, then some other abnormal conditions may be produced, or the inflamed tissue may change to fibrous connective tissue, then we will have what is called chronic atrophy.

Any or all of these conditions may follow directly from unbalanced circulation in the system.

The external skin is an immense circulatory apparatus. A pin point cannot enter it without wounding or rupturing some blood-vessel. From some cause this circulation may become unbalanced; the blood is driven from the external skin; consequently too much in some other portions of the body, centering on the brain, may produce a fatal apoplexy or sudden death.[2] Or a slow congestion may gradually change the structure of some portion of the tissues of the brain, and thereby may result some brain disease and some form of insanity. Thus, I think, it can be proved that the

[1] Clouston terms it phthisical insanity. Maudsley in his work rightly objects to Dr. Clouston's term, "phthisical insanity," asking: "How then rightly style phthisical a clinical variety of insanity? The name phthisical cannot, I think, be accepted as convenient to designate a clinical group and succession of symptoms. There is no phthisical insanity anywhere." Maudsley does not seem to object to Clouston's other instances of this method of nomenclature for insanity when there is even more reason.

[2] Ellis says: "A very trifling alteration may produce the most important results, as in apoplexy the sudden extravasation of a small quantity of blood causes death."

external skin has more correlation with the brain, more power over it, more effect upon its condition, and more capability of producing insanity than the ovaries possible can have, with all their "menstruation," "ovulation," etc.

The first principles of the laws of health—good digestion, the breathing of pure air, a well-balanced circulation, maintained by suitable warmth and sufficient exercise—are essential to the health of the brain, and are really prophylactic and curative of insanity. It would be a beautiful problem to study the direct effect of regular exercise in the open air, not only in balancing the general circulation, but making a healthful circulation in the brain.

An eminent scholar who had written many books said, on his deathbed, that all his knowledge and learning were comprehended in the one simple direction: "Keep the feet warm, head cool, and the bowels open." Certainly to promote the health of the brain we must think of these first principles. Many diseased brains, if carefully attended to in time, may thereby be restored to health. Following this direction and the ordinary laws of health have much to do with preventing and curing insanity. The touching and beautiful words of the eminent and distinguished Dr. Benjamin Rush come in here. He says:[1] "I should lay down my pen, and bedew my paper with my tears, did I not know that the science of medicine has furnished a remedy for it. Blessed science! Which thus extends its friendly empire, not only over the evils of the body, but over those of the mind of the children of men."

ANALGESIA IN CHILDREN BY SPINAL INJECTION, WITH A REPORT OF A NEW METHOD OF STERILIZATION OF THE INJECTION FLUID.

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NOTWITHSTANDING the general employment of both chloroform and ether, over a long period of years, frequently there arises discussion as to the relative drawbacks in the employment of both of these anæsthetics. The advocates of each endeavor to prove the dangers attending the use of the other. While the profession believes strongly in the general usefulness of both of these remedies, the majority is convinced that there are cases in which either is liable to do harm. The presence of a marked kidney affection, acute inflammation of the bronchi, advanced pulmonary conditions, as well as pronounced arteriosclerosis, causes the surgeon no little apprehension concerning the use of any anæsthetic in such patients. While this does not apply so fully to children, still there are occasional cases when some substitute for ether or chloroform is greatly needed. Such an instance has occurred recently in my own practice, when a child had not been able to bear well the use of ordinary anæsthetics, and I resorted to spinal injection of cocaine with gratifying results. This has led me to a further study of the "Corning-Bier[2] method," especially in children in whom hitherto nothing has been done for those under eight years of age. The youngest cases recorded, so far as I know, were: by Murphy, a patient of eight years; by Bier, Lugueu, and Kinderdjy, who each reported one at the age of eleven; by Tuffier one at twelve, and by Seldowitsch one at thirteen. The following patients, which I report, range in age from two and a half to eleven years.

CASE I.—A. S——, male, aged nine years; strong healthy boy of moderate size but rather nervous temperament. Deformity of the left hip.

Cocaine analgesia, October 27, 1900. Place of puncture to the right between the fourth and fifth lumbar vertebræ. Amount of cocaine ℥ x. of a one-per-cent. solution. Injection complete at 11:39 A.M. Nausea and vomiting at 11:40 A.M., but none thereafter. Analgesia up to the level of the diaphragm at 1:42 A.M. The operation lasted twenty minutes, and consisted of a four-inch incision over the trochanter major, thoroughly exploring the hip joint. The patient complained of no pain and was quiet or talking to the nurse while the surgeons were at work. Before operation, temperature, 99.4° F.; pulse, 100; respiration, 28. One hour after operation, temperature, 99°; pulse, 92; respiration, 28. Analgesia disappeared completely at 3 P.M. During the afternoon the patient was fretful and complained of headache. Some milk was taken and retained during the afternoon. A small dose by mouth of acetanilid, sodium bicarbonate, and caffeine citrate gave a restful night.

October 28th: Slight afternoon elevation of temperature. The patient seems natural and has no headache. October 29th: No after-effects from the analgesia are left. December 1st: The patient is perfectly well.

CASE II.—J. J——, female, aged four years ten months; a healthy child of large size and very nervous temperament. Umbilical entero-epiplocele, size of a small hen's egg. (The parents were unwilling to use a mechanical support and insisted upon an operation.) The usual radical operation was done.

Cocaine analgesia, October 28, 1900. Place of puncture to the right between the fourth and fifth lumbar vertebræ. Amount of cocaine ℥ viii. of a one-per-cent. solution. Analgesia to the level of the diaphragm in two minutes. A return of the pain sense over the operative field in eighteen minutes necessitated a temporary discontinuance of the operation and a second injection. This was made to the left but between the same vertebræ as before, and consisted of ℥ vi. of the one-per-cent. solution. Analgesia to the level of the diaphragm in two minutes. Slight nausea and vomiting occurred directly after each injection. At times during the operation the patient was somewhat hysterical and cried as if in pain, but careful tests proved that the analgesia was complete. Before operation, temperature, 98.8°; pulse, 136; respiration, 30. One hour after operation, temperature, 99.2°; pulse, 140; respiration, 42. Analgesia disappeared completely in three hours from the second injection. The patient complained of headache, but had no nausea or vomiting. She retained a small quantity of milk during the evening.

October 30th: She has passed a comfortable night. No after-effects of the injection are present. December 1st: Convalescence has been uninterrupted.

CASE III.—R. K——, male, aged nine years; general condition only fair. Tuberculous caries of the ilium with inguinal sinus.

Cocaine analgesia, November 2, 1900. Place of puncture between the third and fourth lumbar vertebræ. Amount of cocaine ℥ xv. of a one-per-cent. solution. Analgesia to the level of the diaphragm in two and one-half minutes. In twelve and one-half minutes the loss of the pain sense had extended to the third costal cartilage in front, to the base of the spine of the scapula behind, and laterally over the axillæ and upper extremities to the middle of the forearm, excepting the deltoid regions. Slight nausea and vomiting occurred four and one-half minutes after the injection

[1] "Medical Inquiries and Observations upon the Diseases of the Mind," by Benjamin Rush, 1812, p. 95.

[2] Corning in his book on "Pain," published in 1894, reports cases of cocaine injection into the cauda equina for the relief of spinal irritation. This was years before Bier began his experiments.

was completed. Operation, consisting of an enlargement of the sinus and thorough curettage of the cavity with removal of some dead bone, was done without any pain or apparent nervousness. Before operation, temperature, 99°; pulse, 80; respiration, 24. One hour after operation, temperature, 98.4°; pulse, 80; respiration, 22. Four hours after operation, temperature, 101°; pulse, 124; respiration, 24. Analgesia disappeared completely two and one-half hours after injection. Headache was present for twenty-four hours but was controlled by acetanilid, caffeine citrate, and sodium bicarbonate. He vomited twice during the first night. There were no other after-effects to record.

December 1st: The patient is doing very well.

Case IV.—E. R——, female, aged two and one-half years; a strong, healthy child. Severe congenital talipes equino-varus with considerable genu varum of the right leg.

(1) Cocaine analgesia, November 2, 1900. Place of puncture to the right between the third and fourth lumbar vertebræ. Amount of cocaine ♏ vii. of a one-per-cent. solution. Involuntary stool in seven minutes and analgesia to the level of the diaphragm in twelve minutes from the completion of the injection. The operation lasted thirty minutes and consisted of an osteotomy of the right tibia, and an open tenotomy of all tendons behind the right internal malleolus. (Not wanting to overtax the child, I decided to let the left talipes remain until another time.) No vomiting or pain was experienced, and the condition of the patient after the operation was as good as before. A few moments after the injection the child's attention was absorbed in a new doll, which was presented to her on this occasion. Even the rough handling necessary in the forcing of the foot into the normal position did not cause any apparent discomfort. Before operation, temperature, 98.8°; pulse, 136; respiration, 30. One hour after operation, temperature, 99.4°; pulse, 132; respiration, 36. Analgesia disappeared about two hours after the injection. She passed a restless night.

November 4th: No after-effects are present.

(2) Eucaine analgesia, November 20, 1900. Place of puncture to the left between the third and fourth lumbar vertebræ. Amount of eucaine ♏ vii. of a one-per-cent. solution. Analgesia to the level of the umbilicus in ten minutes and gone in eighteen minutes. Second injection to the right between the third and fourth lumbar vertebræ. Amount of eucaine ♏ xv. of a one-per-cent. solution. Analgesia to the level of the diaphragm in five minutes. Not feeling sure of how long the eucaine would act, and being unwilling to use more of the drug at this time, I dressed the right leg and foot, thoroughly stretching the soft parts. No vomiting or pain appeared, but the patient seemed far more nervous than after the cocaine. Analgesia disappeared twenty minutes after the second injection. Before operation, temperature, 98.8°; pulse, 112; respiration, 26. Three hours after operation, temperature, 101.2°; pulse, 108; respiration, 24. Some headache was present for a few hours. She vomited once.

November 21st: No after-effects are noted.

(3) Cocaine analgesia, November 27, 1900. Place of puncture between the third and fourth lumbar vertebræ. Amount of cocaine ♏ x. of a one-per-cent. solution. Analgesia to the level of the diaphragm in seven minutes. The operation for the left talipes was the same as that done for the right, but no osteotomy was required. The patient was somewhat nervous and cried at times, but tests showed absence of pain during operation. Analgesia disappeared in a few hours, but the exact time was not taken. Before operation, temperature, 98.4°; pulse, 116; respiration, 26. One hour after operation, temperature, 99.6°; pulse, 50; respiration, 32. Some headache and restlessness were present the first night.

December 1st: She is doing well. No after-effects are noted.

Case V.—F. B——, male, aged nine years; epileptic. Congenital malformation of the glans and prepuce with slight hypospadias.

Cocaine analgesia, November 3, 1900. Place of puncture between the third and fourth lumbar vertebræ. Amount of cocaine ♏ xii. of a one-per-cent. solution. Analgesia to the level of the diaphragm in six minutes from the completion of the injection and at the same time slight nausea and vomiting occurred. The operation consisted of circumcision and meatotomy and lasted ten minutes. No pain or nervousness was noted. Before operation, temperature, 99°; pulse, 80; respiration, 24. One hour after operation, temperature, 99.6°; pulse, 130; respiration, 34. Analgesia was entirely gone two hours after operation, and seven hours afterward the patient had three slight epileptic convulsions, which were repeated a number of times during the night.

December 1st: Since the first sixteen hours after operation no epileptic convulsions have occurred, and the convalescence has been uninterrupted.

Case VI.—F. V——, male, aged seven years; in very poor general condition. Slight lumbar kyphosis and large psoas sinus with small inguinal opening.

Cocaine analgesia, November 3, 1900. Place of puncture to the right between the twelfth dorsal and first lumbar vertebræ, thus avoiding the site of the spinal curve. Amount of cocaine ♏ ix. of a one-per-cent. solution. In nine minutes after the injection analgesia was present over the entire body, except a space bounded behind by the posterior fontanelle, in front by the point of the chin, and laterally on each side by the angle of the jaw, the malar bone, the temporal ridge, and the parietal boss. Some nausea and vomiting occurred for a few minutes after the injection. During operation, which consisted of enlargement of the sinus, curettage of the bodies of the third and fourth lumbar vertebræ, besides a circumcision, the patient was free from pain and showed no sign of nervousness. He answered questions and showed full command of all his faculties. Analgesia disappeared in one and three-fourths hours. Before operation, temperature, 98.4°; pulse, 126; respiration, 34. One hour after operation, temperature, 100.6°; pulse, 108; respiration, 36. The headache was controlled by medication. He vomited twice during the night. The pulse was good.

November 4th: The child is restless at intervals and cries out. An ice cap is applied. Sodium bromide is given in small doses. The bowels are thoroughly opened.

November 5th: He seems stupid, and apparently is unable to express his desires in words. He does not move the right arm and hand, and the legs are drawn up. There is a slight elevation of temperature, with weak and rapid pulse.

November 6th: He continues stupid, does not talk, and there is very little movement of the right arm. The pulse demands stimulation. Strychnine and digitalin in small doses are given by the skin.

November 7th: He is improving.

November 8th: He is slowly gaining. There is slight movement of the right arm.

November 10th: He raised himself up in bed, and is brighter. The legs can be extended. He is moving the right arm.

November 12: Medication is discontinued. The pulse is strong.

November 15th: He is beginning to talk a little.

November 16th: He seems well, and speaks with no difficulty.

December 1st: He is in excellent condition, better than before operation.

Case VII.—A. F——, male, aged eleven years; in a fair general condition. Tuberculous ostitis of the head of the tibia with discharging sinus.

Eucaine analgesia, November 22, 1900. Place of puncture to the right between the third and fourth lumbar vertebræ. Amount of eucaine ℥ xxx. of a one-per-cent. solution. In four minutes after the injection a short period of nausea and vomiting occurred, and in seven minutes there was complete analgesia to the level of the diaphragm. The operation, consisting of the removal of dead bone and curettage of the sinus, was accomplished without pain. After twenty-five minutes the analgesia extended upward to the third rib in front, to the base of the spine of the scapula behind, and laterally on each side over the axilla, the inner aspect of the arm and forearm to within an inch of the styloid process of the ulna. Before operation, temperature, 98.2°; pulse, 84; respiration, 24. One hour after operation, temperature, 99°; pulse, 96; respiration, 28. Analgesia disappeared in about two and one-half hours, but the exact time was not taken. The pulse was weak after operation and the headache severe.

November 23d: Medicine is still necessary for the headache.

November 24th: He is feeling perfectly well.

December 1st: He is doing nicely. No after-effects are noted.

General Comments.—These cases have not been specially selected. The preparation of each was the same as usual before a general anæsthetic. The patient was placed in a sitting posture, well bent forward, and prevented from moving during the injection. After the skin over the site of puncture had been treated in the usual antiseptic way an ethyl-chloride spray was employed, rendering the introduction of the needle practically painless. I experienced no difficulty in introducing the needle. A point one-half inch to either side of the median line and midway between the spinous processes was taken, and the needle pushed forward, inward, and upward. Special effort was made to keep away from the central part of the spinal canal by a close relation of the needle point to the dura. The instrument used was of the simplest kind. A small-sized steel aspirating-needle with a short-bevelled pointed end, having a well-fitting hypodermic barrel, answered every purpose. As nearly as possible the same amount of cerebro-spinal fluid was allowed to escape as of the injection medium which was to be introduced. The injection was given slowly, usually taking one and one-half to two and one-half minutes. Often the first evidence that the cocaine was taking effect was some dilatation of the pupil or a slight nausea. During the operation a nurse known to the child stood close at hand, and the operative field and the instruments were screened from view. Anything which resembled a blindfolding excited and disturbed the patient. As far as possible general tests were made. There seemed to be no loss of motor power, and the ability to detect heat and cold and the muscular and tactile sense were retained. These are important points to remember, for too hot a solution or unduly rough handling may be thoughtlessly applied, causing the patient to become difficult to manage.

There have been many cases of failure reported which were attributed to the use of heat in the sterilization of the injection fluid. This fact led me early to experiment with other means. In all the above cases the following method has been employed with uniform success. While this simple way of sterilizing may be open to bacteriological objections, practical experiments, so far as I know, have proven it to be satisfactory. About a drachm of ether is poured over gr. v. of powdered cocaine or eucaine in a measuring-glass, which has been boiled, as well as the glass rod used to mix the ether thoroughly with the powder. The mixing-process is continued until all the ether has disappeared. Then one ounce of boiled filtered water is added. The solution is made fresh before each operation.

After-effects: In all cases any after-effects of an unpleasant nature were temporary. The urine on the day following the injection was examined in all cases for sugar and albumin. The result was uniformly negative. In only one case (No. VI.) were there any serious symptoms following the operation. Here was a high injection, with Pott's disease of the spine, in a patient in bad general condition. I was greatly aided in this work by Dr. W. E. Young and his assistants at the Randall's Island Hospital.

Cocaine versus eucaine: My cases so far have proved more satisfactory when cocaine has been employed. In one patient I had the opportunity of noticing the effects of both cocaine muriate and beta-eucaine hydrochlorate at different operations. The after-effects seemed no greater in one than in the other, and the analgesia was not so uniform or lasting when eucaine was employed. Most of the experimenters with this method of operating are using cocaine, but Lugueu and Kinderdjy are strong advocates of eucaine and are discarding the former in preference to the latter.

No final verdict for or against spinal injection, or what remedy is best to use, can be reached without further experimental evidence. The remote after-effects are yet to be determined.

(Since writing this paper I learn that Dr. A. Palmer Dudley reports in the Transactions of the New York Obstetrical Society, December, 1900, the use of chloroform in the sterilization of cocaine for spinal injection.)

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The Value of Rest In Bed in the Treatment of Certain Digestive Disorders.—Albu draws attention to the frequency with which neurasthenia, anæmia, and malnutrition are associated and the great amount of injury to the system at large that may be produced by such a triad. The deficiency in nerve energy and the consequent imperfect innervation of the tissues lead to a general lack of muscular tone which finds expression in different ways according to the region of the body affected. In the abdomen the general relaxation has for its consequences visceroptosis and atony of the stomach and intestines with their attendant evils, and in proportion as the lack of proper nutrition increases the somatic weakness the debilitating events move in a vicious circle of greater and greater circumference and constantly involve more remote regions in the disease. Under such conditions the evident indications are rest and feeding. But to be properly effective the patient must completely change his previous faulty mode of life and be treated in a wholly alien environment. As a routine for such cases at least three weeks of absolute rest in bed, in some institution away from home, is to be advised, together with a full diet, for even though the state of the stomach may seem to contraindicate this over-feeding, in most cases it will relieve the symptoms more quickly than the most carefully adjusted but quantitatively insufficient régime. By these means bodily waste of all sorts, nerve and muscle, is reduced to a minimum and the depleted cells are enabled to regain their normal tone and vigor.—*Zeitschrift für Krankenpflege*, October, 1900.

The Elimination of the Inflamed, Gangrenous, or Perforated Vermiform Appendix from the General Peritoneal Cavity.—A. J. Ochsner urges a form of treatment which practically eliminates the appendix from the general peritoneal cavity. It consists of total abstention of food given through the mouth, the object being to secure absolute rest of the intestinal tract. The patient's strength is maintained by non-irritating, predigested, nutrient enemata every four to six hours, which should not exceed four ounces at a time. Water, preferably hot, can usually be given by the mouth, but if it causes peristalsis or nausea should be given by enema. This treatment will not protect the patient against a recurrence, nor against the troublesome digestive disturbances due to adhesions following appendicitis, but it will carry the patient safely over an acute attack, and will enable the surgeon to select a favorable time for operation. The author reports a number of cases.—*The Chicago Medical Recorder*, November, 1900.

Heart Disease or Epilepsy.—F. Savary Pearce reports several cases which tend to reinforce the fact of the possible existence of a great similarity between epileptoid phenomena—a petit mal—when the cardiac action is affected primarily, or when the so-called "heart failure" predominates in its symptomatology—and syncopal attacks independent of the epilepsy neurosis. As to early recognition of the significance of syncope, organic heart disease would be a sign in a difficult case, with a comatose mental state during the spell, that the syncope was of cardiac origin. Organic disease of the heart rarely causes convulsions. The less frequent and variable the apparent unconsciousness during an attack of syncope, the more likely the hysteroid nature. The presence of a slow, full, and irregular pulse, with or even without unconsciousness, makes more likely the epileptoid nature of the case. Leaky skin and cold extremities are more in favor of hystero-anæmic cases. The absence of pain in any case eliminates angina. Cyanosis is not common, except in the organic heart cases. A tendency to rigidity without convulsion is in favor of hysteria being the background of the clinical picture.—*Annals of Gynecology and Pediatry*, November, 1900.

Fibrinous Rhinitis.—J. M. Gill reports the case of a girl of five years who for three weeks had suffered from nasal obstruction and for a short period from fever. The right nostril was full of a substance looking like wet blotting-paper, but which proved to be a fibrinous cast of the inferior turbinate. The membrane re-formed several times, but finally disappeared. Examination showed almost a pure culture of a bacillus resembling in all respects that of diphtheria, and this view was confirmed by the result of inoculating guinea-pigs. One of the animals received along with the injection a dose of antitoxin, while another similarly inoculated did not. The animal receiving culture and antitoxin showed no signs of illness. The animal receiving only culture died in forty-eight hours.—*Australasian Medical Gazette*, October 20, 1900.

Saturnism among Stone-Cutters.—Ch. Fiessenger says that many of the cutters of precious stones in the Jura Mountains suffer from lead poisoning, due to the use of a leaden wheel in their work. The number of those affected has greatly diminished in the past fifteen years, owing to the progress made in a knowledge of hygiene and to decreasing use of the lead wheel. Saturnine gout is not known among these patients, probably because of their habits of sobriety, their moderate meat diet, and the high altitude at which they live. All the other symptoms of lead poisoning are present: hysteria, dyspepsia, neurasthenia, epilepsy, nephritis, anæmia, and paralysis. Tuberculosis is a frequent disease among lapidaries, but profound lead poisoning seems to confer immunity from this affection.—*Bulletin de l'Academie de Médecine*, October 30, 1900.

The Treatment of Insomnia due to Arteriosclerosis.—Friedeberg advises moderate outdoor exercise, which must be carefully regulated, however, and never include hill climbing owing to the palpitation likely to result. Cool baths are to be avoided, and even warm ones, taken at night, are prone to cause excitement in the aged. Sponging at bedtime is often beneficial, as are also warm drinks, but tea and coffee are to be interdicted. Care should be taken that the noonday nap does not exceed one-half hour in length. Narcotic drugs are to be avoided as much as possible, and, since the condition is due mainly to cerebral anæmia, attention should be given rather to the state of the circulation. Digitalis is nearly always useless for this purpose, but the nitrites give excellent results. Owing to its toxicity amyl nitrite should not be used, but both nitroglycerin and erythrol tetranitrite are often of signal service. The former may be given nightly in doses of gr. $\frac{1}{120}$ by mouth; should headache or nausea follow on awaking, it is an indication for omitting the drug for a week.—*Klinisch-therapeutische Wochenschrift*, October 21, 1900.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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ABUSE OF PROFESSIONAL POWER.

A RECENT occurrence in one of our large hospitals deserves more than a passing mention, for it has rarely been our duty to record a more unnecessary abuse of power on the part of a board of trustees.

The house physician of the institution referred to was a man of great promise. He had graduated from his medical college among the first ten in his class, and he had earned the esteem and affection of all who knew him. In the hospital, to which he was appointed after competitive examination, he was regarded as the equal in every way of any one who had ever held the position there of house physician. His term of service would have expired at the end of this month, and during his residence in the hospital he had never received a reprimand for neglect of duty or breach of discipline. A few weeks ago a member of the board of trustees of this institution, himself a physician, sent to the hospital, for admission to a medical ward, the servant of a lady of his acquaintance. The patient was suffering from the vomiting caused by chronic gastritis and recent pregnancy. Arriving at the hospital, accompanied by a physician from the country, she was taken to the accident-room, placed under the care of a very experienced trained nurse, and the usual and ordinary notice was sent to the house physician that a patient awaited his examination. The house physician's occupation at the time was such that he failed to visit this serious and distressing case until perhaps thirty minutes (but not more) had elapsed. The patient was then admitted to the public ward, her needs were attended to, and at the end of one week the symptoms of which she had complained were entirely relieved.

Complaint was made to the medical member of the board of trustees who had recommended the patient for admission to the hospital that she had been unduly kept waiting before being seen by the house physician. This trustee, himself a medical man noted for his delicate sympathy with charity patients and with his professional brothers when they are in trouble, would, of course, under other circumstances, have been satisfied with warning the young man that he must be more prompt in his attendance on patients waiting for examination. But he himself had recommended the patient, and the patient was a servant of one of his well-to-do lady acquaintances. A few days later a very severe reprimand was administered to the house physician by the executive committee of the hospital and about two weeks ago the young man was summoned before the full board of trustees.

Very severe remarks were made to him, and he was informed, among other things, that the professional men connected with the hospital were to understand that they were its servants. The medical member added his words of abuse.

The result of the deliberations of the elderly men who manage this important charitable institution was that the house physician was suspended for the remainder of his term of service, and requested to leave the hospital at the earliest possible moment. For an entirely harmless and innocent breach of discipline a professional man of unblemished character and of fine education has been dismissed from his hospital service as though he had committed a crime.

In addition to the grave injury done to the individual, the harm done by such action as this spreads very widely. It breeds dislike and disloyalty at a rapid rate among the young men who would naturally be the staunchest supporters of the institution with which they have associated themselves, and whose friendship it is very desirable for the institution to cultivate. It serves as a loud warning to those seeking hospital positions to go where they will be treated with ordinary kindness and courtesy; and it leads the public entirely to distrust the capacity of a management which is capable of so grossly mismanaging.

Discipline must be maintained in all institutions, but the Chinese method of beheading for trivial offences will never find favor in this country.

ANGINA PECTORIS.

ANGINA pectoris may be defined as a symptom complex dependent upon disturbance in the functional activity of the heart muscle, resulting either from organic causes, such as disease of the coronary arteries or of the myocardium itself, or from toxic influences, such as may arise from excessive indulgence in alcohol, tea, or coffee. It has been the custom to designate cases of the first kind "true" and those of the second kind "false," but it would seem better to employ instead the qualifications "severe" and "mild" respectively. Derangement of function must always be referred to alteration in structure or in nutrition, and the degree of the former will necessarily vary with the character and the intensity of the latter. Normal function must be looked upon as the resultant of metabolic activity, whose derangement will be attended with altered nutrition, which if profound or long continued or frequently repeated, in consequence of either intrinsic or extrinsic influences, may lead to structural alteration. In accordance with the foregoing considerations, angina pectoris would not necessarily be a disorder of the degenerative period of life, and not invariably fatal. but the prognosis would vary with the nature of the underlying condition. In reporting briefly five cases of angina pectoris, three of which terminated fatally, and in two of which recovery en-

sued, Salomon (*Berliner klinische Wochenschrift*, 1900, No. 36, p. 275) points out that, inasmuch as the etiological factors are so varied, it is not to be expected that the lesions present should always be the same. Thus, among the conditions assigned as causative influences are syphilis, alcoholism, long-continued mental and physical strain, frequently repeated and long-continued depressing emotional states, diabetes, gout, acute infectious diseases, excessive indulgence in tobacco, tea and coffee, over-eating with insufficient exercise, and lead poisoning. In any event the treatment is much the same. In the paroxysm inhalations of ether, chloroform, or amyl nitrite, hypodermic injections of morphine, or the administration of nitroglycerin may be practised, while in the intervals the diet and the mode of life generally will require to be regulated, and iodide should be administered.

THE SOUTH AFRICAN MILITARY HOSPITALS COMMISSION.

This commission has just completed the taking of evidence, and until it makes its report it would be impossible to say what its finding may be. However, to judge from the statements tendered by witnesses, the summing up cannot be altogether favorable to the medical arrangements of the British army. In fact, it is admitted by every unprejudiced person who has seen the conditions of the South African hospitals that the provision was insufficient in many respects. Almost all the British medical journals at the commencement of the war drew attention to the inadequacy of the army medical corps, and some indeed went so far as to predict a complete breakdown of that branch of the service if the campaign should be a long one. These presages of evil were not fulfilled, and, until enteric fever broke out and spread on a large scale, the army surgeons, supplemented by a number drawn from civil life, showed themselves well able to cope with the difficulties of the situation. Even then it is claimed that the blame for the partial breakdown rests on the war office and military authorities rather than on the medical department. One fact stands out prominently, and of this the whole British nation seems to be thoroughly convinced—that the army medical corps must be reformed, root and branch. There are some points of similarity between the conduct of the South African war as regards the medical service and our war with Spain. In both campaigns the supply of army surgeons was not equal to the demand, and in both the gaps had to be filled by non-military medical practitioners. Again there would appear, from all accounts, to have been a certain parallel between the manner in which medical supplies failed to reach the places where they were needed. With regard to nursing, the opinion of the most distinguished British military authorities has undergone a considerable change during the progress of the South African war. A writer of note in the *Edinburgh Review* has this to say on the subject: "Although the traditions of the army medical corps are opposed to female nursing, assigning nearly nine times as many male as female nurses to a general hospital, suffice it to say that at the present time almost all men from Lord Wolseley and Lord Roberts downwards, recognize its desirability, more especially in fever cases, which are the common scourge of young soldiers." And in another part of the same article the writer says: "The army has hitherto neglected the question of female nursing. In the early stages of the war nurses were not only deficient, but offers of trained nurses were actually declined. As, however, the war proceeded, orderlies became scarce, and as Lord Roberts insisted on female nursing, and as the usefulness of such assistance became apparent to all, more particularly at the base hospitals and in the fever hospitals, the number of nurses was increased. Clearly the experience of the war is in favor of female nursing to be utilized to a far greater extent than hitherto, having this further advantage of releasing men for work at the immediate front. This in turn will necessitate that organization of a female nursing service which has hitherto been neglected." In the Spanish-American war the services of female nurses were dispensed with as much as possible, and our medical and military authorities, like the British, declined to engage female nurses. In an editorial in the Medical Record some few months ago the question of female nursing was briefly touched upon, and the opinion was expressed that when feasible well-trained female nurses should be employed in preference to men nurses, especially in base hospitals. It is therefore some gratification that our views should be borne out by the experience of a man so versed in all pertaining to modern warfare as Lord Roberts. The report of the South African military hospitals commission must be instructive, and will be awaited with much interest by army and civil medical men in this country.

THE SURGICAL TREATMENT OF PRIMARY RENAL TUBERCULOSIS.

Although it is known that tuberculosis in any organ may undergo spontaneous recovery, and while the results of intelligent medicinal and hygienic treatment are at times entirely satisfactory, the outcome cannot be safely predicated in any given case. For this reason, and in view of the relative malignancy of the disease, the adoption of surgical measures for its removal would seem to be indicated whenever practicable. The decision will often be a most delicate one, in consequence of the difficulty at times encountered in diagnosis, the uncertainty of result, and the possibility of extensive involvement. This general statement is applicable with especial force to tuberculosis of the kidney, in which often the disease is primary and circumscribed. If surgical intervention has been decided upon, the question as to the character of the operation will arise. For the purpose of reaching a decision in these matters, O. G. Ramsay (*Annals of Surgery*, October, 1900, p. 461) has collected from various sources three hundred and four cases of renal tuberculosis in which some form of operative treatment was employed, and from an analysis of which he believes that renal

tuberculosis may be considered a semi-malignant form of inflammation, and that for this reason surgical treatment of some sort is always indicated. This treatment will have a palliative or a curative end in view, in accordance with the condition of the patient and the duration and extent of the disease. Nephrotomy in cases of renal tuberculosis is to be considered a palliative operation, and, practised from this point of view for the immediate relief of dangerous symptoms and as not precluding subsequent nephrectomy, nephrotomy with drainage of the abscess cavity is a most valuable procedure. Resection of the diseased portion of the kidney is contraindicated, because of the danger of leaving a tuberculous focus in the remaining portion. Nephrectomy, or nephro-ureterectomy, is indicated in all suitable cases, in 55.5 per cent. of which it should effect a permanent cure. The contraindications to nephrectomy are tuberculous or other disease of the second kidney, or the presence of tuberculosis in other organs. Tuberculosis of the bladder is not to be considered a contraindication to nephrectomy, as it will probably undergo subsequent cure. A small tuberculous focus in the lung, if the patient is otherwise in good condition, may sometimes not be considered a contraindication. In doubtful cases, when it is questionable whether the patient can stand an immediate nephrectomy, it is better to perform nephrotomy, to be followed later by nephrectomy. The clamp method of controlling the pedicle is contraindicated on account of the danger of hemorrhage on removal of the clamp. It is safest to remove the ureter with the kidney, as otherwise a permanent fistula may remain. A certain proportion of such fistulæ will finally disappear, either after the removal of a deep suture or in consequence of the slow disappearance of the tuberculous disease of the ureter, which under such circumstances is gradually converted into a fibrous cord. A steadily increasing number of cases of permanent recovery may be expected as our means of diagnosis improve, and as our surgical technique is carried out more carefully and scientifically.

News of the Week.

Pathological Society of Philadelphia.—At a stated meeting held November 22d Drs. George E. de Schweinitz and Edward A. Shumway reported "Two Cases of Glioma of the Retina," and discussed current views as to the histology. Dr. Charles Wardell Stiles, of the bureau of animal industry of the department of agriculture, presented by invitation a communication entitled "Parasitic Hæmoptysis," an affection that has been observed in considerable numbers of human beings in China and Japan and of animals in the United States. The disorder is dependent upon the presence of the Paragonimus Westermannii, a fluke, which most often finds lodgment in the lungs and sometimes in other viscera also. The parasite is derived from snails, which act as the intermediate hosts, and are ingested with the water. Dr. Stiles demonstrated both the parasite and the ova, and he pointed out the possibility of the importation of the disease with a return of American soldiers who had seen service in China and the Philippines. Dr. F. Savary Pearce presented the specimen from, and related the history of, "A Case of Hemorrhage into the Crus Cerebri and Pons Varolii." Dr. Joseph McFarland exhibited a heart containing a mural thrombus in the left ventricle and a globular thrombus in the left auricle, and also a heart presenting extreme aortic obstruction with enormous hypertrophy of the myocardium.

Memorial to Physician.—It is proposed by the people of Burlington, N. J., to secure by popular subscription funds for the purchase of the old colonial mansion in which the late Dr. Frederick Ganutt lived, and its conversion into a memorial hospital.

Faith Curists Held for Murder.—Two men, a "healer" and one of his followers, are held in Victoria, B. C., for murder on account of the death of the son of one of the accused from diphtheria. The only treatment the child received consisted in the incantations of the healer, who was one of Dowie's "Zionites."

The Army Hospitals Scandal.—The testimony in regard to the charges brought by Mr. Burdett-Coutts against the management of the British army hospitals in South Africa is now all in. The last witness examined by the hospital commission was Mrs. Richard Chamberlain, who had been before the commission once before. At the first examination she said that "the army surgeons were, with very few exceptions, a low class of men. Those in South Africa neglected their patients. Six cases of drunkenness among army doctors came under my observation. After these people had come into contact with the police they were sent home in charge of invalids." At her final examination she repeated her former testimony and branched out into vituperation of the army surgeons, the commissioners, and everybody else who did not agree with her. She said that she considered herself more capable of conducting hospitals than medical officers, and she insulted the president, Justice Romer, telling him that he acted more like counsel with a brief from the army doctors than an inquisitor.

War against Malaria in Italy.—We read in the *Medical Press and Circular* that an attempt on an enormous scale to stamp out malaria is about to be initiated in Italy. The plan, which has been elaborated by Professor Grassi, is to begin operations on the coast south of Naples. In a region covering some thirty thousand square miles every house is to be provided with wire screens to the doors and windows (a possibly feasible though somewhat expensive measure), and all the inmates of these screened houses are to be kept indoors between sunset and sunrise (but how they are to be kept inside, unless there are guards outside to watch them, is not made clear). Those who, in spite of these precautions, are attacked by malaria will be isolated in mosquito-proof quarters and will be supplied with quinine free of cost. It is possible, of course, that Professor Grassi will succeed, but it is

hardly probable. An attempt to exterminate all the mosquitos in the district would be less expensive and more likely to succeed.

The Smallpox Outbreak in this city is fairly well under control, though new cases are found from time to time.

The Plague in San Francisco.—It is reported that another death from the plague has occurred in San Francisco. The quarantine against the city is still maintained by the Texas authorities, and it is believed that Louisiana and other of the Southern States will also declare a quarantine against it.

Faith-Curists Sentenced to Imprisonment.—Two faith-curists, who pleaded guilty to a charge of manslaughter in connection with the death of a child confided to their care, were sentenced to an imprisonment of three months in the county prison by Judge Audenried at Philadelphia on December 6th.

An Epileptic Colony in Illinois.—The board of commissioners of public charities has reported to Governor Tanner on the question of a site for an Illinois colony of epileptics, favoring a location in Ogle County. The legislature will be asked to appropriate $350,000 for the purchase of the grounds and the erection of the buildings.

The Western Surgical and Gynæcological Association.—The next annual meeting of this association will be held at Minneapolis, Minn., December 27 and 28, 1900. The following are the officers for this meeting: *President*, O. B. Campbell, St. Joseph, Mo.; *First Vice-President*, A. C. Bernays, St. Louis, Mo.; *Second Vice-President*, J. R. Hollingsworth, Rock Island, Ill.; *Secretary and Treasurer*, George H. Simmons, Chicago, Ill.

College of Physicians of Philadelphia.—At a stated meeting held December 5th, Dr. Joseph Leidy presented "Some Replicas of Surgical Instruments Found in the Ruins of Pompeii." Dr. Charles P. Noble read a paper entitled "The Making of a New Urethra After its Complete Destruction," reporting an illustrative case. Dr. A. E. Woldert read by invitation a paper entitled "Cultivation of the Æstivo-Autumnal Malarial Parasite in the Mosquito—Anopheles quadrimaculata (claviger)—with Presentation of Original Specimen."

The Pan-American Medical Congress at Havana has been postponed until February 4–9, 1901, because of the unusual prevalence of yellow fever in that city. This will be a more convenient season for American physicians to visit Cuba, and there will probably be a larger attendance of them at that time than there would have been in Christmas week. Perhaps, also, by that time certain irate Cuban physicians, whose names do not appear on any of the committee lists and who have been abusing General Wood and other Americans in *El Progreso Medico*, will have cooled down a little. They are now enraged because General Wood did not sanction a public appropriation to pay the expenses of the congress, but said very properly that they should be met by private subscriptions.

The Study of Tropical Medicine in France.—The Faculté de Médecine of Paris has decided to establish a school for the study of tropical diseases, with special chairs of bacteriology and parasitology. A public appeal will be made for funds to carry on the school.

The Water Supply of Cheyenne, Wyoming, has been examined and found to be badly contaminated—so states the *Leader* of that city. The immediate occasion of the examination was the occurrence of an unusually large number of cases of typhoid fever, over fifty deaths having taken place in the past four weeks.

A Congress for the Study of Cancer will be held in Chicago on the first Tuesday in May, 1901. The following are the subjects announced for the set discussions: (1) What are the most successful methods of treatment? (2) What are the values of antitoxins? (3) What is the cause or the causes of cancer? (4) Why is cancer on the increase? (5) Classification of the varieties of cancer and the most important advances made in the study of their pathology.

Philadelphia Hospital.—The fourteenth annual reunion and dinner of the Association of Ex-Resident and Resident Physicians of the Philadelphia Hospital was held on December 4th, with an attendance of nearly sixty. Dr. E. L. Duer presided, and Dr. J. B. Walker acted as chairman of the executive committee and as toastmaster. Toasts were responded to as follows: "Our Rulers," Dr. H. C. Wood; "Our Chiefs," Dr. W. Frank Hachules; "Our Nurses," Dr. D. J. McCarthy; "Our Residents," Dr. Edward Robinson; "Our Patients," Dr. Augustus A. Eshner. The following officers were elected for the ensuing year: *President*, Dr. E. L. Duer; *Vice-Presidents*, Dr. H. C. Wood and Dr. J. K. Lineaweaver; *Secretary*, Dr. E. R. Stone; *Chairman of the Executive Committee*, Dr. R. G. Curtin.

Precautions against Tuberculosis in Germany.—The German department of the interior has issued instructions for compulsory precautions against the spread of tuberculosis in the empire. The orders provide that physicians having patients with pulmonary or laryngeal tuberculosis shall give written notice to the police as soon as the diagnosis has been made; that immediately after the death of a person from tuberculosis the deceased's room and effects must be thoroughly disinfected; that professional women who lay out the dead must report at once in writing to the police authorities whether the disease was of the lungs or larynx, and that keepers of hotels, lodging-houses, asylums, or other public institutions shall report immediately the appearance of the disease in the establishments under their control. Non-compliance with the regulations is subject to a fine of 150 marks or six weeks' imprisonment.

Arseniated Beer in England.—Referring to the Manchester beer-poisoning cases, the *Lancet* of December 8th says that definite steps are being taken to stop the sale in England of beer containing poisonous impurities. A specimen of invert sugar (a variety of sugar consisting of a mixture of dextrose and levulose,

found naturally in fruits and produced artificially by the inversion of cane sugar) used in brewing was examined in the *Lancet* laboratory, and was found to contain three grains of arsenious acid per pound. Hence a glass of beer might contain one-fifth of a grain of arsenic. An examination into the form in which arsenic existed in this sugar showed that it was mostly in that of arsenious acid in small quantities. Arsenic acid was also detected. The *Lancet* appeals to the government to define beer as a liquid brewed exclusively from barley, malt, and hops, so that beer made from substitutes for these ingredients will have to be called by another name. It says that arsenic was found in beers manufactured from glucose in other countries years ago.

Conviction of the Proprietors of a Chicago Diploma Mill.—A verdict of guilty was rendered on December 8th against the two proprietors of the "Metropolitan Medical College" of Chicago, who had been arrested for using the mails to defraud.

Typhoid Fever at Sing Sing.—On last Saturday there were seventeen cases of typhoid fever in the Sing Sing prison hospital, and several cases have developed since that time.

Appointments.—Dr. Joseph Collins has been appointed consulting neurologist to the Hospital for the Ruptured and Crippled of this city. Dr. Henry Heiman has been appointed adjunct visiting physician to the children's service in the Mt. Sinai Hospital.

Physician, Convict, and Turnkey.—A physician in a Colorado town is serving a sentence in the county jail for manslaughter. He is a "trusty" and is allowed to go at will through the town, where he enjoys a considerable practice. At the same time he is acting sheriff, the county sheriff having gone away for a time, leaving to him the care of the keys of the jail.

Graduation of Colored Nurses.—Six colored women, graduates of the Colored Home and Hospital Training-School for Nurses, received their diplomas one evening last week in the lecture hall of the Academy of Medicine. This is the first time that there has been graduated a class of colored nurses in any northern city. There are in the South two schools for the education of negro nurses, but they are of comparatively recent foundation. Dr. Stephen Smith delivered the address to the graduates.

New Buildings of the New York Hospital.—The new buildings of the New York Hospital were opened last week. They are located just west of the older buildings on West Fifteenth Street, and consist of a ten-story building for private patients, a four-story dormitory for the hospital employees, and the governor's building, which is in the centre of the group. The first floor of the private patients' building is for administrative purposes. The physicians have their quarters on the second floor, the operating-rooms are on the top floor, and the rest of the building is for the patients. There are many single rooms and some suites of several rooms. Each of the two operating-rooms on the top floor has its own separate suite of etherizing, sterlizing, and wash rooms, and each has a separate ventilating-plant. In the rear of the building for private patients there is an isolating-department.

Pink Eye is reported to be epidemic in Chicago, the extremely dusty condition of the windy city being set down as the cause.

Vaccination in the Yukon.—It is reported that there were thirty cases of smallpox at Dawson City the first of November. The Yukon council has passed an ordinance requiring all persons in Yukon territory to be vaccinated. Fifteen thousand persons are affected by this order.

Typhoid Fever in Washington.—In presenting a report of a committee of physicians upon the filtration of the water supplied to the city of Washington, in the senate on Friday of last week, Dr. Gallinger adverted to the alarming prevalence of typhoid fever in the District of Columbia. He declared that the death rate in this city from that disease was seven or eight times as great as in European cities of the same class. The wells of the District had been closed, but the ravages of the fever had rather increased than diminished.

Medical Colleges United in St. Louis.—The announcement is made that the Marion-Sims College of Medicine and the Beaumont Hospital Medical College of St. Louis have agreed to a consolidation, which will become effective May 1, 1910. The terms of the consolidation contemplate a utilization of the entire teaching-force of the two institutions and a union of their clinical facilities and laboratory equipments. The old Beaumont building at Jefferson Avenue and Pine Street will be sold, and the Marion-Sims building at Grand Avenue and Caroline Street, with new additions already projected, will be used by the new Marion-Sims-Beaumont College of Medicine.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending December 8, 1900. November 20th.—Passed Assistant Surgeon R. B. Blakeman ordered to be examined December 10th, at Washington, D. C., for retirement, and thence home to wait orders. Passed Assistant Surgeon A. W. Dunbar ordered to the *Vermont* for duty with the crew of the *Wisconsin* revoked; ordered to duty at naval hospital, Mare Island, December 14th. Assistant Surgeon W. M. Carton ordered to the Washington navy yard, December 5th. December 5th.—Surgeon C. Biddle ordered to the naval hospital, Norfolk, Va., for temporary duty. December 7th.—Assistant Surgeon E. J. Grow detached from the *Monadnock* and ordered to the *Culgoa*. Pharmacist J. Cowan detached from the *Monadnock* and ordered to the *Culgoa*, and to additional duty at the Cavite naval station.

Obituary Notes.—Dr. K. Frederick Kebler, formerly of Cincinnati, died at Somerville, Mass., on November 23d. He was born in Cincinnati in 1850 and was graduated from the Ohio Medical College in 1875. He early gave promise of a brilliant career as a pa-

thologist, but became mentally afflicted and spent the last years of his life in a sanatorium.

Dr. George Banks, of Huntington, L. I., died on December 4th at the age of seventy-five years. He was a graduate of the College of Physicians and Surgeons of New York in the class of 1860.

The Rev. William Everett, rector of the Roman Catholic Church of the Nativity in this city, died on December 7th at the age of eighty-six years. He was born in Albany and was graduated in medicine in this city in 1834. He practised for a few years and then studied divinity, being ordained a priest in 1853.

Dr. Edward Smith died at his home in this city on December 10th at the age of seventy-one years. He was born in Stonington, Conn., and was graduated in medicine from the University of Pennsylvania in 1852. For a time he served as assistant physician in the State Lunatic Asylum at Worcester, Mass. In 1856 he was appointed an assistant physician in the Pennsylvania Hospital for the Insane at Philadelphia. In 1862 he resigned to become one of the surgeons in the United States Military Hospital at Philadelphia. After the war he took up private practice in Philadelphia. In 1878 he moved to New York, where he had since lived.

Dr. Joseph T. Shoemaker died at Philadelphia on December 6th at the age of sixty-two years. He was graduated from the medical department of the University of Pennsylvania in 1861, and during the War of the Rebellion served as surgeon in the Eighty-eighth Pennsylvania Volunteers.

Dr. Frederick W. Pleibel died at Philadelphia on December 6th at the age of sixty-six years. He was graduated from the medical department of the University of Pennsylvania in 1857.

Progress of Medical Science.

New York Medical Journal, December 8, 1900.

Notes on the Hospital Scarlet-Fever Service in New York City from 1893 to 1899 Inclusive.—By W. L. Somerset. This is a study of 2,627 cases treated during the period mentioned in the Riverside and Willard Parker hospitals. The mortality rate was nine per cent. Concerning treatment the author writes as follows: For the general welfare of the patients and for the avoidance of complications, rest in bed, and fluid or semi-fluid diet were insisted on for three weeks. For the scarlet fever itself, streptococcus antitoxin was tried for a short time, the immediate object being to test its effect on scarlatinal throats. The results obtained, however, did not seem to justify the continuance of its use. Frequent sponging with weak solutions of carbolic acid or bicarbonate of sodium was utilized for itching, painful tension, or other irritable conditions of the skin. The temperature was usually treated according to its effects on the patient. In cases in which the distress was out of proportion to the rise of temperature, the relief afforded to the extreme restlessness, insomnia, or even delirium, by means of baths, could be very much augmented by the use of sedative drugs. Among the various remedies used, a phenobromide combination was most effective. It acted well as both a sedative and an antipyretic, and could be given to children in much larger and more effective doses without causing depression than any of the other sedatives. With temperatures unusually high or unusually persistent, baths and packs were largely used. A graduated bath was often given, beginning at the temperature of the patient, and reducing the temperature, in from ten to fifteen minutes, 20, 30, or even 40° F. There is no particular danger of the patient's taking cold, and there are very few, if any, contraindications to the reduction of a temperature of 106° F. If the temperature of the bath must be very low—say 65° F.—or even that of an ice pack, heat applied during the bath or pack to the arms and legs by wrapping them with hot blankets, is an excellent aid in avoiding depression. Too much stress cannot be laid on the necessity for careful and skilful attention to the ears: early diagnosis, anticipation of rupture of the membrana tympani by early operative intervention, or proper enlargement of the opening when rupture has occurred, both to promote freer discharge and to secure better drainage; scrupulous and persistent cleanliness in all cases with discharging ears, are all of the highest importance. Equally important is attention to every detail affecting the best interests of the kidneys.

Mastoid Abscess.—R. A. Wright comments on the case reported by Harrigan in the issue of November 10th, and states that the selective time for successful operation in mastoid disease is early after diagnosis; just so soon as ordinary antiphlogistic measures (Leiter's coil, leeching, etc.) fail to check the inflammation. There is no reason to wait until pain and suffering have so reduced the patient's strength that operative procedure means almost certain death. He concludes by saying that early recognition of the site of the perforation, with adequate treatment, usually prevents mastoid complications in disease affecting primarily Prussak's space, with perforation of Shrapnell's membrane.

A Plea for General Anæsthesia in the Treatment of Mammary Abscess.—F. H. Field condemns the superficial incisions so often made in the treatment of this condition, for we do not know in what directions or how deeply the pus may have burrowed, and it is often necessary to resort finally to a late and extensive operation when a simple one done earlier would, if thoroughly performed, have been sufficient. He prefers chloroform anæsthesia. Healing may be confidently predicted in from seven to ten days. The use of linseed poultices under the circumstances he strongly condemns.

The Operation for Hypospadias with the Demonstration of Three Cases Successfully Treated by Forward Dislocation of the Urethra.—By Carl Beck.

The Present Status of the Treatment of Prostatic Hypertrophy in the United States.—By Ramon Guitéras.

What is Normal Menstruation?—By George Engelmann.

Medical News, December 8, 1900.

A Modification of the Mosquito Theory.—Charles R. Grandy declares that he believes in the potency of the Anopheles to propagate the malarial organism, but he also believes that they can and do obtain organisms from other sources than direct from the human blood. He thinks it probable that when feeding on other things than human blood (which seems to be more of a delicacy than a staple article of diet with the mosquito tribe) it also injects the parasites into whatever it is eating. Other uninfected Anopheles may take in the parasites directly from this food or water; or the plasmodia, in the form in which they are found in the parotid glands, may be able to live in water or damp soil as other sporozoa do, and later on they may be taken up by other Anopheles and be inoculated by them into man. It is also possible that the plasmodia may pass into the water from the bodies of the Anopheles which have died in the water after depositing their eggs, and may be taken up in feeding by other mosquitos. Whenever malarial fever regularly appears there is found the Anopheles. Anopheles breeds only in pools and not in tubs; it is the country mosquito in contradistinction to Culex, which is found in both towns and country. They feed at night. They are most numerous at the time of the heavy dews in August and September. Their larvæ feed on algæ, hence the theory that stagnant water causes malaria. The two objections to this modified theory are: (1) The malarial organisms have never been cultured artificially; but no other parasitic protozoon has been thus cultured. (2) They have never been found free in nature; but the tiny thread-like organisms are so minute that they could easily escape observation when looked for in water. The writer believes that although there is as yet no positive proof of this theory, still it comes nearer fulfilling all conditions and answering all objections than any other which he has seen.

A Study of Drainage.—A. M. Pond states that drainage was first used to remove the pus which was the inevitable concomitant of surgery before the present era of asepsis and antisepsis. Drainage was then considered, and justly, a necessity, since without it absorption of poisonous material was inevitable. Latterly we have drained to prevent pus formation, a process, the writer believes, essentially unscientific. In certain of the septic and infective cases we must continue to drain, because we know pus has formed, although many septic cases can be made sterile and the wound closed without drainage. In abdominal surgery there is another method of combating infection,

viz., purgation. By diluting infection we promote absorption, *e.g.*, by the use of salt solution. Many unfortunate sequelæ follow in the wake of abdominal drainage. Hernia is common. No other cause of ileus is so common, and removal of the gauze drain when the tender granulations have grown through the drain's meshes, and are torn, causes great pain and sometimes serious relapse. Blood serum plays an important part in the repair of wounds, chemotaxis bears an important relation to pus formation, and in sterile cases drainage is not only unnecessary but positively detrimental. Consequently the writer concludes that drainage should be restricted to those cases which all the means at disposal fail to render aseptic and non-infective.

An Improved Technic in Amputation of Large Rectal Prolapse.—George Ryerson Fowler describes this method in which the patient assumes the combined lithotomy and Trendelenburg position in order to prevent the descent of the small intestines during the operation, thus providing against injury to these during the suturing. In the case which he reports cocaine anæsthesia was used, thus enabling the patient to extrude the prolapse fully, so that no traction was necessary. A cuff at the muco-cutaneous margin was turned back for the purpose of preserving the normal conditions at the rectal outlet, and at the same time permitting the removal of all the relaxed and overstretched mucous and submucous structures at this point. The cuff also offers a covering for the sutured edges of the stump of the prolapse and diminishes opportunities for subsequent infection. Another advantage of this particular method described consists in the step-by-step application of, first, a suture, and then an extension of the incision through both cylinders to correspond with the sutured area, in this manner avoiding exposure of the peritoneal cavity to infection.

State Sanatoria for Consumptives in Michigan.—By Herbert Maxon King.

Heat-Stroke as a Post-Operative Complication.—By C. L. Gibson.

A New Urethrotome.—By George Rubin.

Chloralamid.—By S. V. Clevenger.

Journal of the American Medical Ass'n, Dec. 8, 1900.

Immature Cataract and its Treatment.—G. E. De Schweinitz concludes that: (1) Certain lenticular opacities, most often situated in the naso-inferior quadrant of the lens, occasionally are practically stationary and may be designated "non-progressive." They do not handicap the patient's ocular abilities, and may with propriety be separated from the class to which the name incipient cataract is ordinarily given. (2) Certain lenticular opacities undoubtedly depend, as Risley and others have shown, on what may be designated "disturbances of the choroid," as apart from active and actual choroiditis; and their progress is sometimes apparently checked by measures—optical, local, and general medicinal—which restore the choroid coat to normality. Such measures do not, however, remove from the lens the opacities which have already formed when the patient comes under treatment. (3) Certain lenticular opacities which appear in association with diabetes mellitus, nephritis, lithæmia, and arteriosclerosis, particularly the last two diseases, are sometimes apparently retarded, like those in No. 2, by measures which are suited to the patient's general condition in connection with local and optical therapeutics, but these measures never dissipate the lens lesions already present. (4) The extraction of unripe cataracts is preferable to any of the ordinary operations for ripening cataract. (5) There is no evidence that electricity has the slightest influence in checking the rate of progress of incipient cataracts, or in dissipating the opacities which have formed. (6) There is very insufficient evidence, if any, that massage of the eyeball favorably modifies the rate of development of cataract. (7) There are no "specific remedies" for the treatment of cataract, and there is no reliable evidence that drugs exist which cause the absorption of partially or fully formed cataracts. (8) All lenticular opacities, unless the "non-progressive" group, should iudicate a thorough investigation of the patient from the general as well as the ocular standpoint and the employment of remedies according to the findings.

Subtrochanteric Amputation for Diffuse Skin Carcinoma.—This case is reported by Emanuel J. Senn. The patient, a man aged twenty-three years, was struck on the inner side of the thigh when he was nine years of age. After the injury there was a denuded surface on the inner aspect of the knee about the size of the palm of the hand. It was skin-grafted. An area the size of a dime never healed. Later, when the patient was twenty-two years of age, an ulcer formed above this spot and grew rapidly. Almost the entire circumference of the thigh was affected and there was a chain of enlarged glands in the groin. At this time he was admitted to the hospital and given a thorough course of supportive treatment. After he had gained in strength, a subtrochanteric amputation was performed in the orthodox manner. The wound healed by primary intention. He refused an operation for removal of the lymphatic glands. Microscopical examination showed this diseased tissue to be carcinomatous. The patient has been seen lately and is in excellent health, having gained over thirty pounds. The lymphatic glands are much reduced in size.

Colostomy for the Cure of Amœbic Dysentery.—William Norbert Sullivan reports a case which resisted all attempts at treatment. Finally, right inguinal colostomy was performed, the bowel being brought up and attached to the abdominal wall and a few days later incised, while a stream of pyrozone solution was passed through the large intestine, passing out by both outlets, the anus and the artificial anus, thus thoroughly flushing the whole of the large intestine. The patient was kept under this treatment from April to August 30, 1900, when the opening was closed and the bowel dropped back into the abdominal cavity. The pain which had been severe ceased after the first few days. The method possesses two valuable features: (1) It affords rest to an inflamed surface. (2) It permits direct applications of remedial solutions to a portion of the bowel which is practically beyond the reach of injections into the rectum.

Lupus Healed with Roentgen Rays.—William Allen Pusey treated this case. The patient was a woman aged thirty-eight years. The disease had been in progress four years and had extensively infiltrated the chin, neck, and cheeks. The treatment consisted in exposures to *x*-rays after the method of Schiff and Freund, of Vienna. The treatment was continued with necessary intermissions from May 8th to date. Since October 8th there has been no evidence of the disease, and the scars have been wonderfully benefited by the exposures. The results of the treatment are indicated in a photograph presented in this paper.

Acute Articular Rheumatism: its Etiology and Pathology.—By David Riesman.

Colostomy for Permanent Fecal Fistula.—By John A. Wyeth.

Repair after Intestinal Resection.—By William A. Evans.

Prolonged Fevers of Obscure Origin.—By R. B. Preble.

Hemorrhagic Glaucoma.—By William Campbell Posey.

Coma Diabeticum: its Treatment.—By Heinrich Stern.

Complete Transposition of Viscera.—By S. P. Delaup.

Dietetic Treatment of Diabetes.—By N. S. Davis, Jr.

Tuberculosis of the Testicle.—By John J. Murphy.

Hemorrhagic Glaucoma.—By Charles A. Oliver.

Boston Medical and Surgical Journal, Dec. 6, 1900.

A Case of Alexia, Mind Blindness, etc., with Autopsy.—Edwin E. Jack describes the case of a man who consulted him for failing vision. Examination revealed a deeper than mere visual trouble. The patient could see letters, numbers, and words, but could not, except to a slight extent, recognize them. Even objects such as matches, keys, photographs, etc., brought no recognition, and other objects which he recognized he could not name. Hearing usually set him on the right track; touch sometimes failed. He could speak fairly well, but would often stop short, the whole mental picture of what he wished to say vanishing. He could write voluntarily a little. Other symptoms developed and the patient died. At the autopsy a glioma and localized softening of the brain were found.

Note on the X-Rays as a Curative Agent in Certain Diseases of the Skin.—Francis H. Williams says that his own experience with the *x*-rays as a curative agent in lupus has demonstrated to him: (1) That excellent results can be obtained by exposing the diseased portion of the skin near a Crookes tube which is giving off *x*-rays, and that the treatment causes no pain, and that it is not necessary to repeat it so frequently as to produce an inflammatory reaction; (2) it is essential that the treatment should be undertaken only by one who has learned how to manage an *x*-ray apparatus and has provided himself with special appliances for carrying out this method.

The Treatment of Placenta Previa by Cæsarean Section, with Report of a Successful Case.—By Francis D Donoghue.

The Duties of the Medical Examiner in Massachusetts.—By Julian A. Mead.

Philadelphia Medical Journal, December 8, 1900.

Suprarenal Gland in Hay-Fever.—Lewis S. Somers gives his experience in the internal use of this drug; he has carefully observed its effects on twenty-one patients, nineteen males and two females, the youngest being seventeen, and

the oldest fifty-six years. The time during which the patients received the adrenal exclusively varied from one to six weeks, ten being obliged to discontinue the tablets after a week's trial on account of disagreeable symptoms, while seven used them continuously for six weeks and in four they were administered at irregular intervals, but at least one tablet was given daily for two or three weeks. The nasal symptoms, as sneezing, rhinorrhœa, and obstruction to breathing, were but slightly influenced; the sneezing-attacks were apparently more infrequent while the drug was being used, but the attack in itself was as severe as before. The nasal stenosis was somewhat favorably influenced. In about one-half of the cases in which the obstruction was marked there was diminution in size of the engorged turbinals. The pruritus of the chin and buccal membrane was lessened when the tablets were dissolved in the mouth, but when they were swallowed no changes were observed, the same being the case with the eye symptoms, which were not favorably influenced. There was a decidedly unfavorable influence on the asthmatic symptoms. The two methods of administration, as already indicated, are, (1) dissolving a tablet on the tongue and (2) immediately swallowing it. The former method is preferable, as almost no results are observed in the latter. The disagreeable effects noted are: Nausea, a sense of chest constriction, and the development of asthma or the increase of the paroxysm when already existing. The favorable results are slight. Control experiments were made to determine the local effects, showing that the drug was not inert. Its local application is of great value, the writer believing it to be the most satisfactory single remedy that we possess at present.

Principles of Asepsis Applied to Operative and Other Wounds of the Eye.—By Edward Jackson.

The X-Rays in the Treatment of Carcinoma.—By Wallace Johnson and Walter H. Merrill.

Naso-pharyngeal Mycosis with Report of a Case.—By P. S. Donnellan.

Sanitary Work in the City of Havana.—By W. N. Bispham.

A Tropical Ration.—By J. R. Kean.

The Lancet, December 1, 1900.

South African Horse Sickness: its Pathology and Methods of Protective Inoculation.—By A. Edington. This is a disease peculiar to the locality mentioned. The symptoms are thus described: The disease occurs under two forms—the "dikkopziekte" and the "dunpaardeziekte." In the former the head and neck swell up enormously, thus affording trustworthy indications of illness during life. In the latter form, as a rule, no symptoms appear until close to the period of death, when the animal becomes subject to very rapid breathing with heaving at the flanks. At the moment of death, in both forms, it is common to find a huge cloud of white foam ejected from the mouth and nose. This foam is produced from a free exudation of blood plasma into the air-passages. Owing to the fact that the animals suffering from the "dunpaardeziekte" showed no symptoms until toward the end of the period of illness, it had come to be believed that the whole period of the disease was limited to a few hours' duration. The remainder of the article is of interest only to veterinarians.

Fungus Disease of the Ear.—W. K. Hatch and R. Row report a series of cases of fungus of the ear seen in Bombay. They believe that in most cases the condition is a variety of aspergillosis. The symptoms are deafness and pain. The latter is sometimes replaced by a feeling of stuffiness, varying in severity according to the amount of the growth present. In some instances there is a watery discharge. For treatment frequent syringing is advised, with the subsequent use of iodoform and boric acid in equal parts. The article closes with a description of the methods employed in cultivating the fungi on artificial media.

The Open-Air Treatment of Phthisis: an Interesting Case.—By J. F. Little and F. W. Forbes. This is the history of a case which shows how much can be done by home open-air treatment. There are no features in the case calling for special mention.

Perforating Shell Wound of the Left Chest Apparently Healed; Acute Strangulated Diaphragmatic Hernia; Laparotomy; Death.—By W. E. Home.

On a Method of Measuring the Bactericidal Power of the Blood for Clinical and Experimental Purposes.—By A. E. Wright.

Two Cases of Effusion into the Sac of the Pericardium with Fatal Termination in Twenty-four Hours.—By F. Wilson.

Treatment of Certain Chronic Abscesses by Simple Aspiration.—Clinical lecture by W. H. Bennett.

Arsenical Poisoning from Beer Drinking.—By T. N. Kelynac, S. Delépine, and C. H. Tattersall.

Prognosis and Treatment in Pulmonary Tuberculosis.—Harveian lecture by Robert Maguire.

Some Notes on Cases of Movable Kidney with Remarks on Them.—By Henry Davy.

A Case of Spontaneous Evolution in Arm Presentation.—By J. Bell.

The New Prophylaxis against Malaria.—By Angelo Celli.

British Medical Journal, December 1, 1900.

Clinical Lectures on the Causes and Cure of Insomnia.—Sir James Sawyer states that sleep is an appetite; an appetite being, according to Bain, a craving produced by the recurring wants and necessities of our bodily or organic life. The two striking characteristics of sleep are its periodic recurrence and its organic necessity. As to the physiology of sleep, there are two vital changes which take place in this condition: The one is some intrinsic change in those ultimate tissue elements of the brain which are concerned in consciousness; the other is a diminished supply of blood to the brain, especially to the blood-vessels of the cortex. The etiology of insomnia may be considered under two heads, "secondary" and "intrinsic" insomnia. The former may be produced by various evident causes, viz., pain, high fever, frequent coughing, dyspnœa, etc. Sleeplessness of this nature may be controlled by hypnotics or soporifics, or by measures which combat the cause of the insomnia. "Intrinsic" insomnia is said to exist when no objective or obvious physical cause can be discovered. It may be divided into three groups: (1) psychic, (2) toxic, and (3) senile. The subjects of psychic insomnia are generally men, and almost invariably those possessed of the nervous temperament. This state of sleeplessness may follow a severe mental shock, or more commonly it may be subsequent to prolonged mental strain caused by over-study or financial anxiety or arduous literary composition. The cause, whatever it may have been, seems sufficient to rouse a given group of cerebral cells into persistent activity. The arterioles of the brain have no longer that contractility without which sleep is impossible. In these cases probably the initial fault is unnatural excitation of the cerebral cells. In the toxic variety the cause acts primarily upon the blood-vessels of the brain, giving rise to some degree of arterial hyperæmia. The poisons to be considered here are tobacco, alcohol, tea and coffee, and the poisons generated by the gouty diathesis. As to senile insomnia, a person may truthfully be said to be as old as his arteries, not as old as his years. The senile vessels are less elastic and less contractile than normal, and their weakened walls often lead to their permanent dilatation. The smaller cerebral arteries are physically unable to adapt themselves completely to that condition of relative arterial anæmia which is the essence of healthy sleep.

Severe Angina Pectoris Relieved by Oxygen Inhalations.—Charles Steele reports the case of a man aged fifty years, who suffered severely from spasmodic attacks of dyspnœa which were increasing in frequency and severity. Careful dieting relieved his digestive difficulties, and the following was prescribed: sp. eth. sulph. co. ℥xx., tr. digitalis ℥x., bismuthi subnit. gr. x., mucilag. trag. ʒ i., aq. menth. pip. to make one ounce, thrice daily after food; and for the attacks, sp. amm. arom. ʒ i. in an ounce of water, together with inhalations of oxygen. Each attack since this treatment has been cut short at once: the pain, dyspnœa, and horror have been promptly arrested. For six weeks he has had no attack.

The Face and Pupil in Alcoholic Neuritis.—Sir T. Lauder Brunton speaks of the peculiar expression of the face which he has observed in subjects of alcoholic neuritis. The face is mask-like and expressionless, the lips appear to move apart from the cheeks, while the lips themselves seem very mobile. A fixed and unexpressionless band stretches across the nose and cheeks between the eyes and lips, the skin upon the cheeks remaining motionless and unwrinkled, while the lips, eyebrows, and forehead may be moving freely. The condition of the pupil reflex is just the converse of the Argyll-Robertson phenomenon.

The Hydrostatic Test of Stillbirth.—T. Dilworth made a post-mortem examination on an infant that was thought to be born rather precipitately. In examining the lungs they were found collapsed and in a state of "atelectasis." When the hydrostatic test was made, the lungs, entire or when cut into small pieces, sank when immersed. The only explanation seems to be that the infant kept its feeble hold on life by the amount of aeration which the blood received through the trachea and the larger bronchi.

On the Operations for Congenitally Misplaced and Undescended Testicle; with Notes of Cases of Congenital Deficiency of the Testicle.—By Thomas Annandale.

Cases of Acromegaly and Infantile Myxœdema Occurring Respectively in Father and Daughter.—By F. M. Pope and Astley V. Clark.

On the Causation of the Congenital Stridor of Infants.—By John Thompson and A. Logan Turner.

Hughlings Jackson and the Cortical Motor Centres in the Light of Physiological Research.—By Eduard Hitzig.

Case of Lateral Dislocation of the Knee Caused by Direct Violence.—By Thomas B. Carlyon.

Presidential Address on the Relation of Veterinary Science to Human Medicine.—By Sir C. J. Nixon.

The Harveian Lectures on Prognosis and Treatment in Pulmonary Tuberculosis.—By Robert Maguire.

Fundamental Points Connected with the Pathology of Diabetes Mellitus.—By F. W. Pavy.

Development of Rodent Ulcer from Sebaceous Cyst.—By J. Busfield.

A Case of Rodent Ulcer Treated with Pure Resorcin.—By H. Bowen Williams.

French Journals.

Neurasthenia.—In treating this subject, Lemoine states that there are two clinical forms of this affection—the one, hereditary, is observed in individuals having a nervous or arthritic heredity; the other, acquired or spinal (the hereditary form being rather cerebral). The two fundamental symptoms of neurasthenia are headache and insomnia, both causing much suffering. The headache is rather diffuse than localized. Vertigo is frequent. Speech is rarely affected. Defective memory is quite constantly observed in neurasthenics. Tachycardia is often noticed. The stomach is nearly always dilated. Several theories as to the etiology of this disease have been propounded. Bouchard has concluded that neurasthenia occurs in patients with dilated stomachs. But there are cases with normal digestive functions. Glénard thinks that neurasthenia occurs in patients suffering from ptosis of the various organs. Another theory is that troubles of the genital organs are the causal agent of this malady. The writer believes neurasthenia to be due to a lack in the nervous system of principles which are absolutely necessary to its correct functions. Neurasthenics generally suffer from phosphaturia. The treatment of this malady is very complex. The writer uses the following method: he gives a subcutaneous injection every two days of from 2 to 5 grams of the following solution:

℞	Phosphate of sodium	3 gm.
	Chloride of sodium	2 "
	Boiled water	100 "

This dose of phosphates, although very weak, acts with great rapidity. In Lemoine's experience, patients have, under its influence, come from a state of profound depression into a condition of excitement so marked that he was obliged to diminish or suspend the injections. In addition to this medication, lukewarm douches followed by friction and rest in bed were used. As a tonic, valerianate of quinine may be used. The moral treatment must not be overlooked. Weir-Mitchel's treatment may be tried for serious cases. Electric treatment is also used and is successful with certain cases.—*Le Nord Médical*, November 15, 1900.

Asepsis and the Hands of a Surgeon.—A. Ricard states that gloves in surgery have both their advantages and disadvantages. They should be impermeable. Silk gloves have been unanimously rejected. Rubber gloves may be thin or thick at the convenience of the operator. The former render the sense of touch less obtuse than the latter, but they are more expensive and more easily torn, which is a great inconvenience. Gloves may be easily sterilized. They isolate completely the integument of the surgeon from the field of operation, and from that point of view offer a perfect asepsis. On the other hand, the writer argues that gloves tend to deprive the operator of his delicate touch. He thinks them a source of danger from their liability to become perforated. In conclusion Ricard gives as his own opinion that there are two principal indications for gloves: (1) When a septic case must be operated upon, such as the opening of phlegmons, abscesses, osteomyelitis, purulent peritonitis, etc. (2) When, after contact with septic material, necessity forces the surgeon to undertake at once an aseptic operation.—*Gazette des Hôpitaux*, November 10, 1900.

Hysterical Astasia-Abasia.—Terrien reports a case of this nature which he treated by hypnotic suggestion. Ordinarily these patients are confined to bed, but this patient, a farmer, chose the only method of locomotion which was left to him—transporting himself along by means of his knees, forearms, and hands. The forearms and hands were paralyzed, so he supported himself on his elbows. This paralysis was not attended by disorders of sensation, but was manifestly of an hysterical nature. The patellar reflexes were much exaggerated. This condition had existed for four years. Terrien plunged the patient into a hypnotic sleep and commanded him first to get up, then to walk, then to shake hands, all of which he was able to accomplish. Eight days later he went to work, to the great astonishment of those who had known him.—*Progrès Médical*, November 17, 1900.

Simple Acholuric Icterus.—A. Gilbert and P. Lereboullet conclude that by this term is meant a pathological state characterized by a yellow tint of the skin either more marked at certain points, or generalized, without elimination of biliary pigments in the urine, but with their constant presence in the blood serum. Acholuric icterus is distinguished by its hereditary character and by its relations to the diverse forms of chronic biliary infection (biliary lithiasis, biliary cirrhosis, etc.), which exist either in his ancestors or in the patient himself. But under the term simple acholuric icterus are grouped only the cases in which the acholuric icterus exists by itself without preceding or accompanying the other modifications of chronic biliary infection. The hereditary predisposition appears especially marked in the Israelitish race.—*Gazette Hebdomadaire*, November 11, 1900.

The Therapeutic Use of Salicylate d'Amyle (Ether Amyl-Salicylique or Amylenol).—M. B. Lyonnet states that this new product is obtained by the action of chlorine on a saturated solution of salicylic acid in amylic alcohol. Its formula is $C_6H_4\begin{matrix}OH\\CO_2C_5H_{11}\end{matrix}$. It has hitherto been employed without any inconvenience whether administered externally or internally. Its penetration through the skin is very easily accomplished, as analysis of the urine shows. In different maladies attended by acute or subacute rheumatism it has had excellent results. Its odor is less marked than that of methyl salicylate, and it seems to enjoy an advantage in a good number of cases over this latter drug. It has, besides its antirheumatic properties, the sedative properties of amylic derivatives.—*Lyon Médical*, November 18, 1900.

Münchener medicinische Wochenschrift, Nov. 20, 1900.

The Treatment of Pachydermia Laryngis with Salicylic Acid.—W. Lublinski refers to an article by Fein in a recent number of the same journal in which salicylic acid was highly lauded in the treatment of this somewhat rare disease, and reports the results of his own experience with this drug, which he has used for years. His conclusions, however, based on the observation of twenty-five cases are not quite so gratifying as those of Fein, for while he admits that the salicylic-acid therapy is the only non-surgical treatment likely to be of any use, the good results following its application are never more than temporary. In its etiology and general nature pachydermia laryngis strongly resembles leukoplakia oris, and it is therefore only natural that salicylic acid, which serves so well in the latter affection, should also be of use in the former. The inaccessibility of the parts, however, which makes self-treatment impossible, and the fact that the very essential drying off of the mucous membrane before the application is made, rob the treatment of much of its utility, and relapses are always to be expected. For both diseases a ten-per-cent. solution of the acid in equal parts of alcohol and water, with or without the addition of glycerin, is to be recommended.

The Psychoses of Typhoid.—Deiters says that these may be grouped in three classes: (1) The initial deliria, which are chiefly due to the toxic action of the specific ferment; (2) the psychoses of the febrile period, in which there is also present the damaging effect on the nervous system of high temperatures, and (3) the asthenic forms due to the exhaustion following the course of the disease. Of these it is particularly the first type that is of interest to the general practitioner, and he describes two cases affecting the children of neurotic parents in which various irrational manifestations (restlessness, hebetude, uncleanliness, violence, inability to answer questions rationally, etc.) were observed a week or ten days before the onset of specific symptoms. The conclusions are that when a rise of temperature is accompanied by acute psychical derangement typhoid should be thought of, and that the initial delirium of the disease may persist for some time without any temperature elevation or the appearance of the usual symptoms.

A Case of Foreign Body in the Nose.—Breitung reports a case in which the foreign body, a button, was removed from the nasal cavity of a three-year-old child by inflation through the opposite nostril, the mouth being closed, followed by extraction with aural forceps when it had been brought within reach. The difficulties in this instance had been much increased by a previous unsuccessful attempt

at removal by the family physician, and the author makes a plea for the early calling in of the specialist in such cases.

Does Congestion or Cocaine Anæmia of the Conjunctiva Influence the Calibre of the Superficial Temporal Artery?—By O. Rosenbach.

The Treatment of Gastro-Enteritis with Biedert's Cream Mixture.—By Gernsheim.

Variation and Pleomorphism in Bacteria.—By Ernst Schwalbe.

Antisepsis and Asepsis among the Ancients.—By J. Marcuse.

The Curability of Habitual Scoliosis.—By Konrad Port.

Notes on the Subject of Meats.—By J. C. Huber.

Deutsche med. Wochenschrift, November 15 and 22, 1900.

Connective-Tissue Induration of the Heart Muscle (Myofibrosis Cordis).—K. Dehio reiterates his statements concerning the heart lesion to which he has given this name, and which have lately been called in question by other writers. The essential point of difference between this and other forms of degeneration described appears to be the fact that it is universally diffused throughout the entire substance of the muscle instead of being limited only to small areas. The process is an exaggeration of the increase in the connective-tissue groundwork of the muscular structure of the organ, which is a normal senile change, but which may be found as a pathological manifestation at any age. In well-marked cases the lesion is unmistakable: the usually angular, polygonal cross sections of the muscle bundles have become circular, and are widely separated by the new-formed tissue. In advanced stages the fascicles themselves are invaded and each individual fibre lies embedded in connective tissue. Changes take place in the fibres also, which may be hypertrophied in some regions, while in others, owing to the pressure, they become atrophied and seem to be in process of replacement by the new growth. The lesion appears to be a direct consequence of hypertrophy and dilatation, which view is borne out by the fact that it is never found except where such changes have taken place, and also because it is always most marked in the auricles, which are the first portion of the heart to feel the effect of overstrain.

Traumatic Diabetic Coma.—W. Spitzer contributes the history of a case in which a fatal attack of diabetic coma was apparently induced by a combination of trauma and psychical shock. The patient, a man aged forty-six years, had been suffering for six years from a diabetes of moderate severity with a daily excretion of from gr. lxxv. to cl. of sugar without any subjective symptoms or disturbance of nutrition. Under these conditions a fall resulted in fracture of the right clavicle, while in addition to the actual injury the very emotional patient sustained a profound emotional shock. In spite of energetic stimulation and the administration of large amounts of alkalies the symptoms of developing coma appeared, which finally became complete and ended fatally six days later. Severe psychical disturbance in predisposed individuals seems greatly to increase an existing glycosuria, while there is no immediate provision for preventing the formation of abnormal organic acids. In addition, owing to the sudden onset of this condition of acidosis, the organism is unable to cope with it by the usual processes of oxidation, which suffice in cases of long standing, the organism being, as it were, "startled" out of its normal means of self-defence.

The Pathogenesis and Therapy of Asthma.—Cohen-Kysper considers the usually accepted theory that this disease is in most cases a reflex neurosis depending on stimuli affecting the respiratory mucous membrane in some portion of its extent as erroneous, and would substitute the view that it is the consequence of some nasal conditions, most often a stenosis. This, even though the patient may be quite unconscious of its presence, in the course of time in predisposed individuals produces a state of respiratory hyperæsthesia, or increased consciousness of the normal respiratory sense, which eventually leads to the various forms of the malady known as pseudo-asthma. In every case of true asthma in which there are distinct pulmonary changes present, this factor, a psychical reflex as it were, also plays a large part, especially in those attacks coming on in close rooms, in a heated atmosphere, at night, etc. The treatment is obvious from this view of the etiology and consists in a thorough search for and removal of any existing nasal abnormality.

The Use of Hydrogen Peroxide in Wound Treatment.—Oskar Müller warmly recommends the routine employment of this agent, which apparently has not yet reached the same popularity abroad that it enjoys with us. Its advantages are its very powerful bactericidal action; its property of undergoing catalysis and splitting up into water and free oxygen when in contact with bacteria, pus, etc., whereby the remotest recesses of a suppurating cavity are reached and a mechanical cleansing is effected by means of the active gas liberation; its great value as a deodorizing agent; its absolute harmlessness to skin or mucous membranes; the absence of toxic symptoms after absorption, and finally its cheapness.

Sympathetic Ear Disease.—Rhese describes three cases in which after excision of the malleus of one ear for chronic middle-ear disease a very notable and permanent improvement followed in the hearing of the other ear, which had been subjected to no therapeutic measures. In explanation the author offers the hypothesis of an anastomosis between the two auditory nerves through which possibly inhibitory stimuli may pass from the diseased to the well organ, which impulses cease as soon as their causes (the cicatricial contraction, circulatory changes, etc.) are removed.

A Contribution to the Specific Demonstration of Egg Albumen by a Biological Reaction.—By Uhlenhuth.

Second Report on Malaria and Mosquitos on the West Coast of Africa.—By H. Ziemann.

A Case of Fatal Parenchymatous Colonic Hemorrhage.—By L. Huisans.

Kidney Exclusion by Ligature of the Ureter.—By L. Landau.

The Freezing-Point of the Blood in Typhoid.—By Waldvogel.

Medicine, December, 1900.

A Case of Malarial Cystitis.—William F. Benart reports the case of a man who suffered at about noon every day from pain, uneasiness, vesical tenesmus, and painful urination, the attack reaching its maximum between 3 and 6 P.M., lasting from one to three hours, and gradually ceasing. The urine was laden with pus. There were no symptoms pointing to malaria excepting the periodicity of the attacks—no chills, no rise of temperature exceeding four-fifths of a degree; but the patient was troubled with sleeplessness, poor appetite, a worn-out feeling, and a gradual loss of weight. When it was noted that every other day the symptoms were more severe, malaria was suspected, and quinine sulphate given as follows: 7 A.M., gr. ix.; 12 M., gr. ix.; 3 P.M., gr. iii. The second day the symptoms began to subside, and by the fifth day had nearly disappeared. A specimen of the blood showed the presence of the malarial parasite.

A Case of Cirrhosis of the Liver and of the Pancreas, with Diabetes and Hæmachromatosis.—A. P. Condon describes a case, and says that regarding the etiology of bronze diabetes three theories may be mentioned: (1) That it is a distinct pathological entity—advanced by Marie and supported by Hanot and other French writers; (2) that it is a diabetes mellitus, the diabetic poisons producing the hæmachromatosis, cirrhosis of the liver, pancreas, etc.—advanced by Letulle; (3) that hæmachromatosis is the primary affection, and the deposition of pigment causes the hypertrophic cirrhosis of the liver and pancreas, diabetes resulting when the pancreatitis reaches a certain stage—advanced by Opie.

Remarks on the Treatment of Exstrophy of the Bladder, with Report of a Case of Vesico-sigmoidal Anastomosis with the Frank Coupler for Exstrophy.—By A. E. Halstead.

Examination of the Stomach Contents with Respect to Hydrochloric Acid.—By Frederick A. McGrew.

One Case of Cerebro-spinal Rhinorrhœa, and Two Cases Nasal Hydrorrhœa.—By John Harold Philip.

University Medical Magazine, November, 1900.

Nature and Distribution of the New Tissue in Cirrhosis of the Liver.—The following conclusions are reached by Simon Flexner: 1. In all forms of cirrhosis the white fibrous tissue is increased. 2. Along with the increase of white fibrous tissue there is a new formation of elastic tissue. This new elastic tissue is derived from pre-existing tissue in the adventitia of blood-vessels and the hepatic capsules. 3. Both white fibrous tissue and elastic tissue, in all forms of cirrhosis, may penetrate into the lobules. This penetration takes place along the line of capillary walls or follows the architecture of the reticulum. The chief distinctions between the histology of atrophic and hypertrophic cirrhosis depend upon the degree of extralobular growth and the freedom with which the lobules are invaded. In hypertrophic cirrhosis there would appear to be less interlobular growth and an earlier and finer intralobular growth. 4. The alterations in the reticulum, *per se*, consist, as far as can be made out at present, of hypertrophy rather than hyperplasia of the fibres. It is still uncertain whether any of the differential methods now in use suffice to distinguish between the reticulum and certain fibres derived from the white fibrous tissue of the periphery of the lobules.

The Dissemination of Tubercle Bacilli by Cows in Coughing a Possible Source of Contagion.—Mazijck P. Ravenel

gives the results of numerous experiments on this subject. In order to collect the sputum from tuberculous cows he made use of an ordinary nose-bag, near the bottom of which is placed a shelf of soft pine wood, sterilized by steam heat each time before using. The wood catches the smallest particles ejected by the cow during the act of coughing. The more solid particles may be removed by a platinum needle for experiment. Tubercle bacilli have been detected in the bronchial secretions of every tuberculous cow on which the experiment has been tried. Of forty-five guinea-pigs inoculated in the peritoneal cavity with the tuberculous mucus, twenty-three died within a few days, most of them from peritonitis, too early for the development of tuberculous lesions. Of the remaining twenty-two, eleven, or fifty per cent., became markedly tuberculous. Fourteen guinea-pigs were exposed by means of a special nose-bag directly to the breath of the tuberculous cows, and after several weeks were killed. No evidence of tuberculosis could be detected in any of them.

The Justus Test in Syphilis: its Application in Twenty-nine Cases.—H. M. Christian and Otto H. Foerster from their investigations draw the following conclusions: 1. That in the diagnosis of doubtful ulcers it is of no value. 2. That it seems to occur in a certain proportion of cases of acute secondary syphilis, where it appears to be a symptom of the disease and can in no sense be considered a true test, as the diagnosis in such cases is already complete. 3. That as a test it is unreliable, occurring as it does in conditions other than syphilis.

Review of the History of Cardiac Pathology, with Especial Reference to Modern Conceptions of Myocardial Disease.—By Alfred Stengel.

Renant's Bodies in a Case of Vesiculo-bullous Dermatitis and Gangrene.—By William G. Spiller.

Personal Observations of the Bubonic Plague in Manila.—By E. F. Robinson.

Bulletin of the Johns Hopkins Hospital, Nov., 1900.

Aneurism of the Aorta Treated by the Insertion of a Permanent Wire and Galvanism (Moore-Corradi Method).—Guy L. Hunner feels convinced from study of the literature that this malady is usually a surgical disease. The wire which the writer believes quite ideal for this operation is a silver alloy, highly drawn; seventy-five parts of copper to the thousand makes a wire which when drawn from No. 8 to No. 27 (standard gauge) takes a closer coil than steel; it is also more pliant than steel, thus minimizing the danger of puncture should the end come in contact with the thin aneurismal wall. It can more easily be passed into the needle without kinking than the pure silver wire, for it has more body. It erodes more than steel, thus having a rougher surface for whipping out fibrin. The writer believes, however, that the formation of fibrin is far more a chemical than a mechanical process; and silver, being one of the metals least resistant to the electric current, transmits more of a given current for action on the blood. The positive pole of the galvanic battery is connected by means of its insulated conducting cord with a long end of the wire from the aneurismal sac; the negative pole is connected with a metal plate at the back. The sac should never receive both poles, and the current should not be so passed that the negative electrode is in the sac. In thoracic aneurism, operated on by the method described by the writer, the patient does not require an anæsthetic. Locally, cocaine or ethyl chloride may be used. In abdominal cases the usual preparations for cœliotomy are made. Abstracts of the cases treated by the wire method, and of those treated by passing electricity through a permanent wire are then given. The writer adds a report of the five cases which have been operated on at the Johns Hopkins Hospital. A review of the cases treated by the two methods mentioned above, with their results, certainly argues for the efficacy of the Moore-Corradi method. Clinical and post-mortem evidence is also in its favor. Its great drawback is the difficulty of accurate diagnosis. The cases under consideration were not picked cases, but were generally considered hopeless. When, too, it is considered that the method is still in its infancy, it seems still further to merit great consideration.

Oxygen and Steam with the Vapors of a Special Mixture in Pulmonary Diseases.—By Clement A. Penrose.

Obstetrical Paralysis, Infantile and Maternal.—By H. M. Thomas.

Archives Générales de Médecine, October, 1900.

Endocranial Complications of Sphenoidal Sinusitis.—M. Joubert calls attention to the fact that (1) the sphenoidal sinuses may become inflamed in nasopharyngeal infections, especially during the course of certain general affections, such as grippe, pneumonia, erysipelas, typhoid fever, etc., and this much oftener than is generally supposed. (2) The sphenoidal sinuses may become complicated by fatal meningitis or phlebitis, the infection being carried by an osseous or venous passage or by means of the lymphatics. Many cases of so-called spontaneous meningitis may be due to an unrecognized sinusitis. (3) The diagnosis of sphenoiditis is extremely difficult, the symptoms being variable and not very definite. Catheterism or puncture of the sinuses is the best method of diagnosis. (4) Treatment of complicated sphenoiditis is merely prophylactic, and consists in prevention of infection of the sphenoidal sinus; or in the treatment of the inflammation if it be already present.

Two Cases of Uræmic Hemiplegia with Autopsy.—L. Brodier, from a study of these and other cases, concludes that uræmic hemiplegia may in exceptional cases persist for several years. It is then accompanied by no trophic or vasomotor disturbances of the paralyzed parts, but death occurs in the midst of other symptoms of uræmia of the nervous system, such as Jackson's epilepsy, delirium, or coma. In all cases of hemiplegia accompanied by albuminuria the physician should remember the possibility of a renal origin of the functional disorder, and search for evidences of chronic nephritis, or for other symptoms of chronic uræmia. The mere coexistence of renal insufficiency and hemiplegia do not suffice for the assertion that the motor trouble is due to uræmia. When hemiplegia of some duration is found in a patient suffering from chronic nephritis, the absence of exaggerated reflexes, of Babinski's symptom, and of trophic or vasomotor phenomena should cause a suspicion of the uræmic nature of the paralysis.

Clinical Forms of Paralysis of the Brachial Plexus.—Henri Grenet says that there are as many forms of paralysis as there are segments of the plexus, but the only two real clinical types are paralyses of radicular type and those of a terminal type. The former are characterized by the localization of the trouble in a special group of muscles and by the zone-like arrangement of the anæsthesia. Paralyses of a terminal type are recognized by the localization of the trouble to the area of one or more peripheral nerves. Hysteria may be recognized by the mode of distribution of the sensory troubles (also by other evidences of neurosis). Paralyses of the peripheral nerves may simulate those of a radicular type when several nerves are attacked simultaneously, or when the affection extends into the territory of neighboring nerves.

Hydatid Cyst Evacuated through the Intestines; Icterus from Retention; Spontaneous Abortion; Fever for Forty Days; Recovery.—By P. Le Noir and G. Leven.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

WAR HOSPITALS COMMISSION: THE COMING REPORT—MEETING OF ROYAL COLLEGE OF SURGEONS—VAGINAL HYSTERECTOMY FOR CARCINOMA UTERI—OSSEOUS DISEASE—LATE OR CONTINUED RICKETS—PULSATING SWELLING OF THYROID—PRINCE OF WALES' HOSPITAL FUND—THE LATE DR. COCKLE.

LONDON, November 23, 1900.

It is said that the report of the commission on the war hospitals will be ready for presentation when Parliament meets. Accordingly attempts to forecast the tenor of the report are being made. That regrettable incidents happened will scarcely be overlooked, but it will probably be made clear that these were unavoidable under the system which exists and under the stress of active war. Will reorganization of the medical service be recommended? That is the question which most interests outsiders. It is almost certain that changes will be recommended with the intention of rendering the service more attractive, and that the actual grievances which remain unredressed will be distinctly condemned. I claim no telepathic communication for my anticipation: the grievances are so obvious to all who look into the matter. The commissioners are independent and will not be afraid to tell the government that the army surgeons must be treated better as to pay, allowances, and study furlough. The report will endorse the claims of the doctors and justify them before the public. Perhaps the government with this support and with no longer the opposition of Lord Wolseley and his gang will decide to do justice to the service.

A good deal of nonsense has been written about orderlies by editors and correspondents who seem unable to distinguish a trained male nurse from an untrained helper. Of course a war-hospital orderly is a soldier, but his training as a nurse is very complete and careful. A certain num-

ber of women will not see this because they are so set upon pushing women into every possible office. In deference perhaps to this outcry a number of additional female nurses were engaged during the war, but the experiment was not successful enough to encourage the authorities to continue it, and a number of the women who had been temporarily employed, on applying for permanent engagements have been told that there are no vacancies and that none is likely to occur.

The hospital orderly may no doubt be improved; so may the female nurse, if her hysterical patronesses will suffer such an assertion. The orderly's education may be somewhat improved, but his hospital training is quite as good as that of the females in civil hospitals, and, as I said, he must be a soldier too. Novices, even civilian consulting surgeons, are not necessarily the best judges of the requirements of an active campaign; nor are war correspondents, with all their critical powers. A good illustration of this was Mr. Julian Ralph, a brilliant correspondent, but by no means infallible. Any medical man who reads some of his letters in which medical matters are mentioned will see how incompetent he is to discuss them.

The meeting of fellows and members of the College of Surgeons was duly held on the 15th, when the council was once more urged to agree to some degree of representation of members. A resolution was in fact passed *nem. con.* asking the council "not to carry into the new century the unfortunate controversy which has existed so many years with disastrous results."

Another resolution requested the council "to take any steps in its power toward obtaining a parliamentary inquiry into the working of the medical acts, with a view to their amendment." This was allowed to stand on the minutes, but the president, Sir W. MacCormac, in his address mentioned that the council considered it somewhat out of order, as the matter concerned the General Medical Council rather than the college. Mr. George Brown, who brought forward the motion, is a member of that general council, but thought it no use to look in that direction. He also said men who held a double qualification ought to be allowed to use the prefix "Dr." This remark elicited from the president the statement that application was made by the college in 1888 for this privilege but was refused.

A claim was put forward for the members to have the annual report posted to them as it is to fellows. The only objection is the wasteful expense of posting a document nobody wants. Any one can have a copy on asking for one by a post card; but it was said only six members had asked for one during the year.

There was a further resolution on the question of combining with the Society of Apothecaries and on the recognition of science courses in ordinary schools. The latter subject is still under consideration and the former is perhaps not opportune while the newly organized university is getting into working order. But both these questions I have dealt with in former letters.

The closing meeting of the century will probably be as fruitless as its predecessors, and reformers must look to the future and show more earnestness and determination.

Dr. A. H. N. Lewers read a paper at the Medico-Chirurgical Society on the 13th on the "After Results of Vaginal Hysterectomy Performed for Cancer of the Uterus." He gave some account of forty cases, in twelve of which there had been no recurrence. Omitting one case in which little more than a year had passed since the operation, in eleven cases (27.5 per cent.) the patients remained well from two to seven years after the operation. Dr. Lewers attributed this large percentage to careful selection. He examines under anæsthesia and operates only if the disease seems to be limited to the uterus itself. He performs supravaginal amputation of the cervix only for very early cases, and for cancer of the vaginal portion in which the growth is limited and superficial.

In each of the twelve non-recurrent cases the specimen had been reported on by Mr. Targett, and Dr. Lewers gave very full details of the evidence of non-recurrence. He concludes that in a certain proportion of cases the relief by operation may continue so long (seven years or more) that it may probably be permanent, though this proportion must be small so long as patients seek relief only at a late stage. The great desideratum is early diagnosis. As to this it is most important to recognize the grave significance of bleeding after the menopause, or at an earlier age between the menstrual periods. Another point, almost as important, is that patients may look quite well and fat for a long while after cancer of the uterus has set in. Dr. Lewers exhibited specimens and illustrations of his cases and an interesting discussion followed.

Dr. Briggs, of Liverpool, said he had operated on eighty-three cases of malignant disease. Up to April, 1899, he had fifty-seven cases with three deaths. Of these, one was sarcoma of the cervix without recurrence; fifty-six were cancer—ten of the body, forty-six of the cervix. Of these patients ten are living now, but in five of them recurrence has appeared. In malignant adenoma the results are better than in cancer. He thought Dr. Lewers' paper encouraging.

Dr. Amand Routh had operated on forty cases—fourteen of the body, twenty-six of the cervix. Of the fourteen, recurrence took place in three within twelve months, and in one in seventeen months; one patient was well after two and one-quarter years, one after three and one-half years, and one after four years. Of the twenty-six cases of cervical cancer, the disease recurred in several within a year; one very disappointing case recurred after seven years. One patient operated on in 1892 and another in 1895 are now alive.

Mr. Bowerman Jessett, who has performed the operation one hundred and fifty times (one hundred and seven cases having been published last year), said his results quite justified Dr. Lewers' conclusions, and he added that cases of fibroid which became malignant were favorable. To this remark objection was taken by subsequent speakers: Dr. Champneys said he had seen only one case in which such a change seemed in any degree probable, and Dr. Lewers could not admit that fibroids might become malignant.

Mr. Charles Ryall, commenting on the comparative frequency of recurrence in cancer of the cervix, attributed it to reinfection of the wound during operation, and related a case illustrating this explanation. On this Dr. Herbert Spencer expressed extreme interest, as he was certain there was great risk of implanting the growth upon the vagina, vulva, or other parts wherever there might be a scratch or abrasion. This risk had often induced him to do a high amputation and to use the cautery. The entire operation could be done by cautery, as shown by Dr. Byrne, an American surgeon who has done some four hundred operations by it with only one death.

Mr. Walter Tate regretted that Dr. Lewers had not separated his cases of cancer of the body and cervix, and he thought, too, the operation was justifiable even when it did not give permanent relief.

At a "clinical evening" of the Medical Society on Monday last, several interesting cases were shown. Mr. Kellock showed a female child, aged seven years, suffering from what he diagnosed as mollities ossium, although he said that it might better be described as fragilitas and mollities, as was a case of Mr. Dents, recorded in the transactions. Multiple fractures occurred, and tenderness and pain at the site of fracture preceded the occurrence. The first fracture occurred when the child was five months old.

Mr. Muirhead Little showed the radius and femur from a case of late or continued rickets. The patient, a girl aged seventeen years, was exhibited to the society last April, and although on that occasion one speaker had insisted that it was not a case of rickets, but of mollities or some such condition, these specimens showed the characteristic changes of rickets in and about the epiphyseal lines, thus proving the correctness of the diagnosis. This patient died after two days' illness with symptoms of acute cerebral disturbance. He had now under his care a lad aged seventeen years, with marked enlargement of the epiphyses and severe knock-knee, whose bones were quite soft, containing little lime salts, as shown by the *x*-ray and by the trifling resistance offered to the osteotome in Macewen's osteotomy. He hoped to exhibit the case later on.

Dr. Caley showed a pulsatile swelling of the thyroid (aneurism, sarcoma, or cyst?). Mr. Weeks showed a rare case of locomotor ataxia in a boy aged eight and one-half years. He had nearly all the symptoms of the disease, which was said to be congenital. The father had locomotor ataxy, but no other member of the family as far as known. Various cases of skin disease were shown, and one of Baker's cyst of the leg.

The great demands on the public for the war and famine funds have had an adverse influence on the finances of our hospitals, some of which are suffering severely from diminished subscriptions. Even the Prince of Wales' hospital fund has been affected, and an appeal on its behalf is now being circulated. It is hoped that £25,000 may be given before the 15th prox. It is unfortunate that this fund to some extent duplicates the Sunday fund. If the Prince had kept the committee clear of the persons whose administration of the Sunday fund has given offence it would have greatly helped this appeal.

John Cockle, M.D., M.A., for many years physician to the Royal Free Hospital, died on the 14th inst., aged eighty-seven. He was also at one time a teacher in the now extinct Grosvenor School. He retired from practice some years ago. Prior to that I used frequently to meet him. He was a very courteous and genial man, with abundant information. He was scholarly, too, a fact recognized by his university, which confirmed on him its honorary degree in arts. He was a fellow of both the royal colleges. There is in the Hunterian Museum a specimen from a case of aneurism of the arch of the aorta on which at his request Mr. Heath operated by tying the left carotid. The patient lived four years. Dr. Cockle had for a long time given attention to thoracic aneurisms, and had found records of what appeared to be cures from obliteration of the carotid.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, November 19, 1900.

PARKER SYMS, M.D., PRESIDENT.

Myoma Uteri.—DR. GEORGE TUCKER HARRISON presented a large myoma which he used as a text for some remarks on the method of removal. He said that every myoma at first was interstitial, and he was of the opinion that by proper treatment such a tumor might be made submucous and removed after the manner employed in obtaining this specimen. The patient, an elderly single lady, had been treated by him at first by the administration of thyroid extract, as she had refused radical operation. Subsequently she had consulted him because of irritation of the bladder, and examination had shown this to be caused by an effort of nature to rid the uterus of the tumor which had been converted into a submucous myoma, largely, he believed, as a result of the treatment employed. The tumor was so large that it had been necessary to make two deep lateral incisions into the narrow vagina in order to get sufficient room to deliver the tumor. After this had been done he had sutured these incisions. He would not at the present time make use of the thyroid extract, because it produced great emaciation, and its use was attended by certain dangers. He preferred now to employ the suprarenal extract, which had served him well in controlling the hemorrhage. The method employed in this case was, of course, not applicable to cases in which the tumor was so large that it could not descend low into the pelvis, or in which the uterus had not already made efforts to expel the growth. A necessary preliminary to the operation was dilatation of the cervix by instruments or by the insertion of laminaria tents. During the removal of the tumor there was always danger of entering the peritoneal cavity. The great advantage of the method was its freedom from shock.

General Septic Peritonitis.—DR. IRVING S. HAYNES read a paper on this subject. He defined the term "general septic peritonitis" as an inflammation of the peritoneum, septic in origin, and unlimited in extent by adhesions." It might originate from many sources of infection. Thus in the fifteen cases forming the basis of the paper eight had been caused by rupture of the appendix, while others had originated from rupture of cancer of the bowel, rupture of pus tubes, extension of sepsis from the uterus after an abortion, traumatism of the abdomen, etc. The affection was conveniently divided into three stages: (1) the stage of shock; (2) the stage of reaction, and (3) the stage of recovery, or of collapse and death. The vomiting at the beginning was due to shock, and was not significant unless it persisted after a washing-out of the stomach and bowel, and the vomited matter consisted of the contents of the bowel. In the adult cases seen early, the pulse had varied from 90 to 120 and the temperature from 101.6° to 102° F., and the respirations had been rapid and shallow. The pulse was thin, thready, and weak—the pulse of shock. In the cases that had ended in recovery the pulse had at first been 100, and in the cases that had terminated fatally had been about 130, thus pointing to the early infection of the system in the grave cases. A short time before death the temperature began to rise, but rarely went above 104° F. One of the earliest signs of recovery was a more restful facial aspect. These patients died unless operated upon, and the only hope lay in removing the infectious material by an early abdominal section. His operative cases had been operated upon on an average within four hours after the infection. While one might be sure that death would occur without operative intervention, it was not so certain that operative intervention would be followed by a fatal issue. Every now and then, even an apparently hopeless case would end in recovery; hence it should not be assumed that death was inevitable, and that, therefore, nothing should be done. In all doubtful cases the incision should be made through the linea alba. The character of the fluid which gushed out would give a clew to the locality of the trouble. The abdominal cavity should be at once thoroughly irrigated, by means of a large glass tube perforated laterally, with a very large quantity of decinormal salt solution. This irrigation should be kept up until the fluid returned clear, and should be done without sponging before a search was made for the lesion. The handling and chilling of the intestine should be most carefully avoided. When there was great distention of the bowel, interfering with the necessary manipulations, the gas should be allowed to escape through a small linear incision, which should afterward be closed by suture. Full strength peroxide-of-hydrogen solution could be used locally, if followed by a washing with salt solution, but he would not advise its use throughout the peritoneal cavity as it certainly possessed the power of injuring the epithelium. Probably the best form of drain was the "wick drain," made by wrapping strips of gauze in gutta-percha tissue. The dressings should be frequently renewed to favor capillary drainage. The speaker cautioned against overstimulation of the heart by hypodermic injections of caffeine, strychnine, sparteine, and similar drugs, but did not think there was much likelihood of overstimulation from all the whiskey that would be given with a hypodermic syringe.

DR. CHARLES N. DOWD said that not long ago a case of general septic peritonitis was considered necessarily doomed, yet quite recently cases had been reported from almost every hospital in this city with an encouraging percentage of recoveries. A large number of surgeons were in the habit of flushing out the peritoneal cavity with warm saline solution; others depended upon their ability to wipe clean the surfaces of the intestine, and did not wash out the peritoneal cavity; others depended largely upon incisions made into the intestine with the object of liberating the intestinal contents and diminishing the distention, and in this way restoring the function of the peritoneum. All of these methods had, in certain instances, given good results. It was noticeable that the successes and failures in this class of cases from different hospitals occurred in groups. The inference from all the foregoing considerations was that the good results were not dependent upon the particular methods employed. In studying the course of peritonitis it would be noticed that at the beginning there would be a small spot of inflammation and the effusion of a considerable quantity of serum. Most surgeons paid no special attention to this effusion. Later on, however, it would be found that this serum became cloudy, indicating that the infection had gone somewhat farther. Still later, one would find an effusion of seropus. The successful cases had been, generally speaking, those in which the general peritonitis had been mild, the serum being but slightly cloudy—in other words, they were border-line cases. It was true there might be thick pus at the site of the infection. When flakes of fibrin were scattered all through the intestinal coils, and thick pus was matted over the bowel, or localized abscesses had formed, recovery seldom, if ever, occurred. Many patients would recover simply by drainage of the infecting abscess. There could be no doubt that at the present day the majority of sur-

geons favored the free use of hot saline solution. The power of the peritoneum to deal with sepsis was certainly great; hence the confidence placed by experienced surgeons in mere irrigation and drainage. However, ten years ago drainage had been used far more frequently than at the present time. The surgeons of to-day preferred to use moderate drainage and supplement this with means for increasing peristalsis. The tapping of the intestine at one or more places was looked upon as an additional means of increasing peristalsis.

Dr. Benjamin T. Tilton thought general septic peritonitis offered a peculiarly favorable field in hospital practice for improving the mortality statistics. Modern methods had already greatly improved the statistics. The older methods of treatment by opium and rest of the affected parts had yielded a mortality of ninety-five per cent. or more, whereas the more recent methods had reduced it to eighty per cent., and in some instances as low as sixty per cent. There must necessarily be a large number of fatal cases, as for instance from sudden invasion of the peritoneal cavity and a general poisoning before operation could be undertaken, or cases which might have been favorable had they been brought to the surgeon sooner. Cases in which there were numerous pus foci walled in by adhesions did not come under the class considered in this discussion. When nature had made any attempt to limit the exudation of pus by adhesions, one had reason to hope for recovery. He did not look for any great improvement in the present surgical technique; progress in this department of surgery must rest chiefly upon the co-operation of the medical profession in bringing these desperate cases earlier to the attention of the surgeon. He was opposed to the method of wiping off the intestine, because it was inadequate for the removal of the pus and bacteria, and inflicted a certain amount of trauma.

Dr. A. Brothers said that Dr. George R. Fowler, of Brooklyn, had suggested that in cases in which the peritoneal cavity was full of pus, the elevation of the foot of the bed was contraindicated; instead of this the head of the bed should be raised in order to favor the escape of pus. The speaker said that he had tried this method, and had been convinced that the sepsis had been diminished by the adoption of this practical suggestion. As his experience in abdominal surgery had increased, his confidence in the power of the peritoneal cavity to take care of a limited amount of infection had increased. Formerly he had been in the habit of flushing the peritoneal cavity frequently; now he did it only in cases in which a very large quantity of pus was already distributed throughout the peritoneal cavity, for in ordinary cases of general septic peritonitis such flushing seemed to him to do more harm than good by disseminating the septic matter into the remotest parts of the peritoneal cavity.

Dr. John F. Erdmann said that he was disposed to agree with the last speaker rather than with the others as to the technique. In many cases showing pus foci he simply cleansed the cavity with a sponge moistened with peroxide of hydrogen, following this with the application of a sponge moistened with decinormal salt solution. After twenty-four or forty-eight hours he endeavored to discard all drainage. He certainly agreed with the preceding speaker that the flushing with salt solution served to disseminate the septic matter rather than to cleanse the peritoneal cavity.

Dr. Haynes, in closing, said that he believed the most virulent cases were those in which the infection was due to the bacillus coli communis. His experience led him to think that most patients operated upon within six or eight hours after infection would recover, while those operated upon after that time would usually die. He could not agree with those who had spoken against flushing with salt solution, and did not believe that this irrigation would tap the lesser cavity of the peritoneum. When it was suspected that the infection was present there, this cavity should be opened and cleansed.

The Use of Hot-Water Vaginal Injections.—Dr. James Hawley Burtenshaw read this paper. He said that old as this therapeutic measure was he believed it was more commonly misunderstood and more generally abused than almost any other popular mode of treatment. The distinction should be sharply drawn between the cleansing and the therapeutic vaginal douche. The application of the douche for four or five minutes served only to increase the pelvic congestion. At least three gallons of water at a temperature of 107° to 120° F. should be used for each douche, and the douche should be taken twice daily, the patient having been instructed to remain in the recumbent position for at least half an hour afterward. On account of the large quantity of water employed, it would be found most convenient for the patient to take such a douche while lying in a bath-tub, provided the latter was of sufficient size. The hips should be raised while the douche was taken. It was not generally advisable to add antiseptics or other medicaments to these douches.

Dr. George Tucker Harrison said that he heartily agreed with all that had been said in the paper about the method of giving vaginal douches. In this connection he wished to give full credit for this most important therapeutic measure to its originator, Dr. Thomas A. Emmet, who had first brought it to the notice of the profession in 1862. In cases of parametritis following childbirth he had seen most wonderful results from a proper use of the hot vaginal douche.

Harmful after Certain Operations.—Dr. J. Riddle Goffe said that he was in accord with the general views expressed in the paper, yet he had not made use of such large quantities of hot water. He had often advised the use of a hinged board fitting over the bath tub. When this could not be conveniently arranged, the woman should be directed to lie down on the bottom of the tub and take the hot water from a combination faucet. It was the custom in the Woman's Hospital to use hot douches after curettage and perineal operations, yet he felt sure that this practice was harmful in that it caused anæmia of the parts, and interfered with the healing-process. He much preferred in such cases to make use of a light vaginal tampon. The use of hot douches after vaginal hysterectomy was often responsible for a sluggish granulating process because of the maceration of the tissues by the retained douche water. It had been suggested that hot vaginal douches of short duration might be useful when it was desired to aid the development of imperfectly formed pelvic organs, but to this he could not subscribe, for congestion of the venous circulation did not seem to him a rational method of trying to accomplish this.

Contraindications.—Dr. F. P. Hammond expressed the opinion that the quantity of water used in the douche was of little consequence. The important point to consider was the duration of the douche, and as good results could be secured from the use of one gallon of fluid as from three gallons, provided the aperture of the nozzle was sufficiently small. The douche was entirely contraindicated in pronounced anæmia, especially when there was marked headache, because with an effective vaginal douche from one-third to one-half of the blood in the body was forced into the pelvis. It was a safe rule to interdict the use of the hot vaginal douche until the anæmia had been at least partially controlled. The douche was also contraindicated in acute perimetritis or salpingitis, be-

cause it was not always easy to say whether or not pus was already present, and the hot douche would certainly favor suppuration. In cases of uterine dysmenorrhœa without marked involvement of the ovaries, a prolonged hot vaginal douche would often give complete relief. It did this by softening the cervical mucosa and relieving the tension.

Dr. W. Evelyn Porter said that it had been his practice for several years to have his patients make use of a vulvar pad with an outlet tube of smaller size. The nozzle was held in place by a T-bandage, and the outflow was regulated by pinching the tubing more or less. This gave a prolonged douche with a moderate quantity of water, and at the same time distended the vagina. The vulvar pad and the Kemp's tube would accomplish this nicely, and would require the use of only from four to six quarts of water.

Dr. A. B. Tucker said that he had found that by the use of large hot vaginal douches it was possible to do so much good in cases of retrodisplacements that pessaries would be rarely required.

Dr. F. H. Wiggin said he firmly believed that this method was far more useful in 1862 than at the present time when there were other and better methods of treating acute inflammatory diseases of the female pelvic organs.

Dr. A. Palmer Dudley said that hot vaginal douches were not used much at the present time by the younger practitioners because it was known that their action did not reach beyond the cellular tissue. The treatment had been introduced by Dr. Emmet at a time when the theory of cellulitis had dominated gynæcology. He thought Dr. Emmet had lived long enough to see many of the younger men go out of the Woman's Hospital with different notions as to the value of these douches. His own point of view being surgical he could see but little need at the present day for such treatment.

NEW YORK ACADEMY OF MEDICINE.

Anniversary Meeting, December 6, 1900.

William H. Thomson, M.D., President.

Appendicitis from the Medical and Surgical Points of View.—This was the topic of the anniversary discourse, which was delivered by Dr. Robert Abbe. He called attention to the fact that appendicitis had held its own in the surgical field in spite of prejudice and of the new and interesting problems constantly arising. The experienced surgeon often treated at the present time as many as one hundred cases a year. The question was often asked, Why was so much heard of appendicitis at the present day when it was an almost unknown affection a few years ago? The answer was to be found in the different nomenclature formerly employed. Most of the cases now designated as appendicitis were formerly spoken of as attacks of inflammation of the bowels. The first attack of appendicitis recognized by the patient was probably the terminal stage of the disease, because examination of the appendix showed stricture, and it was well known that strictures usually required a long time for their formation. It was true that strictures might sometimes form rapidly, but even in these cases one would usually find behind them concretions, and certainly these masses had required a long time to grow. With some recent writers the erroneous idea still prevailed that these concretions formed in the colon and dropped into the appendix, but the fact that the concretion was always on the distal side of the stricture negatived this view. In no case had he not found concretions detained there by strictures, and the concretions would always be found packed in close to the stricture. These concretions acted as a ball-valve. It had been seriously suggested that gout might be a cause of appendicitis, but it should be remembered that appendicitis occurred largely in childhood, that it was a bacterial infection, and that the type of joint disturbance was a low grade of pyæmic infection. The speaker objected to the term "chronic" appendicitis, preferring to speak of the condition as latent appendicitis, because the latter term indicated that in the interval the presence of appendicitis might not be capable of detection. In considering the statistics of medical and surgical treatment of appendicitis one should bear in mind that every case coming to the surgeon represented on an average from five to twenty medical cures. It could not be denied that in a very limited number of cases nature was competent to deal with the gravest conditions, but the statistics of such cases showed a far higher mortality than the cases that had been promptly treated by operation. One stood appalled at times at the wonderful surgical feats accomplished by Nature, and yet she was a most bungling surgeon. As in all studies of medical problems, truth spelled itself out letter by letter, and a long time must elapse before a full knowledge of the subject was within our grasp.

The Library of the Surgeon-General.—Dr. A. Jacobi moved the adoption of the following resolution:

"*Whereas*, The library of the Surgeon-General's office in Washington, D. C., has for a long time needed additional shelving; and

"*Whereas*, Books are piled upon the floor and window sills, making it inconvenient and sometimes well-nigh impossible to find anything which is wanted, and greatly to the injury of the books; and

"*Whereas*, Estimates have been made from year to year for an appropriation to meet the cost of six iron book stacks; be it

"*Resolved*, By the New York Academy of Medicine, in its meeting of December 6, 1900, to petition the Congress of the United States to make the appropriation of $9,000 asked for for the above purpose, on the ground that without it the usefulness of the library of the Surgeon-General's office—the best-appointed library of the world, and the pride of the medical profession of all countries—will be seriously interrupted and crippled."

The resolution was carried unanimously.

War Tax on Charitable Institutions.—On motion of Dr. Jacobi the following resolution was also unanimously adopted:

"*Whereas*, In the session of 1898 the Congress of the United States has laid a war tax on legacies of charitable, educational, and religious institutions; and

"*Whereas*, The revenue from this and other war taxes has been unnecessarily large and in need of being reduced; and

"*Whereas*, The charitable and religious institutions of the country are seriously interfered with by the crippling of the income of organizations, almost exclusively derived from private sources; therefore, be it

"*Resolved*, By the New York Academy of Medicine, at its meeting of December 6, 1900, to petition the Congress of the United States to relieve charitable and religious institutions of the war tax hitherto levied, and to request every fellow of the Academy to inform our representatives in Congress of the reasons for such petition."

Inebriety in Russia.—The Russian minister of justice has transmitted to the commission appointed to reform the penal code a proposition emanating from the National Hygienic Society forcibly to detain confirmed inebriates in hospitals.

New Instruments.

A NEW INSTRUMENT FOR OPERATING ON CONGENITAL DISLOCATION OF THE HIP AND OTHER PATHOLOGICAL DISEASES OF BONE.

By A. M. PHELPS, A.M., M.D.,

NEW YORK.

THE orthopedic profession are pretty generally convinced that anything short of an operation of some kind in congenital dislocation of the hip will prove an absolute failure. Braces have been discarded, or if they have not been by some, they should be. It is little short of arrant charlatanism to humbug patients by applying braces. In congenital dislocation of the hip there are two reasons why braces are absolutely worthless.

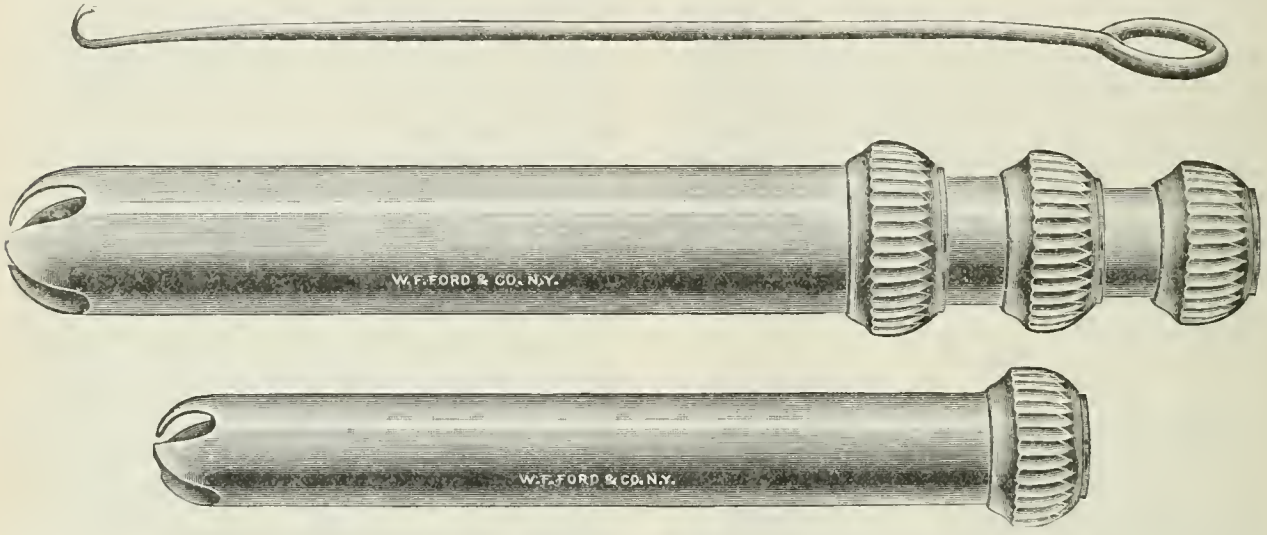
In the dissections which I published a few years ago, and in something like seventy-five cases of operations, I did not find an acetabulum in more than two or three of the cases into which it was possible to put the head of the bone and have it remain. It has been argued that pulling the limb down with the brace, and holding the head of the bone opposite the acetabulum would result in the head of the bone eventually grinding out a new socket. Clinical observation demonstrates this to be an error. All such cases relapse or are not benefited, and this has induced the profession to resort to some operative procedure for the relief of this deformity, which in the female results in distortion of the pelvis, endangering her life during the period of childbearing, so say nothing of the wobbling, shuffling gait in either sex which attends the displacement.

Hoffa's method of making a new acetabulum, and placing the head of the bone into it is one that has commended itself to me. Lorenz's method of "forcible replacement," as he calls it, is the twisting of the head of the bone around to a normal position, the soft parts holding the head of the bone against the acetabulum. This latter method I do not endorse, because in all of the cases which I have examined, with occasional exceptions, I have seen merely the posterior converted into an anterior dislocation, and the apparent benefit which is derived from it is that the anterior dislocation is attended with only one-half the shortening of the posterior. Then again, these cases I have observed as a rule are attended with continued increase in shortening. This is not always true, but it is altogether too common.

In Hoffa's operation an incision is made along the femur, beginning at the upper border of the acetabulum, and is carried down to the neck of the bone. This incision is a modification from Langenbeck's incision, which was advocated by Lorenz. The capsule is now detached from the interior trochanteric line two-thirds the distance around, and the head of the bone is then rotated out. The capsule is then split so as to admit the instrument, which was devised by Dijou, and it is one of the most useful I have ever yet seen. This instrument is a steel tube, ending with cutting edges on the curve to correspond to a perfect circle. It is on the principle of the old-fashioned pot auger. A few turns of this bores a hole into the pelvis, at the site of the rudimentary acetabulum, which perfectly fits the head of the bone.

As will be seen by the illustration there are three sizes, corresponding to the three sizes of heads that are usually found in such cases. The upper instrument is for the purpose of cleaning out the tube. After a few turns the bone which is removed from the pelvis will be found inside of the tube, and can be emptied out usually without the use of the hook.

Another application of this instrument is in excision of the hip. I find that the acetabulum can be cleaned out with it better than with the scoop, and frequently in children in whom the head of the bone is partially consolidated, after removing the great trochanter with this instrument, the neck and head of the bone and acetabulum can be bored out with very few turns, and the operation completed within two or three minutes.



I first saw Hoffa use the instrument in Kirmesson's clinic in Paris, and was so favorably impressed with it that I brought a set home, and have been operating at the Post-Graduate Hospital since my return, until I can commend the instrument to the profession without any qualification. In bone surgery it is better than the scoop. I can think of a great many operations upon bone in which chisel and scoop have hitherto been employed, when this instrument will do the work much more quickly and easily, and with less shock to the patient. The wound which is made by this boring instrument is perfectly smooth, with no ragged pieces of bone hanging to the soft parts, and no débris left in the wound.

62 EAST THIRTY-FOURTH STREET.

Quarantine Barges for Cuba and Porto Rico.—The steamship *Orion* sailed from Philadelphia on November 27th for Cuba, having in tow two disinfecting barges, the *Guardian* and the *Sentinel*, the former to be put in service at Matanzas and the other at Cienfuegos. The barges were converted from schooners. Another barge, the *Defender*, is being equipped at Philadelphia for quarantine work in Porto Rico.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 8, 1900:

	Cases.	Deaths.
Tuberculosis	246	134
Typhoid fever	110	21
Scarlet fever	144	3
Measles	63	4
Diphtheria	292	40
Laryngeal diphtheria (croup)	27	7
Cerebro-spinal meningitis	0	4
Varicella	66	0
Smallpox	12	3

No Plague Serum in Melbourne. — When the plague came to Melbourne a millionaire wool exporter sent for his doctor post-haste to inoculate him and his family. The doctor sent word he had no serum. "Get some," wired the millionaire. The doctor did his best, but failed. The millionaire, who was horribly nervous about infection, wired again, saying: "Get it at any price." The doctor offered $5,000 for a single syringe full of the culture; but all in vain. It appeared that a quantity of gelatin culture full of bubonic germs had been sent over from India some time before, but the authorities objected to it being landed. Taking advantage of the fact that gelatin was liable to duty, they confiscated and burned it.—*Answers.*

Abnormalities of Vaccination.—Dr. C. D. Smith, president of the State board of health of Maine, has published in the eleventh report of that body a valuable and exhaustive paper upon vaccination and vaccine lymph. Referring to the abnormalities of vaccination, and more especially to the eruption commonly known as "vaccinia," Dr. Smith says: "In the French classifications mention is made of a generalized vesicular eruption known as vaccine généralisée, due to blood infection. In this country it has been common practice, with a disregard of any systematic study of the points of difference, to speak of any general eruption associated with vaccination as 'vaccinia.' That this is incorrect must be apparent, from a review of the painstaking studies of our English and French confrères. I do not wish to do more than outline as briefly as may be the facts with reference to the characteristics of a true 'vaccinia,' or, more properly speaking, vaccinal eruption, due to the introduction into the blood of the specific vaccine virus. It appears in two forms: spontaneous when due to the absorption into the general circulation of the active principle of vaccine lymph. This is noted as a very rare affection; its tendency being to remain localized. It apparently results from the fact that the lymph loses its fixed character, and the organisms instead of following the rule seen in normal vaccination and producing their peculiar phenomena in a localized area, are diffused. It is confined almost wholly, though not invariably, to infants or young children. It may appear with the vesicles or later. When the infection results from taking the virus into the alimentary canal, as by sucking, the period of incubation is from four to eight days and the symptoms and eruption appear identical with true variola. Sometimes the secondary vesicles appear at the same time as those on the vaccinated arm and follow the same time of development. When the symptoms appear suddenly, there is marked fever, and the appearance in the areola of papules developing in two or three days into vesicles, being most closely grouped in the centre, often confluent, and becoming fewer and smaller and less markedly developed toward the periphery. At once, or soon after, there appear in other areas of the body, isolated, or in irregularly disposed patches, similar papules having the same shotty feel as in smallpox. These have an affinity for weak places in the skin (near original mark), and when occurring on the extremities select the flexor surfaces. The vesicles become scabs in a fortnight or a little more, sometimes in severer cases extending over three weeks and are not followed by pits, nor does the eruption attack the mucous surfaces. The other form due to auto-inoculation is less rare, and is usually accompanied by some cutaneous affection, such as eczema, erythema, or one of the papulo-vesicular eruptions. It occurs from the third to the eighteenth day after vaccination; it is conveyed from one to another part of the body by scratching and, as might be supposed from its mode of transference, frequently exhibits much inflammatory action and ulceration. There is no typical mark when the vesicles terminate without septic complications, and their duration is the same as in the spontaneous form. The chief interest in these two forms of eruption lies in their complication of a diagnosis during the prevalence of smallpox. From varicella they are to be distinguished by the larger size of vesicle; their irregularities of shape, and the fact of vaccination, and the length of time elapsing before their appearance, and the absence of any regularity or order of appearance. In variola the vesicles are as a rule equal in size. The clinical features are, with rare exceptions, uniform, and they are evenly distributed. Rarely in variola or varioloid are lesions absent from the mouth or pharynx." Dr. Smith wisely says that when in doubt between this eruption and varioloid, isolate promptly.

Wearing Out the Brain.—A French investigator has come to the conclusion that the brains of military and naval men give out most quickly. He states that out of every 100,000 men of the army or naval professions 199 are hopeless lunatics. Of the so-called liberal professions, artists are the first to succumb to the brain strain, next the lawyers, followed at some distance by doctors, clergy, literary men, and civil servants. Striking an average of this group, 177 go mad to each 100,000. Domestic servants and laborers are not far behind, the professional men supply 155 out of each 100,000 as candidates for the lunatic asylum. Next, but with a long interval, come the mechanics, of whom only 66 in each 100,000 lose their wits. Wonderful to relate, commercial men retain their sanity the best of the whole group, as they send only 42 out of 100,000 to the madhouse. The French scientist may be right, and doubtless he is so far as France is concerned, but in the United States we are convinced the order would be different. Doctors as a class would take a higher rank and the commercial men of this country go mad more frequently than the "hewers of wood and drawers of water." It is not complimentary to the business men to put them in a lower category than the ordinary day laborer. To become insane in itself is a presumption that one possesses brains, often indeed above the common. "Great wits are oft to madness close allied." Will some enthusiastic gatherer of statistics endeavor to clear this matter up?

Microbe Lamps.—An English weekly journal contains the following: "That some microbes can produce a bright light is the discovery of a French scientist. The newly found microbes have been named photobacteria, and with them a living lamp has been manufactured. The minute creatures are so small that

two hundred and fifty million of them could find standing room on a postage stamp, and the number required to produce a light bright enough to read by reaches a few thousand billions. The microbe lamp is merely a glass bottle containing water in which the bacteria have been cultivated. In a dark room the bottle glows like a frosted electric lamp, and gives a light strong enough to enable fine print to be read at a distance of five or six feet. The light is perfectly steady, and when the microbes can be cultivated on a large scale it is calculated that the cost will be about one halfpenny [one cent] per two hundred hours. The microbe lamps would not be renewed when the light diminished, but would simply be replaced by new ones, half a dozen of which could be carried in the pocket ready for use at any time; and as the bottles are sealed, the lamps are perfectly harmless. The light is continuous day and night, and only goes out when the microbes die." It is proposed, we believe, to light Paris and a few other French towns by means of these microbes, that is to say, if a sufficient number of the right sort can be found. Wonderful are the discoveries in the bacteriological laboratories!

The Use of Tobacco on Active Service.—*The Lancet* of November 10th says that "the war in South Africa has taught many things of greater and of less importance. Perhaps nothing that it has demonstrated has been more marked than the important part which tobacco plays in the soldier's existence. Whether this is to be reckoned as a great fact or a small one, there can be no doubt about the truth of it. Yet the Duke of Wellington's armies had no tobacco worth speaking of. If they did not forbid its use, at any rate the Iron Duke's officers were directed to advise their men strongly against it. What a curious contrast with the campaigning in South Africa, where marches and privations as long and as stern as any suffered by our great-grandfathers were borne by the volunteers and soldiers of to-day with a grumble only when their 'smokes' failed them. We have it from many who took part in the forced marches leading to Paardeberg, to Bloemfontein, to Pretoria, and beyond that, when rations were but two or three biscuits a day, the only real physical content of each twenty-four hours came with the pipe smoked by the smouldering embers of a camp fire. This pipe eased the way to sleep that might otherwise have lingered, delayed by the sheer bodily fatigue and mental restlessness caused by prolonged and monotonous exertion. It is difficult then to believe that tobacco is anything but a real help to men who are suffering long labors and receiving little food, and probably the way in which it helps is by quieting cerebration—for no one doubts its sedative qualities—and thus allowing more easily sleep which is so all-important when semi-starvation has to be endured. The cases of acute mental derangement in the course of campaigns such as the present are many. There have, indeed, been many in South Africa. It would be most profitable and interesting could medical officers have taken special note of the capacity for sleep previously evidenced by those who broke down and also of their indulgence or non-indulgence in tobacco. We are inclined to believe that used with due moderation tobacco is of value second only to food itself when long privations and exertions are to be endured. Two features are to be noted with regard to the smoking practised on active service. It is almost entirely in the open air and is largely on an empty stomach. The former is always an advantage, the latter we generally reckon a most unfavorable condition. Shall we see in the near future patients with tobacco amblyopia or smoker's heart acquired while the trusting friend of tobacco thought that he was enjoying the well-earned solace of a hard day's march? We believe not—and that the open air will have saved what might have been the untoward results of smoking when unfed." The most suggestive part of this instructive article is that which refers to the cases of mental derangement in the course of campaigns and their connection, if any, with smoking. Insanity has been considerable among our soldiers in the Philippines, and the surgeons there might with advantage investigate the question raised by *The Lancet* writer as to the capacity for sleep previously evidenced by those who broke down and also of their indulgence or non-indulgence in tobacco.

Diseases of the Philippine Islands.—Medical Inspector Remus C. Persons, U. S. A., writing in the report of the surgeon-general of the United States navy on the above subject, says: "The prevailing diseases are of the various types of fevers; of rheumatism, dysentery, and diarrhœa, of heat exposure, skin disorders, smallpox, beriberi, plague, and other diseases which are common everywhere, including the ever-present venereal troubles and alcoholic addiction. Dengue and thermic, malarial and typhoid fevers exist throughout the group of islands; nor is it to be wondered at, since no attempt at sanitation has been made outside of the Spanish-dwelling cities. Few places have water supplies or sewerage of any kind. The water-closet system is practically unknown, cesspools or privies above ground being the rule, and in native towns anywhere that is convenient. Most of the coast towns lie so low that but an imperfect system of drainage is practicable at the best. . . . The mortality has been about the same as at other plague infected centres. It has been diligently fought, both at Manila and Cavite. In Cavite the houses are also built with the lower story on the ground, in which many people are huddled, and it was among them the cases occurred, all fatal. There have not been any cases among the whites. The plague has not become epidemic, but the recognized cases have been so widespread as to lead to a belief that it is endemic, and that conditions have not become ripe for its becoming epidemic in the islands. All through the towns and in the country fevers of all kinds exist. A severe type of dengue is common, and in Cavite very few escape it. Fortunately it does not prove fatal, although it is often very distressing. There malarial fever is uncommon. There are no pools of stagnant water in which mosquitos can breed, and when it appears the plasmodium is evidently imported. In many sections of the lower islands it exists at its worst, and often proves quickly fatal. Smallpox is so widely spread as to be little regarded, and in some parts is considered by the natives as an almost necessary disease of childhood, and no attempt is made to keep it from spreading. A vaccine farm has been established in Manila, affording excellent virus from the native carabao, and compulsory vaccination has been established in Manila and many of the captured towns, and it is hoped to check its further spread, but it will require time to immunize eight or ten million people. Rheumatism stubbornly resists treatment, and relapses are common, and when once the disease obtains a good foothold the subject's usefulness is gone, and he should be given a change of climate. Diarrhœas from many causes are common but quickly yield to suitable treatment. Dysenteries, on the other hand, may be either quickly fatal or run into a chronic condition. The latter is of the amœbic variety, and though sometimes fatal, its tendency is to run into the chronic form when not promptly cured. The acute and generally fatal form is due to a specific bacillus. It is not as common as the amœbic form, which is fortunate, for it is very sudden and overwhelming in its action, and may prove fatal in three days. Beriberi is one of the

common diseases of the natives and most often proves fatal, if its ravages among the Filipino prisoners held in Cavite are not exceptional, where the fatality was so great, notwithstanding treatment by Filipino physicians, that the rest were liberated to prevent the further spread. Venereal troubles abound as elsewhere, but show no special virulence. Fever after exposure to the sun often occurs. . . . There are many insect pests on shore, as mosquitos and the different forms of itch. It is not known whether or not the former are malaria breeding, but it is certain they are voracious and poisonous. The 'dhobie' or washerman's itch finds its way on shipboard and is quite common and annoying, but the insect is easily killed. The variety known as sama makes deep and excessively painful sores, which are hard to heal."

The Mosquito Family.—The word mosquito has no scientific import. Derived from the Spanish or Portuguese, it simply means "little fly"; it is used popularly to denote a gnat which bites, and most gnats bite when they have a chance. The word is sometimes extended to include certain midges. The Dipterous family Culicidæ, to which the gnat belongs, contains, according to Major Giles, some two hundred and forty-two species divided among eight genera. The great majority of species (some one hundred and sixty), however, belong to the genus Culex; Anopheles includes thirty, while the remainder are divided among the other six genera, none of which are large. The collections which have recently been made at the British Museum are said to contain ten species of Anopheles new to science, so that if all Major Giles' species are accepted we have a total of some forty species of the genus which has been hopelessly convicted of being the medium by which the malaria parasite is transmitted from person to person.—*Quarterly Review.*

Anti-Plague Inoculation.—Professor Calmette, of the Pasteur Institute at Lille, who has made a special study of the bubonic plague, was requested by the College of Physicians and Surgeons of England to deliver the second of the Harben lectures. The subject selected was anti-plague serum therapy. Dr. Calmette said: "In all cases the infection, whatever the mode of entry of the virus, resulted in the multiplication of the plague bacillus, first in the lymphatic channel and then in the blood. Even a few hours after infection the bacilli were to be found in the blood, and they existed in immense quantities in all the organs of the person attacked. The effect, therefore, of an injection of the serum should be to provoke their rapid destruction by phagocytosis and bacteriolysis. But this result was scarcely attained by the slow absorption of serum injected subcutaneously. The organism not being at once impregnated with the active substance, some of the bacilli escaped the phagocytic process, and growing accustomed to the action of the serum this was powerless to check it. This explanation of the non-success of the sero-therapic treatment was confirmed by clinical observation. But the results were different if the serum, instead of being introduced merely below the skin, was as soon as possible after the beginning of the disease injected straight into the veins. Four or five hours after such injection the temperature dropped, rising again for eight or twelve hours afterward, and then dropping finally. This temporary drop corresponded to the period during which the bacilli were being removed from the circulation by the leucocytes. If the treatment had been speedy, cure was effected in two or three days. The serums of vaccinated animals contained two substances—one alexin, which had the power of digesting the bacterial cell and which existed in normal serums, and the other the reagent or intermediary substance, which existed only in very small quantities in normal serums. In unvaccinated animals, as the reacting substance did not exist in sufficient amount, the normal alexins in the blood were unable to dissolve the microbic bodies when serious infection took place. Hence to overcome the infection a sufficient quantity of the reacting substance must be supplied to the organism. Anti-plague serum was a reacting substance, and within its sphere of action when infected the leucocytes and alexins were unable to dissolve the plague bacilli; though beyond it the bacilli escaping phagocytosis gradually became immune. Hence it was necessary that the reaction of the leucocytes and alexins should be carried on simultaneously through the organism, and as rapidly as possible, and hence the reason why the serum must be injected into the general circulation. A very small quantity of the serum was sufficient to react on an enormous quantity of alexin."

Entries at the English Medical Schools.—Several of the English medical papers have alluded with pleasure to the fact that the entries at the various medical schools show a decided falling off this year. In London this is especially marked, as the following figures will show: For the full course there are less students entered to the extent of 28 at St. Bartholomew, 12 at St. Thomas, 10 at St. George, 9 at the London, 8 at Charing Cross, 7 at St. Mary, and 1 at University College. In the provincial schools the decrease is said to be as follows: Owen's College, Manchester, 29, Liverpool 18, Bristol 10, Durham University 7. The schools showing an increase are London School of Medicine for Women 5, King's College 4, Guy's 5. At Leeds the increase is 12, Sheffield 3, London School of Tropical Medicine 4, and London School of Dental Surgery 10. Altogether the net decrease up to date amounts to 102. The cause for this condition of affairs, which must be termed satisfactory, is twofold: First, parents now recognize that the expense of putting a young man through his medical course does not meet with an adequate return; and, secondly, now that the curriculum is lengthened to five years, and that the examinations are more severe, many youthful aspirants to a medical degree are daunted by a fear of failure. If some such system could be introduced into this country it might be for the good of all concerned.

The Twentieth Century Baby.—The baby of today bids fair to replace the crush of ancient creeds and the wreck of superstitions that have been everywhere undermined by the ruthless hand of modern science. For its behoof many books are written, many carriages are constructed, many foods are invented, many garments, many toys, and many medicines are advertised. As a matter of sober fact, it is threatened with manifold drawbacks to development, short of actual extinction, by the wholesale substitution of the artificial for the natural. Instead of the most perfect food in nature, mother's milk, we find a host of artificial substitutes, each one of them, if we may trust the proprietary representations, calculated to rear an infant with the brains of a Newton combined with the frame of a Samson. How often, alas! the outcome of all these costly cares is a being of stinted body and limited intellect, unfitted to play a soldier's part in the battle of life. This question of food strikes deep into the physical welfare of a race, and there can hardly be a more serious national problem than how to rear this twentieth-century baby of ours in strength and happiness. There is a vast deal of nonsense written and taught about the proper way to clothe, nurture, and tend babies generally. The best basis is that of plain milk diet, either from the breast or from modified cow's milk. For the rest, those ills that are preventa-

ble should be prevented. Most of the mischief done in the nursery is the result of attempting to do too much. It would be an important step toward the stability and future of our race were the laws of health to be taught in our schools, with a special class on nursery management for the girls' classes.—*Medical Press.*

Tuberculous Milk.—Professor Delépine, in the section of preventive medicine at the late annual congress of the British Sanitary Institute, read a paper on the above subject, the gist of which is contained in the following: "It was known that tuberculous cows did not yield tuberculous milk when their udders were healthy. Exception might be taken to this statement on the ground that a few cases of tuberculous cows with reputed healthy udders had been reported in which the milk was found to contain tubercle bacilli. Such cases might occur, but must be rare, and he had examined many udders from cows which had given tuberculous milk and had not yet found a single cow in which the udder was healthy. . . . Notwithstanding an experience of some seventeen years, he felt still unable to place much confidence in the negative results of microscopical examination. . . . The practical conclusion was evident that sanitary authorities would not be able to stop very rapidly and completely the sale of tuberculous milk. It was therefore necessary that the public should be reminded again and again that they must boil all milk which they consumed, and more especially that which was supplied to infants."—*Medical Magazine.*

Is the Anglo-Saxon Race Degenerating?—Dr. James Russell, of Hamilton, Ont., read a paper on the above subject before the American Psychological Association, in which he ascribed the decadence of the Anglo-Saxon race to the dearth of good literature. The pith of Dr. Russell's remarks was as follows: "Nowadays men have no time for reading except for recreation or business demands. They scan the morning newspaper for the war news, the stock exchange reports, or the latest horse race or prize fight. The gambling spirit is dominant everywhere, and is not confined to one sex. There is no time for deep reading or profound thinking. The mad struggle is after wealth. Literary barrenness is the consequence, and the tendency is everywhere to superficial thinking, with a little knowledge of everything. There are no great living poets, philosophers, or divines whom the masses are looking to for guidance. They are not forthcoming because there is no demand for them. The mind of the age is focussed on one great, paramount idea—the acquisition of wealth. The human brain is a composite organ and susceptible of enormous expansion and development, but like everything human it has its limitations. Whether or not it can stand the enormous strain of the present rate of activity and continue to project itself with unabated vigor into the future, is the great problem now before us for discussion. If we are to be guided by the history of the past we must answer in the negative."

Smollett on Surgeons.—It has been customary of late to quote Smollett's "Roderick Random" as affording a perhaps complete picture of the state of the profession of surgery in England in the age preceding that of John Hunter. Roderick Random, it will be remembered, was examined at Surgeon's Hall in the Old Bailey, where he was twitted, mulcted, and browbeaten by a group of examiners who were certainly a dishonor to their profession. A plump gentleman, it is true, asked him to describe "the operation of the trepan" in such a sensible manner that Roderick was able to give a sensible answer, but the next examiner was a wag. "If," said he, "during an engagement at sea a man should be brought to you with his head shot off, how would you behave?" The next examiner with a pert air asked Random, who of course was Smollett himself, "what method of cure he would follow in wounds of the intestines?" Then followed a pretty altercation between the plump gentleman, who had authority for supposing that such wounds are curable, and the examiner, who affirmed all wounds of the intestines, whether great or small, to be incurable. "Sir, excuse me," interrupted the irate examiner, "I despise all authority *nullius in verbo;* I stand on my own bottom." "But sir, sir," replied his antagonist, "the reason of the thing shows——" "A fig for reason!" cried this sufficient member; "I laugh at reason; give me ocular demonstration." A grand quarrel now ensued, and Smollett was ordered out of the room, only to be recalled to receive his sealed qualification and to pay his fee. He laid down a long-hoarded half-guinea on the table and waited for change, the fee being five shillings. The examiners were once more unanimous; one of them bade him begone. "I will," said Random, "when I have got my change." Thereupon another examiner threw him his five shillings and sixpence, remarking, "I should not be a true Scotsman if I went away without my change."—*English Medical Review of Reviews.*

Health Reports.—The following cases of smallpox, yellow fever, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 8, 1900:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia Washington	November 12th to 24th	3	
Kansas, Wichita	November 17th to December 1st	10	
Kentucky, Lexington	November 17th to December 1st	3	
Illinois, Cairo	November 27th	1	
Minnesota, Duluth	November 8th to 22d	54	
Minneapolis	November 24th to December 1st	1	
St. Paul	November 8th to 22d	2	
Winona	November 24th to December 1st	60	
Counties, Carlton, Hennepin, Kandiyohi, Le Sueur, Lyon, Meeker, Pine, Ramsey, Wright	November 8th to 22d	73	
Missouri, St. Louis	November 23d to December 3d	3	
New York, New York	November 24th to December 1st	34	
Ohio, Ashtabula	November 24th to December 1st	7	
Cleveland	November 24th to December 1st	34	1
Pennsylvania, Alleghany	November 24th to December 1st	1	
South Carolina, Greenville	November 24th to December 1st	3	
Tennessee, Nashville	November 24th to December 1st	1	
Texas, Blue Springs	November 22d	Present.	
Sublime	November 22d	14	
Vashti	November 22d	Present.	
Virginia, Alexandria Co	December 5th	1	
W. Virginia, Harrison Co	November 28th	18	
Wheeling	November 24th to December 1st	2	
Smallpox—Foreign.			
Austria, Prague	November 10th to 17th	29	
Ecuador, Guayaquil	October 6th to November 17th	..	40
Egypt, Cairo	November 3d to 11th	..	1
France, Paris	November 10th to 17th	..	15
Gibraltar	November 3d to 11th	1	
Greece, Athens	November 10th to 17th	2	1
Mexico, Tampico	November 11th to 18th	..	4
Vera Cruz	November 17th to 24th	..	1
Russia, Moscow	November 3d to 10th	2	
Odessa	November 10th to 17th	14	7
St. Petersburg	November 3d to 10th	2	2
Scotland, Glasgow	November 17th to 2 d	24	2
Spain, Barcelona	October 27th to November 3d	..	48
Yellow Fever—United States.			
Louisiana, forty miles south of Natchez, Miss	November 27th	5	
Mississippi, Natchez	November 27th	1	
Osyka	December 4th	*	
* Possibly one fatal case.			
Yellow Fever—Foreign and Insular.			
Cuba, Havana	November 17th to 24th	..	14
Dominican Republic, Puerto Plata	November 3d to 17th	..	3
Mexico, Vera Cruz	November 17th to 24th	..	3
Plague—Insular.			
Philippine Islands, Manila	September 29th to October 6th	2	
Plague—Foreign.			
Africa, Cape Williamtown, vicinity	November 17th	8	4
China, Hong Kong	October 13th to 27th	..	6
Japan, Kobe	October 15th to 27th	3	

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ON A CASE WHICH ILLUSTRATED CONSERVATISM IN SURGERY.
THE LIABILITY OF AN ANCIENT CICATRIX TO CANCEROUS DEGENERATION.
A NEW METHOD OF AMPUTATION AT THE KNEE WHEN THE ARTERIAL CIRCULATION OF THAT REGION IS IMPAIRED.

BEING THE ABSTRACT OF A LECTURE DELIVERED IN BELLEVUE HOSPITAL, JANUARY, 1900.

BY STEPHEN SMITH, M.D., LL.D.,
CONSULTING SURGEON.

THIS patient gives a history which recalls conservatism in surgery half a century ago and also illustrates the liability of an old cicatrix to cancerous degeneration. In the treatment of the conditions existing in the limb at present I shall take occasion to demonstrate a method of amputation at the knee which has proved successful in similar cases in which the arterial circulation in this region has been impaired.

For the early history of the case I must rely upon the patient himself chiefly, though I have a recollection of its principal features. Michael R—— is now between sixty and seventy years of age. He came to this country as a young man, and engaged in business as a stone-cutter. Without other assignable cause than the accidents incident to his trade he developed either an acute periostitis or an osteomyelitis of the right tibia, which resulted in the death of the entire shaft of that bone. He states that after a long period of suffering he entered the New York Hospital, then located at Duane Street in Broadway. The leg was greatly enlarged and from numerous openings pus was constantly flowing in large quantities. He was in feeble condition, and his irregular chills and night sweats indicated that he was suffering from septicæmia if not pyæmia. A consultation was held, and the unanimous opinion was that amputation must be immediately performed to save his life. Looking backward to the personnel of the staff of visiting surgeons of that hospital forty years ago we recognize that the consultation was notable for the character of the surgeons composing it. Dr. Valentine Mott ranked among the most eminent of living surgeons; Dr. Alfred C. Post was noted for his precision, Dr. Gurdon Buck for his conservatism, Dr. John Watson for his learning. It is quite certain that Ryan's case was thoroughly examined in all its aspects, for a consultation in those days was no mere formal affair, but an occasion for the most critical comparison of the learning, skill, and experience of the consultants. R—— promptly rejected the conclusion of the consultation, and determined that his body and leg must not be separated. He was accordingly discharged from the hospital for refusing treatment, and soon after entered Bellevue Hospital. At that time Bellevue was passing through the preliminary stages of conversion from the *régime* of an almshouse to that of a well-organized hospital, and was beginning to attract the attention of students engaged in clinical studies. The New York and Bellevue hospitals were then the only hospitals in the city, and though the former had long been the favorite resort of medical students owing to its age, the reputation of its medical staff, and the number of operations which were performed, the latter had the advantage of a greater number of patients and of location. Its surgical staff was composed of young surgeons who were very ambitious to render it as attractive as possible to students. To this end they sought to multiply those conditions most likely to secure a large attendance, the most important of which always proves to be a large supply of operable cases. R——'s advent and the report that he had refused amputation at the New York Hospital and thus secured it to Bellevue were regarded as happy auguries for the future of the latter hospital.

It is quite impossible for the surgical student of today to realize how limited was the field of operative surgery fifty years ago. Then an amputation was a capital operation and when advertised to occur in the New York or Bellevue Hospital, it attracted crowds of eager students and practitioners. Now amputations are for the most part relegated to the house staff and the attending surgeon interests himself in new and curious vivisections which tend more and more to bring human ills within the domain of practical surgery. You may witness durin a winter session in the thirty or more hospitals of the city scores and scores of operations of which the surgeons who consulted in the case before us had not the remotest conception.

R—— informs us that on entering Bellevue he was assigned to the wards of Dr. James R. Wood. Dr. Wood was one of the leading surgeons of the city and was especially skilled as an operator. He concurred in the decision of the consultants of the New York Hospital that amputation offered the only chance of saving the life of the patient. R—— stubbornly refused to submit and was in turn discharged from Bellevue for refusing to submit to treatment. At that time I was the junior surgeon of the visiting staff and, as was the custom of the recent graduates of that period, was engaged in teaching private classes and in giving them clinical instruction at the bedside in the wards —true clinical teaching. R—— states that while he was in Bellevue I visited a patient near him who was suffering from a disease of the arm which involved the question of amputation. He overheard me remark to the students, "I should regard it more creditable to save one arm than to amputate a dozen." This statement greatly impressed him and he at once determined to return to the hospital after his discharge, and obtain admission to my wards. He carried out his purpose and entered my service. It appears that on examination I proposed to make an exploratory operation. At the general consultation which followed, the leg was condemned to amputation by all of the surgeons, but, as was the custom, when the surgeon-in-charge proposed tentative measures he was allowed to employ them at his discretion. At the last moment before taking the anæsthetic R—— directed me to amputate the limb if I believed, on exploration, that it could not be saved. The first steps in the operation revealed necrosis of the entire shaft of the tibia and a large, well-organized involucrum. This ensheathing

bone was laid open the whole length of the tibia, the dead shaft was divided in the centre, and the separate portions were removed. The recovery was rapid and complete. For thirty years R—— pursued his trade actively—making and losing a fortune during that time. Within the last few years the cicatrix at its upper extremity has opened and allowed the escape of small fragments of necrosed bone, but he suffered no inconvenience from the discharge until a year or more ago when the opening began to enlarge and show no tendency to heal as formerly. He then came under my observation again and on microscopical examination of sections of the surrounding parts of the ulcerating wound it was found that the granulation tissue was cancerous. It was now apparent that we had to deal with a new condition. Cancer had developed in the ancient cicatrix. Prolonged efforts were made to destroy the new growth but, while the external surfaces assumed a healthy appearance and partially healed, the disease penetrated the bone and, finally, the shaft separated. Amputation is, of course, now the only remedy, and it is an interesting circumstance that, after actively using the once condemned limb nearly a third of a century, R—— returns to me with the request and determination that I shall perform the operation originally proposed at two hospitals, but strenuously rejected by him.

The only interest which attaches to his previous history is as to the position of conservatism in the practice of surgery forty years ago. The amputation of a leg in the condition of R——'s was regarded preferable to the removal of the necrosed shaft of the tibia because it was believed to be the safer procedure. Only the student personally familiar with the practice in one of these great hospitals prior to the introduction of antiseptics can appreciate the line of reasoning which led that able body of consultants to what now seems a strange and inconsistent conclusion. I can vividly recall the morning and evening rounds, while a member of the resident staff of this hospital, with pus basin or pail in hand; the offensive dressings that had to be removed; the screams of suffering patients; the cadaveric faces of those recently operated upon, now slowly passing into the septicæmic or pyæmic state. The consultants reasoned, as I recollect, in this way: "R—— is slowly failing on account of the extensive suppuration in his leg; this suppuration will be greatly increased by the large wound necessary to remove the dead bone; he will not survive any additional exhaustion. If, however, an amputation is performed and this suppurating mass removed, thus substituting a fresh and comparatively small wound which may quickly heal, his chances of recovery will be greatly improved." They reasoned correctly from their premises that the real danger to this patient, as in all surgical cases at that time, was suppuration, and amputation was the only method of relief from this fatal complication. In our time the question of the dangers of suppuration would not have been mentioned in the consultation.

The second interesting feature of this case is the appearance of cancer in an ancient cicatrix. This is by no means an unusual occurrence and is quite in accord with the known histology of this disease. Cancer always represents degeneracy of tissues, and hence is far more frequent at the period of life when all the structures of the body are undergoing degenerative changes, indicated by diminished vitality. For the same reason cancer appears by preference in tissues of low vitality, whether from old age or from their inherent structure. A cicatrix always has a low vitality and belongs to the degenerate tissues from the very nature of its organization. In the case of R—— we have both conditions, viz., old age and a lowly organized tissue. The development of cancer, therefore, in this cicatrix was to have been expected rather than to have caused surprise.

The treatment is clear and unmistakable. There can be no question now as to the propriety of an amputation. This is the only alternative left us. The real question is, Where shall be the point of election? We have the knee and the thigh to select from, and as between the two we should select the place which will most certainly protect the patient from a recurrence of the disease and give a stump best adapted for an artificial limb. Fortunately amputation at the knee answers affirmatively both indications. I purpose, therefore, to amputate at that point. But owing to the extensive cicatrix around the joint the flaps are so poorly nourished that there will be great danger of sloughing if the amputation is performed by the usual method of making a hood-like covering for the stump. I shall, therefore, adopt a procedure which I devised in a case of senile gangrene due to extensive atheroma of the arteries. As this operation is, I believe, new and well adapted to feeble or impaired circulation at the knee it may prove useful to you hereafter if I give the details of the original case and the reasons which led to the new procedure, together with the several steps of the operation.

The patient was a laborer, seventy-eight years old and much addicted to the use of whiskey. He had been suffering upward of a month with gangrene of the great toe of the right foot. He was greatly emaciated, had no appetite, was extremely feeble, and complained of the excessive pain in his toe which prevented sleep. On examination his arteries were everywhere rigid with calcification and the heart's action was very feeble and intermittent. The urine was of low specific gravity and a small amount of albumin was found, but there were no evidences of sugar. The toe was black to the second joint and dry, but there was some swelling of the foot and dusky spots were noticed on its dorsum and on the leg above the ankle. The capillary circulation was very feeble, as appeared on pressure at different points of the leg.

In his enfeebled condition the only treatment possible was directed to relieving his sufferings from pain in the affected toe and to nourishing him with the most digestible foods. To meet the first indication he was ordered the opium and soap pill, one grain of each, and one pill to be given three times daily. His diet was to be as much peptonized milk as he could be induced to take and two ounces of whiskey every six hours. As tonics he took gr. $\frac{1}{60}$ of strychnine three times daily, and $\overline{3}$ ss. of compound tincture of cinchona three times daily. Hot irrigations of weak solutions of carbolic acid were employed at intervals, and at other times cloths wet with a solution of the same material were applied. He soon began to show marked signs of improvement. With the abatement of pain he slept much of the time, while the whiskey and milk agreed perfectly with his previous habits. The heart's action improved, the pulse becoming full and regular. The gangrene slowly extended, the margins being moist while the extremity was black and mummified. He now began to be anxious to have more radical measures employed and was willing to submit to amputation provided he was liberally supplied with stimulants.

The question of amputation was again seriously discussed, and the point of interest was to determine the place of election. Surgeons have in these latter days been inclined to select the knee joint or some point in the lower part of the thigh as the safest place of amputation in cases of senile or dry gangrene of the toes, and by some this election is regarded as a departure from the rule governing the older surgeons. It is true, however, that the surgeons of half a century ago recognized the importance of amputating at a dis-

tance from the seat of gangrene and often selected a point of healthy tissue between the ankle and the knee joint. It is also true that several American surgeons preferred amputation at and above the knee joint for the same disease. Pitney, of Auburn, N. Y., advocated amputation above the knee joint in senile gangrene of the toes as early as 1837. Mott was accustomed to advise and frequently practised amputation above the knee in these cases. Parker, of New York, also gave careful instruction in his lectures as to the selection of a point above the knee for amputation in dry gangrene of the foot. More recently Mr. Jonathan Hutchinson, of London, published a paper read before the Medico-Chirurgical Society in which he advocated amputation above the knee in gangrene of the foot and reported several cases. He gives the credit of definitely proposing the operation to James, of Exeter, but it had been frequently performed both in this country and on the Continent before that date. The operation above the knee has attracted attention in Europe and Heidenhain, Kruger, and others have reported favorably upon it. In this country Powers, of Denver, has advocated the so-called high operation for gangrene of the toes in an interesting paper recently published.

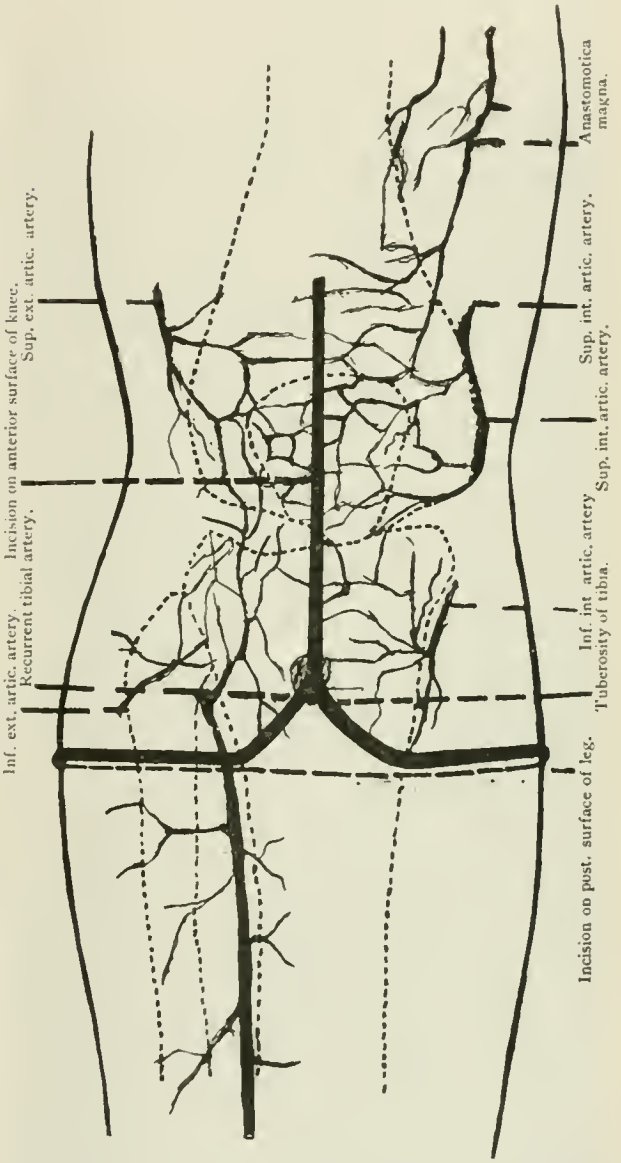
Those writers who have given their reasons for preferring the high operation allege that it is impossible to determine at what point the obstruction of the artery exists and that, as the operation must be above that obstruction, it is better, as a matter of safety, to be sure of healthy and well-nourished flaps by operating far above the limits of gangrene. In my case the condition of the arteries throughout the leg was most unfavorable to amputation at any point, for the capillary circulation was everywhere greatly impeded. The question was, therefore, Where under the circumstances can flaps be secured having an adequate blood supply to prevent mortification? It was apparent that amputation at or above the knee by any previous method would not meet the indications, for in each of these operations the arteries supplying the flaps are liable to be divided near their origins.

The question as to the best method of procedure in this case was decided by the following considerations: The structures about the knee are more largely and directly supplied by arterial blood than any other tissues of the leg. The arteries distributed to the knee are (see illustration) the four articular, the anastomotica magna, the recurrent tibial, the azygos, and the sural. If an amputation at the knee joint could be so performed as to save all these arteries at their origins it is evident that the flaps would have an immense supply of arterial blood. On reflection the following method of procedure was adopted:

Operation: Make a straight incision, commencing two inches above the upper border of the patella, downward over the centre of that bone to the tuberosity of the tibia; from the lower extremity of this incision make two curved incisions, the convexity of each being downward, one toward the external border and the other toward the internal border of the leg; now join these two incisions posteriorly by a straight incision across the upper border of the calf. Dissect these two flaps from the tibia and fibula, remove the patella, and disarticulate the tibia.

The advantage of the operation will be recognized on referring to the distribution of the arteries at the knee. It may be stated as follows: The straight incision on the anterior part of the knee, which opens the joint, divides only the terminal extremities of the articular arteries, thus preserving to the flaps the full amount of blood which they normally receive. In the other approved methods of amputating at the knee joint the dissection involves the division at their origins of several arteries supplying the flaps, by the straight incision on the posterior part of the leg or in the ham. Though the recurrent tibial is divided at its origin, yet its anastomosis with the articular arteries is preserved and thus the capillary circulation is well maintained at the extremity of the flaps. The precautions to be taken are these: the lateral incisions from the lower extremity of the perpendicular incision should curve well forward, the internal to secure an ample flap for the long internal condyle of the femur and the external to include the branches of the recurrent tibial artery.

As all the arteries of the leg were very brittle, neither the tourniquet nor Esmarch's bandage could


Anastomotica magna.
Sup. ext. artic. artery.
Incision on anterior surface of knee.
Sup. int. artic. artery.
Sup. int. artic. artery.
Inf. ext. artic. artery.
Recurrent tibial artery.
Inf. int. artic. artery
Tuberosity of tibia.
Incision on post. surface of leg.

be safely applied, and the circulation was controlled by gentle pressure with the fingers on a large compress placed over the femoral in its first part.

The patient was prepared for the operation as I am accustomed to prepare the old or feeble who are liable to collapse during an operation from failure of the heart, by giving him one ounce of whiskey in four ounces of hot milk every two hours, commencing at 8 o'clock A.M. of the day of the operation. At 3 o'clock of that day his pulse was 96 per minute, full, regular, and slow; his respirations were 22 per minute; his mind was undisturbed, and he expressed himself as glad that the operation was to be performed. He required but little ether and passed through the operation without a struggle, his pulse remaining at 96, and respirations at 22 per minute. Primary union of the flaps followed, without an appearance of pus. It

was noticeable, on removal of pressure on the artery at the groin, that the flaps resumed a pink color, showing that the capillary circulation was fully and immediately restored. In due time the patient was supplied with an artificial limb which took direct bearing upon the extremity of the stump and he walked with scarcely a limp, using only a cane.

THE NEURON DOCTRINE: ITS PRESENT STATUS.[1]

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While the name is of comparatively recent origin, having been proposed by Waldeyer in 1891, the conception of the neuron is closely connected with the development of the idea of cell individuality. This, first brought forward by Schleiden in 1838, received a great impetus through the adoption of the cellular pathology of Virchow. Until the advent of Deiters in 1865, however, the relation of the nerve cell to the nerve fibre was involved in much confusion. Deiters first distinguished sharply between the two kinds of processes arising from the nerve cell, and confirmed the earlier observation of Wagner that but one of them was in direct relation with a nerve fibre, while all the other processes, separating themselves from their cell origin, divided and subdivided until they became lost in the ground substance of the nervous system. To the former of these processes he gave the name of axis cylinder; to the latter, that of protoplasmic processes, which names are still retained. As now generally understood, by the term neuron is meant the nerve cell and its processes, the biological unit of the nervous system.

While it is perhaps somewhat questionable just how far the term should be restricted, by the nerve cell is generally meant the mass of protoplasm, sharply outlined and provided with a nucleus, from which the two sets of processes arise.

Nerve cells differ enormously in size and shape, and their structure appears differently, depending upon the method of preparation of the specimen. Since the modern conception of the neuron had its origin very largely in the pictures furnished by the method of metallic impregnation, it will be well first to consider briefly the general appearance of the nerve cell and its processes as brought out by its use. This method, first proposed by Golgi in a number of communications published between 1871 and 1885, consists in a hardening and metallic impregnation by chromic salts with silver or mercury. It has been variously modified, and, in the hands of Golgi himself and of others, has furnished the most striking pictures. Among the numerous workers by this method is especially to be mentioned Santiago Ramon y Cajal, to whose untiring energy and to whose wonderful technique we owe so much of our modern knowledge of the nervous system. The method, however, while it gives a sharp and distinct silhouette picture, furnishes no information as to the internal constitution of the neuron. Again, while the cell body and the protoplasmic processes are brought out at any age, it is possible to trace out the axis cylinder only in the nervous system of very young or embryonic animals, since after its medullary sheath is acquired the axon is not reached by the metallic impregnation. When the coloring-process has been successfully carried out the nerve cells appear as solid black bodies without trace of structure, varying enormously in size and shape. The protoplasmic processes vary in appearance and in number in different cells, but, in a general way, after leaving the cell body they divide and subdivide much like the branches of a tree; hence they are also called dendrites or dendritic processes. Their final divisions form a close meshwork and do not anastomose, but end free.

Upon these processes there are small pyriform projections, the gemmulæ. The axis-cylinder process, or axon, may arise directly from the cell body or through the intermediary of a protoplasmic process. It may break up in the immediate neighborhood of the cell, or may pass along, giving off at intervals collaterals.

Both the original process and its collaterals terminate eventually in an end brush, which comes into close relationship with either the branched protoplasmic processes or with the cell body of another nerve unit. Here, then, we have the conceptions of a neuron: the nerve cell, its dendrites in close relationship to the end brushes of axis cylinders or collaterals of one or more other cells, is, by its own axon and collaterals, brought into relation with still other cells, either directly or through the protoplasmic processes of these last, connection thus existing from neuron to neuron throughout the nervous system.

Along the different neurons the nervous impulse is transmitted. For example, let us trace the course of the impulse from the brain cortex to the limb muscles. The large pyramidal cells of the motor region of the cortex are related through their dendrites with fibres from different sources. Excited to discharge, their impulse is transmitted along their axons through the centrum ovale, internal capsule, and brain axis; crosses to the opposite lateral pyramidal tract in the lower part of the medulla, and proceeds down the spinal cord—the central motor neuron. In the cord the axons give off collaterals, and eventually themselves pass forward to break up around the large motor cells in the anterior horns. These cells discharging send out an influence through their axons into the anterior roots of the spinal nerves, and thence to the muscles—the peripheral motor neuron. Impulses from the periphery travel by the posterior roots and spinal ganglia, to be transmitted either in the posterior columns to higher levels, or by fibres or collaterals which turn inward and pass to other neurons of the cord, some of them being transmitted via the peripheral motor neuron to the muscles, as in the common phenomena of the reflex. In a similar manner, an impulse may pass through a number of neurons. While the protoplasmic processes are usually sharply distinguished from the axis-cylinder processes in appearance, such is not always the case, and it may be difficult to tell one from the other.

The mass of evidence goes to show that, under normal conditions, the protoplasmic processes conduct only toward the axons away from the cell. As to whether the relation between adjacent neurons is one of continuity or of contiguity has always been disputed. Heretofore the evidence has been almost entirely in favor of the latter view. The end brushes of the axons and collaterals, and the finest ramifications of the protoplasmic processes, are intimately interlaced and closely applied one to another, but in no case has either the Golgi method or yet the vital methylene-blue method shown direct continuity between them from neuron to neuron. The results of some methods more recently applied will be considered later.

The gemmulæ of the protoplasmic processes have been thought to play an important rôle in bringing about the relations of contact. An interesting attempt has been made to account for certain psychical and other processes, notably for sleep and for hysterical

[1] Read before the Mercer County Medical Society, October 9, 1900.

paralyses, by assuming that the nerve cells are able to retract their processes, increasing and diminishing the size of their gemmulæ by a species of amœboid movement. This idea, which seems to have been based almost entirely upon theoretical grounds, has never been widely accepted, and is strongly opposed by the evidence of recent investigations. As stated above, the chrome-silver method gives no information as to the internal structure of the neuron.

The nerve cell was long ago studied by means of hæmatoxylin, carmin, and other stains, and its general shape and nucleated structure were made out, but our knowledge of its finer internal arrangement we owe almost entirely to the method of Nissl and its homologues. This method, preferably applied to paraffin sections, consists in staining by a solution of methylene blue and soap, decolorizing in aniline alcohol, dehydrating, clearing, and mounting. When properly applied, it shows the cell to consist of a colored and an uncolored portion. The stained portion, chromatophile substance, Nissl bodies, or tigroid is variously arranged in different cells, but consists in a general way of particles varying in size and shape, contained in the meshes of an unstained lattice work.

Within the last few years the study of the nerve cells in normal and pathological conditions by this method has occupied the attention of a large number of workers, and much information has been obtained about the changes subsequent to injuries of the axon in various diseases, and as an effect of poisons. Upon this subject alone extended monographs have appeared, and space does not permit entering upon it here. Suffice it to say that the changes observed have been mainly those of disappearance or of alteration of the Nissl bodies—a chromatolysis, and displacement of the nucleus.

The chromatophile substance extends to some extent into the processes of the cell, but it is impossible by this method to trace these for any distance. The consensus of opinion at the present time seems to point to the unstained portion as the functionally active part of the cell. By the finer methods the axon is shown to have a fibrillated structure. The apparent method of conduction of nervous impulses has already been discussed. Besides this, the nerve cell, as is well known to all, appears to exert a trophic influence, not only over its own processes, but over muscles and other structures to which its axon extends. It was shown long ago by Waller, that when a nerve was cut the part separated from its cell of origin degenerated. Now, besides this Wallerian degeneration, it is now known that the central portion of a cut nerve also degenerates, and further that the cells from which its axons originate show degenerative changes, explained as being due to "reaction at distance." Hence it is evident that there is a close interdependence between the nerve cell and its processes.

The study of degeneration gives very strong testimony in favor of the neuron idea, since it is found to be quite sharply limited to the cell and its processes. Diseases due to poisons also show a special tendency to be limited to certain neurons. To review the evidence in favor of the neuron theory, embryological studies distinctly show the development of each nerve cell and its processes from an individual, primitive cell, the neuroblast; the microscopical anatomical methods, mentioned above, clearly put in evidence the independence of each neuron. Physiology presents nothing incompatible with the neuron concept, while pathology is entirely in favor of it.

Let us now consider the other side of the question. In order to do this, it is necessary to review briefly the researches which have led up to conclusions apparently in startling contrast to those mentioned above, and which if confirmed will compel a considerable modification of our ideas. As early as 1871, Max Schultze asserted that both the axis cylinder and the ganglion cell possessed a fibrillary structure, and even suggested that the fibrils entered the cell through the protoplasmic processes, to pass directly into the axon. Since his studies were made on quite imperfect preparations, and his conclusions were largely speculative, we are struck with his intuitive genius, now that his ideas seem likely to be confirmed by actual specimens. That cells in other regions are connected by intercellular bridges is admitted. Why not in the nervous system?

Dogiel, after a series of investigations upon the retina—a nervous structure—has affirmed that in it groups of cells of the same kind are connected by a veritable anastomosis of their protoplasmic processes. His conclusions have been supported by some, and disputed by other competent workers using the same method. Recently (1897) Apathy, working with specially developed methods upon the nervous system of the leech and of the earth-worm, has secured beautiful preparations, the study of which has brought over to his views a number of competent observers to whom he has demonstrated them. Apathy is of the opinion that the conducting element in the nervous system is composed of fine fibrils, the primitive fibrils ("leitende Primitiv-Fibrillen") which make up the axon. Each of these fibrils is made up of still finer fibrils—the elementary fibrils—and each forms an anatomically independent entity. Whence come these primitive fibrils? They anastomose and form a network, both within and around the nerve cells and also in the muscles and other structures at the periphery, forming, as it were, an endless chain.

Apathy divides the cells of the nervous system into nerve cells and ganglion cells, the former producing the conducting element, the fibrils; the latter what is to be conducted, the nervous impulse. He distinguishes between sensory and motor fibrils, the former being extremely fine, the latter much thicker, but few or only one being contained in a nerve fibre. The motor fibrils come direct from the ganglion cells. The sensitive nerve fibrils pass into the nerve cells, and dividing into their elementary fibrils form an anastomosing, intracellular network more or less extensive. In other cells the sensitive fibrils form equally a network which occupies the periphery of the cell. From this network fine prolongations are given off, and these converge to a network at the centre of the cell. This central network is composed of coarser fibrils. These latter unite again to form a much thicker fibril, which passes out of the cell and may be traced into a motor fibre.

The cells of the animals examined being unipolar, their single processes are traversed at the same time by both sensory (afferent) and motor (efferent) fibrils. Other sensory fibrils arriving in the ganglion do not proceed directly to the cells, but breaking up form an extracellular network from which fine fibrils are given off. These last fibrils passing into the cells go to make up the intracellular network. The motor fibrils, then, do not arise from the ganglion cells, but are directly continuous with the sensory fibrils through the nervous network. The ganglion cells seem to be simply intercalated like the cells of an electric battery in a circuit. Extending his investigations to the spinal cords of the fish, the newt, and the ox, Apathy has felt justified in claiming that the same arrangement exists in vertebrates. The sensory fibrils passing in through the protoplasmic processes form a network occupying the whole area of the somatoplasm. Leaving this network, the elementary fibrils gradually unite again into the coarser primitive fibrils, which leave the cell by the axon, which they make up. Apathy began his investigations some fourteen or fif-

teen years ago, but his work did not attract much attention until recently. Bethe, who had studied Apathy's preparations at Naples and had become converted to his views, working along similar lines with a special technique developed by himself, has partly confirmed and extended, and partly modified Apathy's deductions, at the same time bringing them widely into notice. Bethe has studied especially the nervous system of a species of crab (Carcinus mænas) and has been able to demonstrate the nerve fibrils with astonishing clearness. According to him the finest ramifications of both axon and protoplasmic processes anastomose one with another to form a network so intricate that it is impossible to say which fibrils belong to one neuron and which to another. Sensory fibrils arriving in a ganglion divide into their elementary fibrils, which become lost in the nervous network. Through this network these fibrils may be continuous with the motor fibrils without passing through a cell. The fibrils observed in the protoplasmic processes and axons are not all in direct connection with the cell body; only a few proceed to the central protoplasm, the others pass in by one prolongation and out by another from neuron to neuron. Hence all the nerve elements are in direct continuity, and if the neuron concept implies entire anatomical independence it must fall to the ground.

The Golgi method he declares is incomplete, since it colors only the external sheath of the conducting element, and not the conducting element itself, hence fails to show the connection from neuron to neuron. Bethe fails to find the intracellular network of Apathy, but regards the motor fibrils as arising from the extracellular network. His statement that the conducting fibrils sometimes pass into a cell by one protoplasmic process and out by another, if correct, proves that conduction in these processes is not always cellulipetal. A close examination of his statements, however, shows that he does not say positively that either in the crab or in other animals he has seen sensory fibrils pass directly into motor fibrils, but he assumes that such is the case.

In studying the nervous system of the crab Bethe found that, in the ganglia from which the antennæ are innervated, the large motor cells are situated around the periphery of the ganglion. Each cell gives off a process which passes to the centre of the ganglion and gives off a number of branches there, then leaves the ganglion with the nerve to the peripheral muscles. The centre of the ganglion is entirely occupied by a network of fibrils, the neuropile formed of these motor fibrils and of sensory fibrils coming from the periphery. Choosing the ganglion connected with the second antenna, he, by a series of cuts, separated the motor cells at the periphery. He found that, after the animal had recovered from the shock of the operation, it could move the antenna in question. Tonus was preserved, and reflexes occurred as usual, except for slight exaggeration. This persisted for several days, and then the antenna slowly became paralyzed. If, on the contrary, the motor nerve to the antenna was cut, paralysis of the latter was immediate and complete. This experiment would seem to show that the tonus and reflexes are independent of the nerve cells and can occur directly through the intermediary of the neuropile. That the influence of the nerve cell is not indispensable, however, is evidenced by the occurrence of paralysis after a certain period.

The views of Apathy and of Bethe have found both supporters and opponents among those equally qualified to form an opinion. It is claimed by Held that the extracellular network of Apathy is non-nervous in character. Bethe's physiological experiment has been objected to on the ground that he failed to remove all of the active part of the ganglion cells, enough being left to furnish the nervous impulse. It is impossible to dispute the presence of the intracellular network, say those who have examined the preparations of Apathy, and his drawings are but a faithful representation of his specimens. The preparations of Bethe are said to show the neuro-fibrils with a clearness which is "stupefying." Now, according to Bethe, these fibrils traverse the body of the cell, but neither branch nor anastomose there. Here, then, is a discrepancy between the two observers. No one else seems so far to have been able to obtain preparations comparable to those of either Apathy or Bethe. Their methods evidently require skill and experience in a high degree. Nissl, in an article which has attracted a good deal of attention, rather contemptuously thrusts aside the neuron theory as utterly discredited. He is evidently no friend of the Golgi method, and says with regard to it: "By it it is impossible to say what is blackened and what is not." He recognizes the existence of the neuro-fibrils, and says that Bethe's method colors the part of the cell left uncolored in his (Nissl's) method. This he regards as the functionally active portion of the cell, consisting in part of the fibrils. The active elements of the nervous system, he thinks, are the nerve cells, and an intercellular gray matter which probably consists in part of the neuro-fibrils, but of whose origin and of whose exact constitution he confesses ignorance. The whole article seems largely hypothetical, and cannot be said to give any new facts. Balancing the evidence for and against, as it exists at the present, what conclusions are we justified in drawing?

To recapitulate: It has long been known that an injury to nerve cell or nerve fibre is followed by degeneration which is sharply limited in extent. The application of the Golgi method shows that each nerve cell (and its processes) is developed from a primitive cell, the neuroblast; hence it forms an embryological unit. Moreover to all appearance the separation of these units, one from another, always remains complete. The neuron conception appears logically to follow. So far, it seems no more proven that the Golgi and vital methylene-blue methods give deceptive results, than that the methods of Apathy and of Bethe do. The latter have had nothing like so wide an application as the former, and more extended investigations seem to be needed before we throw apparently so faithful a servant overboard. There seems a good deal of difference in the conceptions of different authors as to just what the neuron means. It will be remembered that the idea of continuity between neuron and neuron has never been without supporters. Even if the views of Apathy are confirmed, and we have to admit a continuity of the neuro-fibrils, it does not seem to follow, necessarily, that we must abandon our idea of the neuron as a functional unit. Its embryological unity is not affected. It may be necessary to modify our views with regard to it, but our conception of the existence of the neuron, as a means of explaining certain facts, we are as yet hardly called upon to give up. Preserving an entirely impartial attitude we can only await the results of further investigations.

Scanty Amniotic Fluid as a Factor in Procidentia of the Cord and Fœtal Disorders.—Imperiale Pastore reports a case in which a deficient amount of amniotic fluid induced prolapse of the cord, the predisposing cause being a deformed pelvis. Fœtal disorders in such a case when the membranes are intact may be due to pressure exerted upon the funis and compression of the head or, during labor, to the unequal pressure of the tumor upon the prolapsed cord. —*La Riforma Medica*, November 10, 1900.

A FEW REMARKS ON THE USE OF MEDULLARY NARCOSIS IN OBSTETRICAL CASES.

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Among the numerous reports concerning the use of medullary narcosis we find comparatively few dealing with the employment of this new method in obstetrical practice. But it is almost certain that the encouraging reports of Marx[1] will induce many physicians to try this method.

A careful study of all articles that I have been enabled to collect creates the doubt in my mind, whether we are yet justified in recommending the subarachnoideal injections of cocaine to the obstetrician for general use. The reports, as published in nearly every number of American journals with reference to the use of this method, seem to place special weight on the more or less dangerous symptoms following the use of the injections. The only scientific value of such publications will be to gather material for statistics of morbidity and mortality. Should the percentage of unfavorable cases[2] be found high, medullary anæsthesia will disappear as have other forms of narcosis which, after their discovery, were lauded as ideal. But it occurs to me that the accounts of the use of this method in obstetrics should not be limited to describing the dangerous symptoms in mother and child. To my mind these cases offer a special opportunity for estimating the value of this new method from other points of view.

The two main indications for the employment of subarachnoideal injections of cocaine in obstetrical cases are, first, to produce a painless labor in normal cases, and, secondly, to substitute this method for other forms of narcosis when such is deemed necessary. To produce painless labor seems to have been the predominant idea in the experiments so far made. Doléris and Malarctic[3] concede this as their object. Marx[4] says: "But at last, so far as we are concerned, it is a method ideally suited to mitigate or absolutely allay the dreadful pains of a normal labor."

To accomplish such a purpose, however, according to my opinion, we must make use only of a method—(1) which does not carry with it too great a danger for either mother or child, (2) which does not produce conditions more disagreeable than the pain that we are endeavoring to assuage, and (3) which does not produce complications during parturition, *i.e.*, does not change a birth, which under ordinary circumstances would be normal, into instrumental delivery. In reference to these three points I would like to make the following comments:

1. No one should at present state that medullary narcosis is a harmless procedure. An exact opinion with reference to this point can be arrived at only after the above-mentioned statistics of morbidity and mortality are established. 2. All reports tell of disagreeable symptoms following these injections, viz., vomiting, intense headache, etc., sometimes lasting longer than after the usual chloroform or ether narcosis. Cases of immediate high elevation of temperature with deep collapse are on record:[5] such a great risk, indeed, does a woman take in exchange for labor pain. 3. This point is by far the most important, and necessitates a further discussion. Most of the authors (Kreis, Doléris, Malarctic, Marx) state that the uterine contractions were observed during the anæsthesia. According to their observations there seems to be no change in their frequency, but of course whether their active power is of the same value during the anæsthesia remains to be determined. One thing, however, is positive—the active help of the abdominal muscles is lacking. Naturally, the patient can bear down when asked to, or when she herself is so inclined, as strongly as under normal conditions, but as a consequence of the painlessness the reflex action is not brought on, which causes the automatic help of the abdominal muscles, nor is the woman able to bear down synchronously with the uterine contractions, since she does not feel them. From our knowledge, based on modern views of the great importance of abdominal pressure in the last stage of labor, we should consider its loss to be a very decided disadvantage.

Schroeder was the pioneer in demonstrating by clinical studies the necessity of the help of the abdominal muscles in the expression of the fœtus. At the present time his opinion is generally accepted and is to be found in the principal text-books.

Olshausen and Veit[1] say: "When the delivery approaches its close, and when especially this termination is a difficult one, then the abdominal pressure becomes more important, while the effect of the uterine contractions becomes less." On page 587 we find the following statement: "Complete deficiency of abdominal pressure during the expulsive stage is fortunately very rare. There are only a few records of deliveries in cases of paralysis of the lower part of the body. But in these cases the second stage of parturition seemed to be very much delayed." Probably in those cases the paralyzed perineal muscles offered less resistance to the child's head. This advantage is lacking in medullary narcosis.

Ahlfeld[2] expresses the following opinion: "During the last (second) stage of parturition we can only consider the effect of the abdominal pressure, the influence of the uterine contractions being very inferior to it." "A primary inability to use the abdominal muscles is rare, but even in entirely healthy parturients the inactivity of these muscles sometimes disturbs the normal course of labor to a very marked degree."

Schatz and Poullet endeavored to measure the abdominal pressure by means of a manometer, and demonstrated the fact that during the expulsive stage the pressure produced by the abdominal muscles is nearly as great as that of the uterine contractions.

Galabin[3] says: "The effect of the auxiliary muscles is therefore to add to each of the resultant forces already mentioned. It has also another influence of great practical value, namely, that it tends to press the uterus, as a whole, toward the pelvis. This takes off the tension placed by the uterine contractions on that lower distensible uterine segment, which . . . is the part of the uterus most liable to rupture. Thus the tendency to rupture of the uterus is resisted by an efficient action of the auxiliary muscles, and is more likely to occur if the abdominal walls are weakened."

In Hirst's "System of Obstetrics" (Philadelphia, 1888) Parvin in his work[4] says: "These [abdominal] contractions are chiefly voluntary, only at the close of the second stage of labor do they seem to escape entirely, or almost entirely, the dominion of the will. Such contractions exerted during the first stage of labor, and usually in the second stage, if not synchronous with uterine action, are worse than useless."

[1] Philadelphia Medical Journal, November 3, 1900.

[2] One fatal case is reported by Tuffier (Intern. Congress, Paris, 1900), another by F. Dumont (Correspondenzbl. f. Schweizer Aerzte, 1900, No. 19).

[3] Session of July 14, 1900, of the Académie de Médecine in Paris.

[4] MEDICAL RECORD, October 6, 1900.

[5] See the reports of Professor Bier and Doctor Engelmann of experiments made on themselves (Münchener medicinische Wochenschrift, 1900, September 4th and October 30th).

[1] "Lehrbuch der Geburtshilfe," 1899, p. 173.

[2] "Lehrbuch der Geburtshilfe," 1898, p. 122.

[3] "Manual of Midwifery," London, 1897, p. 167.

[4] "Anomalies of the Forces in Labor," p. 702.

I could recall easily a larger number of opinions of well-known authors, all expressing the same idea on this subject. By studying the histories of the obstetrical cases in which medullary anæsthesia was employed the correctness of these views, to my mind at least, seems to be proven. I have taken into consideration only those cases in which there exist tolerably exact histories, viz., the six cases of Kreis[1] and twenty-three cases of Marx.[2] Out of the six cases of Kreis it was necessary to finish three by means of forceps. The causes assigned were: in one case exhaustion of the mother and insufficiency of the labor; in the second, symptoms of asphyxia of the fœtus; while in the third no cause is mentioned. Among the twenty-three cases of Marx there were twenty-one cases of labor. Of these it was necessary to apply forceps in seven cases. Unfortunately, the indications for this procedure are not mentioned. However, it is worthy of note that the three operative cases of Kreis and these seven of Marx were in primiparæ. The non-elasticity of the perineum—as characteristic of primiparæ—may have made the last stage of confinement more tedious, the abdominal pressure not exerting a helping influence. Of the subsequent nineteen deliveries in which medullary narcosis was employed by Marx,[3] in nine were forceps used. Naturally, as we have no data giving in detail the indications for the use of instruments in each case, we are at a loss to draw correct conclusions. At any rate, the remarkably high percentage of forceps deliveries is very striking, particularly when there was no note of any abnormalities of either the pelvis or the child. At least it is supposed that none existed, as otherwise they would have been reported in the histories.

According to my view it is very necessary in future descriptions of confinements under medullary narcosis, in which obstetrical operations have to be performed, to give exact details of the indication of each operation, to remark all abnormalities in the course of confinement, such as marked delay during the expulsive stage, excessive stretching of the lower segment of the uterus, rupture of the uterus, etc. It is also indispensable to measure the diameters of the pelvis and child's head, to describe the forms of both, and to make note of all abnormalities if they exist.

Should we, however, prove that the parturition is in nowise harmed by medullary anæsthesia, such a discovery would be of the greatest scientific interest, forcing us, as it would, to change our opinion with regard to the value and importance of abdominal pressure.

On the other hand, should we find out that we are compelled to make use of the forceps more often than under the usual conditions, as a consequence of the deficiency of a normal automatic help of the abdominal muscles, this condition alone would contraindicate the use of medullary narcosis as a means of making a normal labor painless. Notwithstanding the best anti- and asepsis, subsequent puerperal or gynæcological diseases are invariably more frequent after delivery by operative procedures.[4]

The second indication for the use of cocaine anæsthesia of the spinal cord, as before mentioned, is as a substitute for other narcosis in cases in which such a procedure becomes necessary either for purposes of examination or operative work. In regard to this indication the remarks I made in discussing points 1 and 2 (danger to the patients and disagreeable symptoms) are to be taken into consideration. I would add to those only the statement of Marx, in which he says: "Explorations, versions, extractions, placental removal, were readily done not with quite as great ease as under chloroform."

In the event that future work along this line establishes the fact that subarachnoideal injections of cocaine are free from danger, they may add some advantages in cases in which heart failure, nephritis, etc., contraindicate the use of chloroform or ether. In country practice it might prove profitable, as one assistant—the anæsthetist—could be spared (Kreis). So, in conclusion, it seems to me more than doubtful whether we are justified at the present time in recommending medullary narcosis as a means of rendering normal labor painless or as a substitute for light chloroform narcosis, which is always sufficient for the usual obstetrical operations.

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[1] Centralbl. für Gynäkologie, July 14, 1900.

[2] "Medical Record, October 6, 1900.

[3] See the table in Philadelphia Medical Journal, November 10, 1900.

[4] See Ehrenfest: St. Louis Medical Review, September 22, 1900.

PERFORATION OF A TYPHOID ULCER WITHOUT FÆCAL EXTRAVASATION; OPERATION FOUR HOURS AFTER THE FIRST SYMPTOM; RECOVERY.

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and

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Without discussing the comparative merits of the terms "pre-perforative stage" (Cushing), "pre-perforative necrotic area" (Cobb), perforation without extravasation, etc.; they all describe the all-important moment for operating on a typhoid ulcer. We early learned in appendicitis that the peritoneum was often infected before the appendix was perforated and we now know that the same thing is true in a typhoid ulcer. The mortality of these operations will depend largely on the extent of the septic peritonitis present at the time of the operation. If we could more often make sure that an ulcer was about to perforate or was slowly infecting the peritoneum our results would be much improved. This single case is offered then as one of a few already observed in which the early symptoms were sufficiently well marked to induce the physician in charge to operate before an opening in the intestine had actually occurred.

C. S——, worker in a woollen mill, nineteen years of age, single, a native of Italy, lives in Lawrence, Mass. He entered the Massachusetts General Hospital, March 9, 1899, for treatment of acute enteritis, and was discharged March 14th, much relieved. The family history was good; he occasionally used alcohol, but his habits were otherwise good; his personal history was negative, he denied having had venereal disease. He entered the hospital again, May 31, 1899.

Present illness: Since leaving the hospital he had been well until about one week ago when he became feverish (no chill), had headache and loss of appetite. He vomited three times the day before admission, but not before or since. He had no cough at first, but has a slight cough now; there is no pain anywhere, he has had no nose bleed, and the bowels are constipated. The patient had not been in bed until the day before admission.

The patient was well developed and nourished, swarthy; his face was slightly flushed, the skin was hot and dry, the pupils and reflexes were normal; there were no enlarged glands; the teeth were fair but dirty; the tongue was dry and coated; the pulse was regular, of fair volume, dicrotic, and moderately compressible; the lungs were normal; the heart area was not increased; the apex beat was felt in the fifth interspace three-quarters of an inch inside the nipple

line; the second sound was sharp; the pulmonary second sound was not increased; the first sound was reduplicated. The liver was not enlarged; the spleen was enlarged to the costal margin. There were one or two rose spots on the chest; the abdomen was slightly distended and tympanitic but not tender. The blood count showed white corpuscles 7,600; Widal's reaction was absent; the urine was high colored, acid, 1,028 specific gravity; there was a slight sediment; of albumin there was the slightest possible trace; sugar was absent; chlorides were normal; diazo reaction was absent; an occasional small round cell and an abnormal blood globule were found; there were fairly many leucocytes; an occasional squamous cell, and large round cells like those of the neck of the bladder; no casts were seen. The patient was put upon liquid enteric diet; baths were given according to schedule; special precautions were taken.

On June 6th the man was reported about 5 A.M. for pain in abdomen. He had a pinched expression. The abdomen was rigid, more in the right lower quadrant, slightly tympanitic; there was general tenderness, more marked in the right lower quadrant. A high soap-suds enema was given with turpentine one teaspoonful, and a turpentine stupe was applied. The patient had a large dejection about 6 A.M. He was reported again at 6:45 for severe pain and vomiting; vomitus was of food only. Liquid Dover's powder, ♏ x., was given. At 7:45 the patient was still in considerable pain. He lay on the left side with knees flexed. The countenance was anxious and there was an evident expression of severe suffering. The face was somewhat whiter than usual but not markedly pale. The pulse had risen from 90 to 120 per minute, with but little or no alteration in volume. There was no fall in temperature. The abdomen was generally rigid but more so in the right lower quadrant; the tenderness was general but most marked over this area; the abdomen was slightly tympanitic as before. The white corpuscles numbered 17,200. The Widal reaction was present in twenty-five minutes. The patient was seen about 9 A.M. by Dr. Elliot, who concurred in the diagnosis of perforation of the intestine, and the patient was transferred at once to the surgical side. E. G. C.

Dr. Elliot found that the patient, in the third week of typhoid fever, had been attacked with a sudden severe abdominal pain four hours earlier. He was still suffering greatly in spite of a small opiate. The abdomen was moderately distended, rigid, and tympanitic. There was no dulness and nothing abnormal could be detected by palpation except a general tenderness. The white blood count had risen from 8,000 the day before to 17,000. Pulse, 110; temperature, 103.8°. The patient had the expression of a very sick man. It seemed quite evident that an acute peritonitis was beginning and the perforation of a typhoid ulcer was considered to be the most likely cause, although an acute inflammation of the gall bladder was considered a possible cause. A laparotomy was done at once. When the abdomen was opened in the median line the peritoneal cavity was found filled with a turbid fluid containing white fibrinous flakes. The intestines were darkly reddened and congested. Several adherent patches of greenish-white fibrinous exudation were seen on the intestines. The intestines were not glued together. The picture was that of a general septic peritonitis which was most acute in the neighborhood of a certain part of the small intestine. The cæcum presented and the appendix was found to be normal. The ascending colon was withdrawn and examined; the ileum was next traced upward from the cæcum. The ileum was more reddened than the colon and about four feet from the cæcum a gray fibrinous mass covered the surface of the gut. This coil of intestine was withdrawn from the wound and surrounded with gauze. On the side opposite the mesentery an ulceration was plainly to be seen, the centre of which was just ready to slough out. It was difficult to know how much leakage had taken place and gentle pressure failed to force the fæces through. The ulcer appeared as an indurated area about as large as a quarter of a dollar, which was deep red in color and in the centre of which was a gray crater the size of a pea, which had lost its peritoneal covering and looked very friable and disorganized. The mucous membrane of the bowel was not seen and it was not considered wise to probe the opening, but it was quite evident that some of the infectious contents of the intestine had passed through to give rise to the general peritonitis. Other small patches of fibrin were seen on the bowel in the region, but no other ulceration was found.

Lembert silk sutures were so placed as to fold the gut longitudinally over the perforation, a second layer of sutures being placed to cover in the first series. The abdomen was very carefully wiped out with gauze sponges; the patient being first raised to a sitting posture to cause the turbid fluid to flow into the pelvis. The patient was then placed in the Trendelenburg position and the pelvis wiped out with great care. There was no irrigation of the abdomen. The wound was closed, leaving a small thread of gauze drainage at the lower angle leading down to the line of sutures.

The patient was not in a critical condition after the operation, but bore it fairly well, considering the general typhoidal condition. Pulse, 120; temperature, 104.5° that night. On the following morning the temperature was normal and pulse 90. On the third day the bowels were moved by an enema, and on the fourth day the gauze drainage was removed. The wound healed by first intention. The patient was generally comfortable without opiates and complained only of hunger. He was given liquid diet with large nutritive enemata, but on the sixth day he was allowed soft-boiled eggs and a larger quantity of liquids. On the eighth day his temperature rose to 104.8°. As there seemed to be a relapse in his typhoid, he was then transferred back to the medical wards where he again came under Dr. Cutler's care.

J. W. E.

June 15th: Relapse began on the 13th.

Examination shows the abdomen considerably distended, rigid, and tympanitic, not tender. The spleen, increased to costal margin, was not palpable. The wound was healed, and covered with collodion dressing. The pulse was regular, of fair volume, rather easily compressible, and dicrotic. The tongue was dry and coated. White corpuscles 7,000. A few rose spots on abdomen. For the next twelve days the patient was fairly ill with his relapse, when there was lysis and an uneventful convalescence followed.

The patient now, on January 8, 1900, reports himself as perfectly well in every way. E. G. C.

Bacteriological Examination of the Blood in Pneumonia.—A. Prochaska attributes the conflicting results reported by different investigators who have studied this subject to the fact that insufficient quantities of blood have been taken for the purpose. In using small amounts he himself obtained very irregular figures, but on taking the material directly from a vein and adding 4–5 c.c. to bouillon positive results were noted in every one of ten cases examined. These were chosen indiscriminately, without regard to the severity of infection, and four presented complications such as empyema, acute nephritis, and gangrene of the lung. In every instance pure cultures were obtained at the first sowing.—*Centralblatt für innere Medicin*, November 17, 1900.

ON THE TREATMENT OF LARYNGEAL TUBERCULOSIS.[1]

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If I take the liberty of encroaching upon your patience with a few remarks on the treatment of laryngeal tuberculosis, it is because the theme is one that interests not only the throat specialist, but the general practitioner as well. Before we proceed to our subject proper, a few words may not be out of place on the pathological anatomy of the affection under consideration, for the reason that an understanding of the morbid processes involved in laryngeal pthisis is essential to any rational treatment.

Tuberculous laryngitis begins with an infiltration in the lower layers of the mucosa and in the submucosa. The question as to how the tubercle bacilli reach the lower layers of the mucosa and the submucosa is here immaterial. Whether those investigators are right who contend that the infection takes place from the surface, the germs entering in through the epithelium, this having suffered previous structural changes, or whether the others are correct who maintain that the germs find their way into the lower layers from the lung and bronchial lymphatics by way of the blood and lymph channels—that question is for our present purposes irrelevant, as it has no bearing upon the treatment of the affection. For the treatment only one circumstance is of importance—the circumstance that the first morbid changes begin, contrary to a still very general belief, not on the surface but in the deeper strata of the larynx. In other words, tuberculous laryngitis does not begin as a superficial ulceration that secondarily creeps inward, but as a deep-seated infiltration that spreads outward until it reaches the surface, when it ulcerates. With the sole exception of aphthous ulcers, which result from the action of irritant sputa coming in direct contact with the surface of the larynx in pulmonary phthisis of long standing, the mucosa, above all the epithelium, is in the initial stage of laryngeal tuberculosis intact, the surface smooth. Deeper down in the lower layers of the mucosa and in the submucosa the primary infiltration appears. If in this stage lactic acid or any other cauterizing agent be applied, how is it to influence the morbid tissue? It produces merely an erosion or an ulceration which heals of itself, without having had the slightest effect upon the tuberculous process. Let us take for instance the changes upon the posterior laryngeal wall. Here, as everywhere else in the larynx, the primary process is a deep-seated infiltration, which later extends on the one hand still farther inward till it reaches the perichondrium, causing there ankylosis of the crico-arytenoid joint, or on the other hand spreads outward toward the surface, on reaching which it sends forth granulations which extend into the lumen of the larynx. Secondarily these granulations ulcerate, exactly as in the case of neoplasmata, and we then have for the first time an ulcer, so that the sequence is infiltration, granulation, ulceration. Often in the primary stage the patient cannot phonate, because the swelling of the posterior wall prevents in a purely mechanical way the vocal cords from approaching each other. In the third stage, a year or two later, he can once more phonate, for the simple reason that the swelling and the granulations on the posterior wall have disappeared and given way to an ulcerated surface, thus permitting an approximation of the cords. He naturally believes his condition changed for the better, whereas, in fact, it has changed for the worse. The return of the voice denotes in this instance progression not retrogression of the tuberculous process. I dwell on this point because only a few years ago the opinion prevailed very generally that in tuberculous laryngitis hoarseness and development of the disease keep equal pace—the greater the degree of hoarseness the farther advanced the disease—whereas, in point of fact, the reverse is often the case. These briefly sketched changes on the posterior wall are in all essential respects the same that occur in the various other parts of the larynx.

We now come to our subject proper. Before the invention of the laryngoscope the treatment of laryngeal phthisis was necessarily limited to general therapeutics, dietetics, and hygiene. It is true numerous attempts were made to treat the affected parts locally, but without success. On the one hand all manner of inhalations, sprays, etc., were used, which at best gave a certain temporary relief; on the other hand the various astringents and cauterizing agents were introduced blindly into the larynx by means of bent probes, and probably did more harm than good. It is therefore easy to understand the extravagant hopes raised by the invention by Czermak and Tuerck, of Vienna, in 1858, of the laryngoscope. As if by magic the entire larynx was now exposed to view and nothing seemed more easy or more certain of success than carefully localized treatment. The ulcers were diligently cauterized with silver nitrate and copper sulphate, and a bitter disappointment followed. The outcome of every effort was the disheartening confession that cauterization was of no avail, the tuberculous process went its way in spite of it, and medical skill was as helpless as before. Hence a few years later Stoerk, professor of laryngology in Vienna, formulated the principle that tuberculous laryngitis is a noli me tangere—it is forbidden ground, no local treatment is permissible. The principle found general acceptance, and until the end of the seventies tuberculosis of the larynx was considered an incurable disease.

In 1880 M. Schmidt, who with others had pronounced this pessimistic standpoint inhuman, announced that he had discovered a simple method of healing a tuberculous throat ulcer by means of inhalations of three-per-cent. carbolic acid. The method was eagerly seized upon and tried with results which, while they by no means justified Schmidt's enthusiasm, showed that he had hit upon a procedure of great value. The reason for his mistake in supposing that he had found a cure was the following: the tuberculous ulcer is only in the beginning specifically tuberculous, a secondary strepto- and staphylococci invasion very soon takes place, and we then have a mixed ulcer; so that every tuberculous throat ulcer, except those entirely fresh, is mixed. Schmidt's carbolic inhalations had had the effect of removing the secondary products, the dirty grayish coating. The original tuberculous ulcer with rosy, healthy-looking granulations remained. This Schmidt mistook for the healing of the ulcer. In other words, with carbolic acid or any other antiseptic agent we cannot influence the tuberculous process as such, but we can prevent secondary infection. Is it now of any benefit to the patient if we do this? It most certainly is. For it is secondary infection that produces swelling of the larynx, with dyspnœa and dysphagia, and the dysphagia of laryngeal tuberculosis is one of the most terrible things that are. It is secondary infection, moreover, that is responsible for acute perichondritis of the crico-arytenoid joint. Without warning, over night, chill and fever set in, the entire capsule of the joint becomes infiltrated, and the arytenoid cartilage swims in pus, all in twenty-four hours. Tuberculous granulations that had existed for months on the posterior end of one of the vocal cords had finally ulcerated, where-

[1] Read before the San Francisco County Medical Society, October 9, 1900.

upon strepto- and staphylococci from the surface had entered and produced a violent inflammation of the joint. A tuberculous process existing for months alone never bursts out as suddenly as that—that is always the work of secondary infection. By preventing this we prevent all such occurrences, and if we thereby spare the patient during the last week of his life that awful dyspnœa and dysphagia we have done at least our duty. Whether we use carbolic acid, creosote, glycerin, menthol, or iodoform, is immaterial.

Schmidt's carbolic inhalations having failed to realize expectations, the search for remedies was continued. In 1885 the Vienna surgeon Mosetig recommended lactic acid in tuberculous affections of the knee. Impelled by Mosetig's success attendant upon the use of the acid, Krause, struck by a fortunate inspiration, in that same year made a trial of the remedy in the throat. He began to cauterize the tuberculous ulcers with lactic acid, and with success exceeding anticipations. His reports were so glowing that a large number of laryngologists immediately availed themselves of the method with results equally good, and from that day to this lactic acid has remained by far the most efficacious remedy in laryngeal phthisis. As Schech says: "It acts almost specifically in that, while it attacks the morbid tissue, it leaves the healthy tissue intact." If any agent can bring about the cicatrization of a tuberculous throat ulcer, it is this acid. Its employment is limited, however, to open processes, that is, to ulcerated surfaces, and does not extend to non-ulcerated infiltrations, for if the surface be intact it cannot penetrate to the morbid tissue underneath. Moreover, the method of application must be rational. The treatment of tuberculous ulcers with twenty- to thirty-per-cent. lactic acid, as often practised, is unavailing, as that concentration is too weak to accomplish the purpose intended. One must use a fifty- to eighty-per-cent. solution, which must be rubbed so energetically into the ulcer that a brownish or blackish eschar results. For this reason I agree with Lennox Browne in thinking the advocacy of application by means of the laryngeal spray ill advised. Some apply the acid daily or every second day; this is an entirely irrational procedure. The application should not be repeated until the eschar sloughs through reactive irritation—a process requiring from seven to fourteen days. In the mean time insufflations of iodol, iodoform, or another disinfecting powder are in place. Preceding every cauterization a thorough cocainization is necessary, a fifteen- to twenty-per-cent. solution being the strength generally required. On the detachment of the eschar the surface is smooth, the superficial granulations having been actually destroyed by cauterization. The chief deposits, however, are still below, and the cauterizing procedure must therefore be repeated four or five or a dozen times, often through many months, before we can hope to have entirely eliminated the morbid tissue.

And yet it is not permissible in every case in which there are tuberculous ulcers in the larynx without further consideration to apply lactic acid. In this Bosworth goes too far, in my estimation, in stating that "in view of the excellent results which have followed the lactic-acid treatment, we have not done our full duty in any given case without fully testing its efficacy." Several strict indications must first be fulfilled. In the first place, the ulcers must be circumscript. If, for instance, the posterior wall, both vocal cords, and one or both arytenoid cartilages be already ulcerated, lactic acid is strictly forbidden, for such ulcers do not heal, even with lactic acid. One ulcerated vocal cord or an ulcerated posterior wall has a fair chance of healing; these plus additional ulcers have practically none whatever. In the second place, the general condition must be good. If the pulmonary process be already far advanced or advancing rapidly, if the appetite be poor, or if the patient do not tolerate cocaine, cauterization should not be undertaken. If the patient's appetite be ruined with cocaine, the greatest harm is done him, for as long as the tuberculous subject's appetite remains good, there is always hope of eradicating the disease or at least of checking its progress. So much for tuberculous ulcerations. I repeat that lactic acid is the sovereign remedy in their treatment; that, as Solis Cohen says, there is nothing else which bears comparison with it, that it acts almost specifically, and that, if the above-mentioned indications be fulfilled, its use is imperative.

We now come to the tuberculous infiltrations. After the introduction of lactic acid in the treatment of tuberculous ulcers, Heryng hit upon the idea of treating tuberculous infiltrations by the same means, cauterization being preceded by multiple scarifications. The object of these was to convert the non-ulcerated infiltration into an open process, into which the acid could then be rubbed. Although diminution in size of the infiltration and cicatrization of the wound frequently followed, Heryng soon saw the inadequacy of the procedure and devised in 1887 the method upon which the entire present surgical treatment of laryngeal phthisis is based, and that is curettage. The single curette is an oval sharp spoon, the curve of which is adapted to the various regions of the larynx. With it the tuberculous infiltrations are thoroughly scraped with the intention of eliminating the tuberculous products and leaving a wound which later cicatrizes. There are, however, certain parts of the larynx to which, on account of their lack of tenseness, we cannot apply the single curette; these are the epiglottis, the ary-epiglottic folds, and the posterior wall. For these parts we use the double curette. It acts, moreover, more energetically than the single curette, and is therefore adapted to those infiltrations, irrespective of their localization, which by reason of their hardness do not yield to the single curette. It is needless to add that before the employment of the curette the larynx must be thoroughly cocainized, for which purpose, as in the application of lactic acid, a fifteen- to twenty-per-cent. solution is necessary. On account of the sensitiveness and excessive reflex irritability of the posterior wall, this region is the most difficult to manage. With the single curette hemorrhage is slight, with the double curette more profuse. This danger is, however, not very great. In case of trouble a mixture of lactic acid and liquor ferri sesquichloridi in equal parts will be found serviceable. After the operation insufflations of idoform, iodol, aristol, or a similar disinfecting powder are all that is necessary. The reaction is slight; at worst the patient complains of rawness in the throat and painful deglutition, sometimes of headache and slight fever. As some one has said, many stand the operation better than the cocaine. In general seven to fourteen days must elapse before the operative procedure is repeated. As to the indications for curettage, they are the same as for cauterization with lactic acid, only that in the case of curettage they are, if anything, still stricter.

If now in conclusion I am permitted a brief recapitulation, I should like to divide laryngeal tuberculosis as regards its therapeutics into three stages. In the first stage, with the exception of a circumscript infiltration or ulceration, the larynx is healthy. In this stage (the only one in which we can hope for a permanent cure) the treatment consists in curettage in case an infiltration be present, in cauterization with lactic acid in case an ulcer be present. If the general condition, especially that of the lungs, be good, these procedures are imperative. As above stated,

they must be repeated at intervals of one to three weeks, until the diseased tissue is completely removed.

In the second stage the larynx presents extensive infiltrations or ulcerations. Here we can no longer hope for a complete elimination of the morbid tissue; in other words, if we get the case in this stage we can no longer count on a cure. Here the antiseptic treatment comes to the front, for here our main aim is to prevent secondary infection. The mildest method is by means of antiseptic inhalations; whether we use one- to three-per-cent. carbolic acid, two- to four-per-cent. boracic acid, or one- to two-per-cent. lysol is of no consequence. If the epiglottis permit an inspection of the interior of the larynx the antiseptic swab is still more efficacious, for which purpose a ten-per-cent. solution of carbolic acid in glycerin can be recommended. More in favor than this is a ten- to thirty-per-cent. solution of menthol in olive oil, which acts both antiseptically and analgetically. As above outlined, by means of this antiseptic treatment we forestall secondary infection and thereby the terrible dyspnœa and dysphagia of the last stage.

And, finally, if we see the case first in this last pitiful stage, all that it is in our power to do is to treat it symptomatically, to administer a morphine powder before each meal, or better still to apply a ten- to twenty-per-cent. solution of cocaine to the pharynx. In impending suffocation tracheotomy must, of course, be performed.

I have confined myself entirely to the local therapy of laryngeal tuberculosis. There remains the general treatment — internal medication, dietetics, and hygiene—on which, however, I refrain from dwelling, as it corresponds closely to that in pulmonary tuberculosis.

135 Geary Street.

LOCAL ANÆSTHESIA IN THE RADICAL OPERATION FOR INGUINAL HERNIA.

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It was my good fortune, not long ago, to assist at an operation for the radical cure of inguinal hernia under local anæsthesia. Personally, I have always operated on hernias with the aid of general anæsthesia. The operation was performed on the house surgeon of a large New York hospital. A careful perusal of the following description, which for simplicity's sake is given in the words of the patient, will, I think, be as instructive to the reader as it was to me, especially so, because the patient underwent the operation by this method for the purpose of testing its merits. The accuracy of the account I can vouch for. The anæsthetic used was eucaine β six per cent. The patient conversed with the operator and his assistants during the entire operation, so as more accurately to describe his sensations subsequently.

"Local anæsthetization: The operation down to the exposure of the external oblique aponeurosis was painless, as was also, practically, the splitting of the latter to expose the cord. The separation of the sac from the cord was excruciatingly painful. The sensation was as if the testicle were being constantly and thoroughly mauled. It was present when the cord was touched ever so lightly; its severity during the stripping of an adherent sac from the cord can therefore be easily imagined. The ligation and excision of a large portion of the omentum was, contrary to every one's expectation, absolutely painless. Traction on the omentum, however, while not actually painful, was responsible for a very disagreeable nausea, which, by the way, persisted for two days following the operation. The introduction of the purse-string suture into the neck of the sac, and the ligation and excision of the latter, were painless. The suturing of Poupart's ligament to the conjoined tendon and its muscles, to construct a new posterior wall for the canal, was practically without pain. On the other hand, the suturing of the external oblique aponeurosis was surprisingly painful, the passage of the needle feeling like a knife passing through inflamed tissues; the drawing together of the edges of the aponeurosis, however, did not cause much pain. The edges of the skin were drawn together with India-rubber zinc plaster, and not sutured.

"While the suturing in itself was on the whole not very painful, it must not be forgotten that during the first part of the procedure the cord had to be held out of the way with a blunt hook, causing the testicular pain previously described.

"The operation lasted sixty minutes. During the first minute there was no pain; during the other fifty-nine minutes the pain was such that should any one who reads this contemplate undergoing an operation for the radical cure of inguinal hernia under local anæsthesia, I should advise him not to. If he wants to know how it would feel, let him give his testicles a good hard squeeze, and imagine the pain lasting from thirty to fifty minutes; then, if he cares to try it, well and good; at any rate he knows what to expect. I, for one, would prefer general anæsthesia, if I had to undergo a similar operation on the other side."

How much less pain the patient would have experienced had the ileo-inguinal nerve been cocainized at the beginning of the operation, according to the method described by Cushing in the *Annals of Surgery*, January, 1900, I do not know. In the only case I have seen this method used it seemed to be ineffectual. The case was one of double inguinal hernia, in a patient who could endure pain well, and who said he was willing to stand a good deal for the sake of a cure. Both sides were operated upon under local anæsthesia, the first side according to Cushing's method, the other in the usual way. The amount of pain experienced seemed to be the same on both sides. Even in the hands of its originator this method is by no means ideal, as may be inferred from statements in the original article, to the effect that morphine and chloroform in small whiffs are excellent adjuvants and have to be used at times, that some pain must necessarily be inflicted, and to spare the patient it is a temptation to slight certain steps. And why, indeed, should any one expose himself to such needless suffering? Every patient whom I have seen operated on in this way has solemnly stated afterward that no power on earth could make him undergo the experience again.

What are the advantages claimed for this method of operating in hernia? In the order of importance they are: (1) absence of the dangers of general anæsthesia, both immediate and remote; (2) absence (usually) of the unpleasant sequelæ of anæsthesia; (3) the aid the patient can give the operator, *e.g.*, by coughing, so that the sac can be more easily isolated. Before considering the advantages further, let me mention the disadvantages: (1) the severe suffering mental and physical which is caused, resulting in more or less shock; (2) the tendency on the part of the operator to hurry and slight certain steps; (3) the condition of neurasthenia in which the operation may leave the patient. The case of double hernia mentioned above is a good example of the last-named disadvantage. For the three months following the operation, during which time I had the patient under observation, he was in a condition of marked neurasthenia, such as is often seen in people who have been in railroad accidents.

Inasmuch as one or more of these disadvantages is always present to a greater or less degree, this method of operating should not be employed unless the ad-

vantages are sufficiently strong to offset them. Of those mentioned (2) and (3) are certainly insignificant —(2) because post-anæsthesia unpleasantness is but temporary, and not always present, and (3) because we can, and in practically all cases do, get along very well without any help on the part of the patient.

I do not wish to be understood as an unqualified opponent of operating upon hernias under local anæsthesia. I simply wish to help in defining its limitations, and since the only real advantage of the method is the removal of the element of danger of general anæsthesia (and this element nowadays is practically nil, except in old people and those subject to certain diseases, such as advanced emphysema, and advanced chronic endocarditis) it seems to me that the method should be employed only in those cases in which the administration of a general anæsthetic is dangerous.

For this reason I believe that this method of operating in hernia should not even be suggested to patients whose condition is good, and in whom the administration of a general anæsthetic is reasonably free from danger. Indeed, it is quite possible that the method will not be practised so extensively, even by those who are now its strongest advocates, if cocainization of the spinal cord prove finally to be as free from danger as recent experiments seem to indicate.

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Clinical Department.

REPORT OF A CASE OF FRACTURED LIVER.

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Recovery from this accident seems to be rare, which is the only reason for making this report.

R——, aged thirty-five years, a canaller, was struck in the epigastrium a hard blow with a stick of wood. He was brought to the City Hospital on September 8th for treatment within three or four hours of the accident. On entering he was in collapse; his pulse was small and feeble, his face was pale and anxious, and his extremities were cool. He complained of severe pain in the epigastrium. On examination no mark of injury could be seen. There was no unusual dulness on percussion over the abdomen. Clear urine was obtained by the catheter. There was some vomiting. The diagnosis lay between the ordinary "knock-out" blow over the solar plexus and rupture of some organ with hemorrhage. When the abdomen was opened it was found to contain a large amount of free fluid and clotted blood, and the bleeding was evidently still going on. The first organ examined, the liver, was found to have been torn to the extent of three or four inches on the anterior inferior surface of the right lobe between the gall bladder and the longitudinal fissure. The rent was large enough to contain the ends of four fingers, and was about three-fourths of an inch deep, with ragged sides and edges. The wound was packed with gauze in a gauze bag, which was held in position by a heavy silk ligature passed through the abdomen from the right side behind close to the free border of the ribs to the left side in front just below the rib cartilage at that point. This ligature thus hugged the right lobe of the liver, and, by passing over the gauze packing, held it firmly in place. The ligature was tied tightly on the outside of the body, care being taken to feel that no coil of intestine was caught by the tightened silk. The lower part of the wound was closed, the upper part being left open for the removal of the gauze. For the first day or two there was considerable oozing of blood. Then for about ten days or two weeks there was a profuse discharge of bile, gradually lessening until there was none. The gauze and ligature were removed on the eighth day. The large cavity left by the gauze filled up rapidly, and on October 30th the patient was discharged well.

FRACTURE OF THE CLAVICLE, RESULTING IN RUPTURE OF THE SUPRASCAPULAR ARTERY(?).

By H. T. MILLER, M.D.,

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Mrs. B——, aged forty-five years, housewife, was admitted to the hospital last June, giving the history of having fallen in an epileptic attack four weeks previous to the date of admission; upon regaining consciousness she had discovered a swelling, about the size of an orange, over the middle portion of the clavicle on the right side. This swelling had grown very rapidly, and given her considerable pain. An examination revealed a large pulsating tumor extending from above downward from the omohyoid muscle to the fifth rib, and laterally from the suprasternal fossa to the axilla.

At this time a fracture of the clavicle was not suspected, nor had it been by the physicians who had previously attended her: however, a rupture of an artery of magnitude was diagnosed, and it was thought that in all probability an operation would terminate fatally.

Two days after admission to the hospital two incisions were made, one extending from the lower margin of the thyroid gland to the suprasternal fossa, the second incision extending from the latter point to about three inches over the clavicle. The skin, superficial fascia, platysma myoides, superficial layer of the deep fascia, the clavicular and sternal heads of the sternomastoid, and the sternohyoid and sternothyroid muscles were divided. The inferior thyroid veins were divided between ligatures. There was great difficulty in the dissection on account of the close proximity of the tumor, and then there was constant fear of rupturing it. After the subclavian artery had been exposed, it was found that the finger could be inserted between the artery and vein into the substance of the tumor, which was found to be largely composed of disorganized blood clots. A portion of the clavicle was removed, and was found to have been fractured and partly necrosed, probably from pressure. The patient being in severe shock, it was deemed advisable to discontinue the operation and defer further procedure to a future time. However, before the wound was closed, an incision into the tumor was made over the fifth rib, and a drainage tube was inserted from the first incision to the latter opening. The treatment from now on was rather expectant—every day the wound was thoroughly irrigated with an antiseptic solution, and all loose blood clots were removed.

It was soon seen that nothing would be accomplished by this treatment, for as fast as the clots were removed from below more would push down from above, showing that the hemorrhage still continued.

The patient being in a condition to hazard another operation, she was again prepared, and two weeks after the first operation the second was performed.

An incision was made nearly in line with the original, but the hemorrhage here was so severe that this region was at once abandoned, and the incision over the fifth rib, made at the first operation, was enlarged, and the tumor emptied of all clots—we being prepared, however, to cut down at once to the suprascapular artery, which was now thought to be the artery ruptured, should hemorrhage follow the emptying of the

tumor. No hemorrhage following, an incision about five inches long was made over the clavicle, connecting with the original incision. At least two inches of the sternal end of the clavicle had been absorbed, leaving a spiculum of bone as sharp as a needle, protruding into the wound. It was concluded that it was this pointed piece of the clavicle that caused the rupture of the artery, or at least was a contributing cause of the hemorrhage.

Three inches of the clavicle was resected, and a portion of the subclavius and pectoralis major muscles was cut away, owing to a disorganized condition of the muscular tissue, no doubt from pressure. The ruptured blood-vessel not being found, and no hemorrhage following the operation, the wound was closed; not, however, before it had been well packed with iodoform gauze, which two days later was removed, no bleeding following its removal. From now on up to the time I left for my vacation—a week later—the patient seemingly did well; she suffered no pain, was quite cheerful, and gave every promise of making an uneventful recovery.

On my return from my vacation, August 28th, I found the patient very weak and greatly emaciated. The tumor had assumed its original size, but had changed completely in character; it was nodular, the apices of the nodules being blue, and in some places were not connected with the body of the tumor, and honeycombed with sinuses which connected with large cavities containing a foul-smelling, semi-purulent matter. This condition grew steadily worse up to the moment of death, which occurred a few days later.

AN UNUSUAL CASE OF NOSE-BLEED.

By G. W. SQUIRES, M.D.,
EAST AVON, LIVINGSTON COUNTY, NEW YORK.

J. B——, aged fifty years, up to the time of attack considered his health perfect, and worked at his trade of iron moulder. He awoke at night and found blood trickling down the outside of his neck. He called his wife who put cold water on the back of his neck, and gave him a hot mustard foot bath. Home treatment failing to stop the bleeding a physician was sent for, who tamponed the anterior nares and gave ergot. The blood soon appeared at the posterior nares and they also were plugged. Especially in the right naris, which seemed to bleed the more profusely, the packing caused such a feeling of fulness in the nose, eyes, and frontal sinus, that the patient begged to have it removed. This was done under protest, and the escape of a large quantity of blood followed. The patient fainted and showed such effects of hemorrhage that the attending physician, Dr. Goodrick, called me in consultation. I was surprised at the bloody appearance of the bed and the patient's clothes, and remarked that he had evidently lost some blood. The doctor told me what he had done, and what medicines he had given, which seemed the most judicious treatment. The nose was again packed fore and aft with less discomfort to the patient, and to all appearance stopped the escape of blood. The patient was now after forty-eight hours so exsanguinated as to be unable to raise his head; he was partially blind, and nauseated with intolerable thirst. Supporting treatment was used, with hypodermic medication of ergot, digitalis, strychnine, etc., without benefit in checking the bleeding unassisted by tampon. When it was necessary to remove the packing for cleansing purposes, the blood would start to run, and the patient would lose all he had gained for several days. Three physicians were now in attendance in relays, as it seemed the man would die by a short hemorrhage in the absence of frequent stimulations of brandy, strychnine, etc. This state of things went on for ten days, when conditions looked more encouraging: there was less bleeding on removal of the tampon, and the patient was stronger. For two months there occurred occasional but slight epistaxis, when it stopped entirely, and the patient gradually got around again.

About four months afterward the patient, on scratching his nose, felt something sharp in contact with his finger. He called his wife, and asked her to see what was there. She saw the point of something sticking through the skin on the outside of the right nostril, and taking a pair of tweezers extracted a rusty needle an inch long, broken off near the eye. This was, of course, an explanation of the cause of his severe epistaxis. I saw the needle and the place through which it had worked out of the nose. After two years the man has never had another attack of nose-bleed.

The interesting features in this case are the unascertainable cause of the trouble at its occurrence, the sudden alarming and hard-to-control epistaxis in a man of previous good health, the whence and the why of this needle's presence in the nasal cavity of a man of his age and intelligence.

DISLOCATION OF THE CRYSTALLINE LENS IN IMMATURE CATARACT.

By NORBURNE B. JENKINS, M.D.,
CHICAGO.

Dislocation of the crystalline lens usually takes place in advanced life. The thin membrane enveloping the lens ruptures, and the lens passes forward into the aqueous humor or backward into the vitreous humor. Spontaneous dislocation is supposed to be caused by disease or atrophy of the lens capsule. It is probable that immature cataract is often the cause of such dislocation.

In beginning cataract the crystalline lens swells and often increases in convexity so much that glasses are not needed in reading. It has long been known that the lens increases in size in cataract. It is probable that the enlarged lens occasionally bursts its capsule. Intralenticular pressure may cause capsular atrophy, and rupture may follow.

Cataract usually comes in advanced life and in both eyes. The writer's observation goes to show that, in spontaneous dislocation, cataract of the fellow-eye, if not already present, may usually be expected, so constituting a diagnostic criterion.

AN EPIDEMIC OF TYPHOID FEVER.

By BENJAMIN K. HAYS, M.D.,
OXFORD, N. C.

In an unpublished paper on typhoid fever, written by the late Dr. John W. Booth, of Stem, N. C., is the following interesting report of an epidemic which occurred in his practice in 1886: "North of Moore's church is a log house, and near the back of the house is a depression terminating in a gully. In the gully, one-half mile below this house, is a spring which in part supplies water to the congregation at Moore's. A well, some distance beyond the spring, is also used by the congregation. A rock dam turns the water from the spring when flushed by rain, but this dam is not impervious to water. During and just preceding a protracted meeting at Moore's, a negro living in the log house had typhoid fever. Her dejections were thrown into the gully at the back of the house, and were in part at least in a very dilute solution. Of course they were taken by the first rain down the

gully, and, trickling through the rocks, contaminated the water in the spring. The woman first called in medical aid August 3d, and on August 16th a member of the congregation was taken ill of the fever, and was followed by others in quick succession, numbering over seventy in all. Several members of the congregation, including the preacher, had the fever at their homes out of the neighborhood, and were the only cases in their respective communities."

THE REMOVAL OF THIRTY-FIVE SCREW-WORMS FROM THE NOSE.

By HAL FOSTER, A.B., M.D.,
KANSAS CITY, MO.

The patient, Thomas K——, aged seventy-two years, lived in Wyandotte County, Kans. He was admitted to St. Margaret's Hospital September 12, 1900. The nose, eyes, and face were badly swollen. He had excruciating frontal headache, and the discharge from the nose was bloody and very offensive. On making a nasal examination the worms could be readily seen in the nose. The tissue on the middle turbinated bone had been badly injured by them. The great majority of the worms were found in the posterior nares. They had made quite a large opening in the hard palate. A solution of alcohol and water was used in the nose first. This was followed by the application of chloroform directly to the worms by cotton applicators. This remedial agent soon dislodged and brought the worms away. Hot water was used by means of a fountain syringe, and gave great relief to the patient. The patient informed me that the worms had been in his nose about two weeks. He was very weak and greatly surprised when he saw the worms taken from his nose. He was given a nutritious diet, and iron was administered. The sinuses were not involved. The patient made a rapid recovery.

Nearly every September I have a case of screw worms in the nose. In all cases of obscure nasal discharge, bloody in character, a careful nasal examination should be made. As a rule the worms can be easily seen and dislodged, much to the comfort of the patient. Occasionally the worms enter the sinuses, causing meningitis and death. I desire to thank Dr. O'Donnell, the house physician, and the sister in charge for kindly assisting in this case.

Potatoes in Diabetes Mellitus.—A. Mossé answers the mooted question as to whether potatoes may have a place in the dietary of the diabetic, in the affirmative, and cites two cases in which the wisdom of such addition to the fare was evidenced by a prompt decrease in the amount of sugar excreted in the urine. The potatoes should be given to the amount of from two to three pounds daily as a substitute for the whole or a part of the bread allowed. The cases which seem to respond best to such management are those of medium intensity and of the arthritic type.—*Klinisch-therapeutische Wochenschrift*, October 7, 1900.

Nasal Tuberculosis.—Three cases are reported by L. Bar and V. Texier. The first was a primary manifestation assuming the polypoid form, the second secondary, of granular form, and the third secondary, presenting an ulcerated polypoid condition. For treatment the authors advise the use of curetting with subsequent application of lactic acid preceded by cocainization. Scarifications may be necessary, followed by the use of iodoform in glycerin, mentholated oil, etc., with orthoform for pain. Systemic treatment must not be forgotten in these cases.—*Revue Hebdomadaire de Laryngologie*, September 29, 1900.

Heredity in Disease.—James Jamieson considers the modern tendency to minimize the influence of heredity in disease causation a happy one. The outlook becomes hopeless when we admit that disease is inherited. The change in opinion along this line is doubtless largely referable to the steady multiplication of evidence that infection plays a much larger part than was believed not long ago. It is freely admitted that a liability to disease may be inherited, though in just what this liability consists pathologists are not agreed. There may well be, there probably enough is, some delicacy of constitution, some fragility of tissue, which may be hereditarily transmitted, but that, or something tantamount to it, may be as readily acquired. Gout is always invoked as an hereditary malady; but that the son of a gouty father should with greater frequency than the average exhibit this gouty tendency, admits of at least partial explanation in the surroundings of his life, and the probability of habits of luxury or of over-indulgence among those with whom he is brought up. So if we run through the whole category of so-called hereditary diseases, and consider the matter in a broad light, we shall find that the factor of heredity is not so potent as has been believed. Jamieson admits the hereditary influence in hæmophilia, which is something more than a tendency capable of prevention or cure. In a way it is a tendency, but it is also a persistent condition born with the person, and to all appearance lasting through life, though its exact nature seems hard to settle.—*Intercolonial Medical Journal of Australia*, September 20, 1900.

The Cure of Inveterate Cases of Trigeminal Neuralgia.—C. J. Aldrich thus details his plan of treatment. The patient is put to bed under the care of a competent nurse, and receives a thorough examination of all his bodily organs and functions. The next morning he receives an initial dose of castor oil, which is ʒ i. if the patient is not taking opiates, and ʒ ii. if he has become an habitué or is temporarily using them. A solution of nitrate of strychnine is prepared, ♏ i. of which should represent gr. $\frac{1}{200}$. Of this solution he receives ♏ xx. four times a day as the initial dose, with orders that the dose should be increased one drop every twenty-four hours, being an actual increase of gr. $\frac{1}{200}$ each twenty-four hours. If the patient has been taking morphine, the least possible dose that will relieve the pain is continued for the first two or three days, after which time the dose is gradually diminished. In addition it may be necessary in cases of arteriosclerosis to give some nitroglycerin. When evidence of atheroma is present, the last-named remedy can advantageously be combined with thyroid extract. Aldrich suggests that the good effects of the castor oil may be due to the elimination of some toxic principle which acts as a nerve irritant, thus causing the neuralgia.—*Cleveland Medical Gazette*, November, 1900.

A Case of Sudden Blindness Subsequent to Cauterization of the Nose.—A. R. Baker reports the case of a man of thirty-one, in whom one week after cauterization of the turbinate pain developed within three days on the same side of the face; later a chill came on and was repeated on the third day. At the latter time there was a partial blurring of vision on the same side as the cauterization. The lower part of the visual field was gradually obliterated and in three days more the eye was totally blind. Examination showed the eye to be absolutely blind, without perception of light, the pupil moderately dilated, not responding to light or accommodation when the fellow-eye was covered. Ophthalmoscopic examination was negative. Hyperopic astigmatism of 50 D. against the rule was present. Left eye = vision Snellen $\frac{20}{40}$, increased to

$\frac{20}{20}$ with 50 D., axis 180°. The test was made under homatropine. The lower part of the field was slightly contracted. The fundus was normal. There was a large, offensive-smelling, grayish-green slough filling the right nostril, which was removed with difficulty, leaving a bleeding ulcerated surface. The patient was put on mixed treatment, though no specific history was obtainable. Under this routine the eye condition gradually improved and finally became normal. A mild condition of the same nature had shown itself in the left eye. Baker does not think that there was a gumma present anywhere.—*Cleveland Medical Gazette*, November, 1900.

Tumors of the Heart.—Alessandro Tedeschi says that the symptoms of this condition are œdema of the upper extremities, of the head, and of the chest, with dilatation of the anastomotic blood-vessels between the internal mammary and epigastric veins. These phenomena clearly indicate an obstruction to the passage of the venous blood from the superior vena cava into the right auricle—a supposition which has been confirmed at autopsy by the finding of cardiac tumors situated in the upper portion of the two auricles. These tumors frequently cause symptoms in remote parts of the body by means of emboli. In some cases a cardiac tumor has been so well tolerated by the heart that the only symptoms have been a slight systolic murmur and a slow, small pulse.—*La Riforma Medica*, October 20, 22, and 23, 1900.

Erythromelalgia Following Influenza.—Erminio Crespolani reports a case of "Weir Mitchell's disease" in a man of twenty-two years. The affection is characterized by spasmodic, burning pain, œdematous swelling of the part affected, redness, local hyperthermia, and, according to some authorities, local hyperidrosis. The author gives the various theories which are held in regard to the etiology of the disease, and leans to the view that it is due to vasomotor reflex action—probably a dilatation of the blood-vessels caused by over-excitability of the nerve centres. In the case reported, the parts affected were first the right foot and then the left. The pain was intense; the local rise of temperature increased to 3.1° C. Neither the internal use of bromides nor the topical application of the usual sedatives succeeded in relieving the pain. Tonics and cold friction of the spinal column effected a cure. The patient was obliged to keep his bed from February 11th until April 14th.—*Giornale Internazionale delle Scienze Mediche*, October 15, 1900.

The Use and Abuse of Cardiac Stimulants.—H. A. Hare calls attention to the abuse of digitalis in heart troubles, saying that in many cases of palpitation such as comes from overwork, this remedy simply aggravates the symptoms, for what the patients need is not cardiac stimulation but rest. The taking of strong coffee under these circumstances still further increases the cardiac irregularity. Very frequently the use of small doses of aconite or veratrum will effect the desired result far more quickly and efficiently than digitalis. A patient with a feeble heart receives digitalis, it may be, to overcome feebleness, when in reality the cause of the feebleness lies in a degenerated heart muscle which is incapable of gaining any advantage from this drug, and the drug by contracting the blood-vessels actually increases the labor of the heart. Under these circumstances, if any drug is used it should be one, like strophanthus or cactus, the action of which is cardiac, and but slightly if at all vascular. Not only is rest needed for the tired but otherwise healthy heart, but it is even more needful in cases in which there is cardiac breakdown, actual or threatened, in cases already suffering from grave valvular lesions. The cardiac stimulants are sometimes expected to perform miracles, although the patient pursues the same mode of life as before. This is in reality an abuse of a drug, since it is being used to do something which is practically impossible.—*Therapeutic Gazette*, October 15, 1900.

Renal Calculi, with Report of Cases.—Stuart McGuire says that his endeavor is to show that when a stone is known to exist in the kidney an operation should be done for its removal, not as a last resort to save life but as an early effort to save the organ. An early nephrolithotomy entails little risk and is not attended by mutilation; while a late nephrectomy is followed by high mortality, frequently persistent and annoying fistulæ, and the sacrifice of an important organ. The diagnosis of renal calculi is sometimes very difficult to make. Often a calculus has been found post mortem without its presence having been diagnosed, and often a kidney has been opened for suspected stone with negative results. The symptoms are due to obstruction and depend more upon the position than the size of the stone. They are pain; the passage of fragments of calculi; the presence of blood crystals, blood, and pus in the urine; frequent and urgent urination, and irregularity in the amount of urine passed, varying from anuria to marked polyuria. —*The Virginia Medical Semi-Monthly*, October 26, 1900.

Rest in Bed in the Treatment of Acute Forms of Mental Disease.—S. S. Korsakov says that in the systematic use of this form of treatment rest in bed is obtained by moral influence and suggestion rather than by violence. The use of a large room in common is of the greatest advantage. This form of treatment brings about a more orderly condition of affairs in crowded asylums, gives greater security to the patients, and allows of more accurate care and clinical observation. By its use solitary confinement in cells is rendered unnecessary except in extreme cases. Violent cases are favorably affected by rest in bed; and in asylums where it is used, the mortality percentage from acute psychoses is notably diminished. The chief indication for the treatment is excitability. In the case of patients of indolent habit, predisposed to apathy and anæmia, it is contraindicated. It is especially effectual in maniacal cases, in those suffering from alcoholic delirium, and in many forms of mental confusion and melancholy.—*Archives de Neurologie*, October, 1900.

The Management and Treatment of Whooping-Cough.—J. W. Wiltse says that Roskam's modification of Moncorvo's method would seem to be a rational procedure, and according to his statistics has succeeded well. It consists of the application to the glottis of a one-third-per-cent. solution of resorcin every four hours during the day, and when possible once or twice during the night. In a series of two hundred and ninety cases treated in this way all patients recovered. The treatment was usually begun during the catarrhal stage, though in some cases the convulsive stage had begun. Of the series two patients recovered in fourteen days. Seventy patients were cured before the end of twenty-five days and eighteen recovered within a month from the beginning of treatment. As a rule, children under one year of age recovered most rapidly, usually within eight days. This is important, as it is admitted by all writers that whooping-cough is most fatal in the very young. This method differs from Moncorvo's only in the fact that Moncorvo applied a ten-per-cent. solution of cocaine to the throat before using the resorcin. Roskam rejected the cocaine because he found it frequently caused spasm of the glottis. —*Albany Medical Annals*, October, 1900.

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THE SOLDIER'S TROPICAL RATION.

IN the present conjunction of affairs, everything relating to the tropics concerns the inhabitants of the United States intimately. Thus the etiology and treatment, both preventive and remedial, of the diseases prevalent in those regions are questions of serious moment. All that can be learned with regard to the mode of life best suited to the preservation of the health of white men who make their home in tropical countries is devoured with avidity. Under existing circumstances the army in the Philippines is the focus of absorbing interest. Therefore the report of the board appointed to study the matter of tropical ration for American troops, and to suggest beneficial changes therein, will be attentively read by the general public. It goes without saying that diet is one of the most important of considerations when the rendering of a white man able to cope with his unaccustomed environment is the object in view. On this point, opinions clash. There are those who insist that under no conditions can the inhabitant of the temperate zone dwell in perfect health in tropical lands. On the other hand, many men of experience state that, if these individuals live in a manner befitting the climate, paying strict heed to the laws of hygiene, and if, above all, they are discreet in eating and drinking, there is no valid reason why they should not enjoy good health. So far as the kind of food is concerned, a wide divergence of views exists. Some argue that an entirely different dietary is indicated in tropical countries, and that the person who imagines that he can thrive on the same description of food that he eats when at home, will be certain quickly to break down. Others assert that but a slight change of diet is needed from the ordinary fare of an American in his own country, and that if the stranger in the tropics endeavors to live as does the native, he will soon lose both energy and physical power. Major Louis Seaman, late surgeon in the United States Engineers, is an upholder of the former contention, and writing to the MEDICAL RECORD says, "A personal experience in two of the latest tropical wars, and a study of the statistics of others, have led me to the conviction that the most prominent cause in bringing about the development of preventable diseases in both these wars was the misuse of food." Speaking generally, he considers that the majority of the diseases met with among troops serving in the tropics have their origin in improper food, in overfeeding, or in the abuse of stimulants; and he suggests a dietary scale containing much less meat and fat than was issued to the United States troops. Dr. Seaman is of the opinion that the ration was an excellent winter food, rich in the elements requisite for respiration under a low temperature; but for a tropical land, the enormous excess of carbon furnished by it to the lungs over and above that which they could dispose of, imposed upon the liver and kidneys additional duties of elimination, producing congestions, fermentation and catarrhs, dyspepsia and lithæmia, glycosuria and phosphaturia, interfering with metabolism, and creating conditions favorable to bacterial development, together with almost the entire train of diseases which have crowded our army hospitals. As remarked above, many medical men who have gained experience from a lengthened sojourn in the Philippines hold that meat is a necessity for the American soldier, and that, lacking it, his bodily powers will fail. The board have cautiously steered a middle course, and while recommending that the fresh-meat ration should not be reduced in quantity, declare that the problem is to find such a ration as will, by substitutes among its various ingredients, be suitable for all climates. Cornmeal has been excluded from the ration, as have dried peas, for the latter of which oatmeal has been substituted. The sugar ration, as in all European armies, has been increased, and coffee has been retained. The action of the board appears to be amply justified and will probably meet with the approval of the majority of those who have spent some time in the tropics. Fresh meat, fresh vegetables, fresh fruit, supplied in sufficient quantities, should tend to preserve the health of the dweller in tropical countries, and whenever obtainable will undoubtedly meet the exigencies of the situation better than embalmed meat and canned vegetables. Universal agreement prevails on the point that alcoholic drinks are almost invariably injurious to the white man in the tropics. It may be said that when the problem of the most healthy diet for the foreigner in the tropics is solved, the greatest obstacle in the way of rendering these countries salubrious will have been overcome.

THE AMERICAN GIRL OF TO-DAY.

THE influence of modern education on the functional development of girls is a matter the importance of which it is almost impossible to overestimate, and it is one which will bear discussion with advantage. From all sides and from all parts of the civilized world comes the cry that the vitality of the race is being sapped by injudicious methods of education. In the case of growing girls this is a question that closely concerns the physical and mental welfare of every nation, for it stands to reason that in order to produce and rear a healthy progeny, the mothers of our children should be thoroughly sound in mind and body. In the United States, perhaps to a greater extent than in any other country, has the present system

of educating girls shown its worst effects. Dr. George J. Engelmann, of Boston, dealt with this subject in his eloquent presidential address delivered before the American Gynæcological Society. Dr. Engelmann points out that the gravity of the question and the practical bearing of the results obtained are perhaps more fully apparent when we realize not only how important but how large an element of our population is concerned—374,487 young women in colleges and high schools, and over one million of the same ages in the industries. Dr. Engelmann goes on to say that "statistics have clearly shown the tremendous susceptibility and the almost feverish activity of the system in the prepubertal period, the period of developing womanhood: susceptibility indicated by heightened morbidity; nerve excitement by an increase of stuttering and hysteria; heightened physiological activity by increased growth, and resistance to disease by lowered mortality; all gradually wane as the vital energies are claimed more and more by the reproductive function, and reach their lowest ebb with the advent of puberty, again rising after menstruation is established, and it is at this period of still unstable equilibrium that we find the schoolgirl." The contention is made that the system of education in vogue in the schools and colleges of this country tends to aggravate these conditions in the rising generation of American womankind, with the result of a general and functional deterioration in health. Dr. W. Gill Wylie puts the case forcibly and well when he says that "the American horse receives, on the average, better treatment than the young woman of America from the time of early girlhood until the age of development has passed. The stock-breeder never forces the young animal during the period of development, realizing that it is the time the greatest care should be taken; while American parents, especially of the middle classes, with great ambition for their children and the desire that they develop intellectually beyond their own standard, allow their heads to be crammed with knowledge so rapidly that the brain cannot assimilate it, and the result is that all strength of development is devoted to the brain, and physique finds expansion as best it can: New England furnishing the extreme type of the woman, supposedly more perfect than in any other section; intellectually above the average, but with a physique below par, with greatly reduced reproductive powers—all due to the forcing of study at the age of development." Dr. Engelmann believes that many of the evil effects produced by this irrational mode of education may be overcome by judicious physical training and by strict adherence to the laws of hygiene. But above all he urges preventive measures, and holds that the real solution is in reasonable hours of study, in mental training adapted to physiological possibilities, and in a regard for the claims of woman's sensitive organization. The paper concludes with the following advice: "Upon the mother I would impress that perfect development of the female function, and maintenance of this function, once developed, in a healthy condition, is essential to perfect development of the girl and perfect health of the woman; that self-care, a well-regulated female hygiene, is the foundation of her well-being, and that it is the mother's first duty so to guard herself and so to guard her daughter. To the educator I would say that heed must be given the instability and susceptibility of the girl during the functional waves which permeate her entire being; that emotional stimulation must be avoided, and decided concessions must be made to the depression, physical and psychical, the lessened inhibition and physiological control during the fluctuations of puberty and menstruation. Upon the physician I would urge care and guidance of the girl during the great waves of female life, those periods of increased susceptibility, and of physiological intensification and depression; and such care is the first and essential step in preventive gynæcology." The present-day native American girl of the middle class is the artificial product of advanced civilization. She is a bundle of nerves encased in a fragile frame, and there is undoubtedly reason to fear that, unless a radical change is made in her upbringing, the consequences will be serious to the entire community. Less brain work and more fresh air and exercise are the remedies recommended.

THE INFLUENCE ON HEALTH OF THE FILTRATION PLANT AT ALBANY.

An editorial in the Medical Record of December 8th drew attention to the decreased rate of mortality in those cities in which a filtration plant had been introduced, and it was shown that a comparatively pure water supply greatly affected the occurrence of typhoid fever. Efforts are being made at the present time in several American cities of the first magnitude, as well as in some smaller ones, to curtail the spread of diseases, and especially that of typhoid fever, by insuring an unpolluted service of water for domestic purposes. The majority of experts have come to the conclusion—which is also borne out by practical proofs—that an efficient system of filtration is the best means of purifying water. The Albany filtration plant, established quite recently, is possibly the most satisfactory instance on a fairly large scale of the good results accruing from such a system in the country. In the Albany *Medical Annals* for December, Dr. Martin MacHarg, vice-president of the Medical Society of the County of Albany, contributes a well-written account of the construction and working of the newly erected filtration plant in that city. Up to September 6, 1898, when the filters were completed, Albany had been dependent, for its drinking-water, upon reservoirs supplied by small streams and upon the Hudson River. In recent years the greater portion of the water was drawn from the Hudson. Owing to the fact that the Hudson was seriously contaminated by local sewerage, as well as by the sewerage of Troy, Cohoes, and other cities, it is not surprising that the typhoid-fever death rate was excessive. Steps were therefore taken to instal an up-to-date filtration plant. Dr. MacHarg gives a description of the plant, which lack of space does not permit us to quote. Suffice it, then, to say that the methods in use are of the most

approved type. With regard to the benefits conferred upon the inhabitants by the system, Dr. MacHarg says: "The filters were designed to remove from the water the bacteria which caused disease. The superintendent of the plant, Mr. Bailey, in August last issued a report on the results of the plant for three hundred and nineteen days' actual operation, and I give his report verbatim. The number of gallons filtered was 3,817,200,000, or on an average of nearly 12,000,0000 gallons a day. This is the largest amount of water ever filtered by a single American filtration plant in so short a period. The cost of operating the filtering beds and care of the grounds has been $1.94 per 1,000,000 gallons, and that of chemical and bacteriological examination is 34 cents per 1,000,000 gallons. The cost of pumping is $2.42 per 1,000,000 gallons. The efficiency in bacterial removal has been good. As regards its removal for the first three months of 1900, the average number of bacteria in the unfiltered water for the whole plant never fell below 200 in a cubic centimetre, reaching that figure on March 30, 1900. On April 2d and 6th, respectively, when the bacteria in the raw water numbered 45,000 and 37,000 respectively, 99.07 per cent. of the total was removed. The influence upon the death rate from typhoid fever has been quick and decided. The average number of deaths from typhoid fever in Albany for nine years up to 1899 was 85 in a year. From January, 1899, to August 1, 1899, when the city was using unfiltered water, there were 71 deaths from typhoid fever; and from August 1, 1899, to January 1, 1900, or when filtered water was in use, there were only 7 deaths from this disease. From January 1st of the present year up to July 1st, there were only 19 deaths for the six months, or a total of 24 for the year, against 85, the average for the preceding years. These figures show plainly that the Albany Filtration Plant has been the most prominent factor in decreasing the death rate from typhoid fever; and the evidence from other cities and towns in which a similar system has been instituted has given equally conclusive results." Therefore it would appear that the moral to be extracted from these records by those cities which do not at present possess a filtration plant is, "Go thou and do likewise."

ADULTERATION OF FOOD.

Embalming food seems to be a universal custom, an outcome probably of advanced civilization. In Europe the practice of adding foreign substances to articles of diet —sometimes for the purpose of preserving these articles, sometimes with the aim of imitating genuine food with intent to deceive—is carried on to an alarming extent. In Great Britain, although adulteration has not reached these proportions, yet the discoveries made recently with respect to the addition of arsenic to beer prove that manufacturers there are not altogether quite innocent. The New York *Tribune*, Sunday, December 9th, contains a strong leader on the subject, taking as its text the case of an infant who, after investigation, was found to have been killed by the use of formaldehyde in the milk upon which it had been fed. The writer of the editorial referred to says: "We have no doubt that the same or a similar verdict might be rendered in the cases of tens of thousands of people, children and adults, who are literally done to death with embalmed food. The use of drugs, such as formaldehyde, boric acid, and salicylic acid, as 'preservatives is widespread to a most alarming extent.' These drugs are put into milk and cream to keep them sweet, into butter and cheese to keep them from becoming rancid, into canned fruits, and vegetable, and meats, and indeed into nearly all food products that are of a perishable nature, and that are to be kept for a length of time in which their freshness might be imperilled. They are tasteless, odorless, colorless, and their presence cannot be detected save by an expert." The article in the *Tribune* then goes on to demonstrate that the addition of drugs to food is a harmful and pernicious practice, and that the same object can be attained by natural and legitimate means. The Medical Record has ever strongly deprecated the use of drugs as preservatives of food, and has been foremost in denouncing the custom. It is scandalous that the health of the people at large, and especially of young children, should be at the mercy of manufacturers who, eager for a little more profit, have no scruples as to the manner in which it is gained. Stringent laws rigidly enforced are called for to correct this evil.

OXALURIA.

There have always been differences of opinion as to the significance of the presence of oxalic acid or oxalates in the urine, and as to whether their presence was due solely to ingestion with the food or whether it could be attributed to generation within the body. This acid occurs in many, though not all, vegetables, grains, and fruits, and is not contained in proteids and sugar. It has been found in the urine under many varied conditions, and certain vague symptoms have been associated with its presence. For the purpose of determining whether all of the oxalic acid excreted in the urine is ingested with the food, or whether any is ever formed in the animal organism by metabolism, as well as for the purpose of studying the influence of the ingestion of oxalic acid in foods upon the amount excreted in the urine, and also the physiological action of soluble oxalates, with the view of deciding in what measure the presence of oxalic acid in the system is responsible for the symptoms attributed to the so-called oxalic-acid diathesis, Dr. Helen Baldwin (*Journal of Experimental Medicine*, vol. v., No. 1, p. 27) engaged in a series of observations and experiments, as a result of which the opinion has been formed that as varying amounts of calcium oxalate may be held in solution in the urine, conclusions based upon the presence or number of calcium-oxalate crystals found therein are of no real value as an indication of the quantity of oxalic acid present. Unless the utmost care is exercised, the results obtained by quantitative estimations of oxalic acid are subject to large percentages of error. An

ordinary mixed diet regularly contains traces of oxalic acid or its salts. A portion of the oxalic acid ingested with the food may be absorbed and reappear unchanged in the urine. The normal daily excretion of oxalic acid in the urine fluctuates with the amount taken in the food, and varies from a few milligrams to two or three centigrams, being usually below ten milligrams. In health no oxalic acid, or only a trace, is formed in the body, but that present in the urine has been ingested with the food. In certain clinical disturbances sometimes associated with absence of free hydrochloric acid in the gastric juice, oxalic acid is formed in the organism as a result of fermentative activity in the alimentary canal. The prolonged feeding of dogs with excessive quantities of glucose, together with meat, leads eventually to a state of oxaluria. This experimental oxaluria is associated with a mucous gastritis and with absence of free hydrochloric acid from the gastric contents.

News of the Week.

Philadelphia Pediatric Society.—At a stated meeting held December 11th Drs. C. H. Frazier and A. L. Newhall exhibited a small colored boy in whom a pedicled flap from the buttock had been transplanted to the palm of the hand to replace a cicatrix left by a burn. Dr. C. F. Judson exhibited a child five years old presenting symptoms of "Spastic Paraplegia" following traumatism and apparently resulting from transverse myelitis. Dr. Alfred Stengel exhibited four cases of "Acute Anterior Poliomyelitis" in young children, and referred to the relatively epidemic prevalence of the disease. Dr. J. P. Crozer Griffith exhibited a case of "Nodding Spasm" in a colored child with slight symptoms of rickets. Dr. L. C. Peter exhibited a boy, about twelve years old, with a history of repeated attacks of chorea, who presented spasmodic movements of the laryngeal structures giving rise to a peculiar sound, together with other muscular movements of the type of "Spasmodic Tic." Dr. Luther exhibited also a child with weakness in the right arm and leg, increased knee jerk, staggering gait, headache, and loss of vision, with degeneration of the optic discs, probably dependent upon "Cerebellar Tumor." Drs. J. F. Schamberg and H. P. Keech reported "A Case of Acute Fatal Pemphigus," developing in a child in the sequence of vaccination. Dr. R. A. Cleeman read a paper entitled "Thirty-five Cases of Diphtheria in Private Practice Treated with Antitoxin." There were four deaths, but only one of these was directly due to the primary disease. Intubation was required in three. Comparatively large doses of the antitoxin were employed. Dr. S. Seilikovitch read a paper entitled "A Group of Symptoms; No Diagnosis." He reported the case of a child that had passed through attacks of influenza, pneumonia, and typhoid fever, and died as the result of copious hemorrhage from the mouth. There had been no symptoms of disease of the lungs, and the patient had not responded to treatment for scurvy.

The New York State Hospital for the Care of Crippled and Deformed Children, incorporated by the last legislature, is now open for the reception and treatment of patients. The hospital is located at Tarrytown, N. Y., at Paulding Avenue and the Hudson River, about a mile south of the railroad station. It has accommodations for about thirty patients. The board of managers appointed by Governor Roosevelt are the Right Rev. Henry C. Potter, Bishop of New York, President; George Blagden, Jr., Secretary and Treasurer; J. Hampden Robb, J. Adriance Bush, and Dr. Newton M. Shaffer. The hospital was established "for the care and treatment of any indigent children who may have resided in the State of New York for a period not less than one year who are crippled or deformed, or are suffering from a disease from which they are likely to become deformed." The following conditions are imposed upon all applicants: "No patient shall be received except upon satisfactory proof made to the surgeon-in-chief, by the next of kin, guardian, or a State, town or county officer, under the rules to be established by the board of managers, showing that the patient is unable to pay for private treatment. Such proof shall be by affidavit. If there was an attending physician before the patient entered the hospital, it shall be accompanied by the certificate of such physician giving the previous history and condition of the patient." Patients from three to fifteen years will be received for treatment, and all applications will be acted upon in the order of their reception. No patient will be admitted without an examination by and a certificate from the surgeon-in-chief or his assistants. No patient whose condition is such that death is likely to occur in the immediate future, or whose condition precludes a reasonable amount of relief as the result of treatment, will be admitted. Application for admission should be made to Dr. Newton M. Shaffer, surgeon-in-chief, No. 28 East 38th Street, New York, who will appoint a time and place for the examination of the patient. Patients living at remote points in the State are referred to the following gentlemen (out-of-town members of the consulting staff): Dr. A. Vander Veer and Dr. S. B. Ward, of Albany, N. Y.; Dr. Louis A. Weigel, Rochester, N. Y.; Dr. Roswell Park and Dr. Charles G. Stockton, Buffalo, N. Y.; and Dr. Richard B. Coutant, Tarrytown, N. Y.

The Samuel D. Gross Prize.—The next award of this prize, of the value of $1,000, will be made in October, 1901, no essay which the trustees deemed worthy of the prize having been received in January, 1900. The conditions are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross library of the Philadelphia Academy of Surgery, and

that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th Street, Philadelphia," on or before October 1, 1901. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

Pennsylvania State Medical Examinations.—Of three hundred and sixty-eight applicants for the license to practise medicine in the State of Pennsylvania forty-one failed to pass the necessary examination.

Typhoid Fever in South Africa.—It was stated recently, in reply to a question in Parliament, that there had been 15,625 cases of typhoid fever among the British troops in South Africa, and that of this number 3,642 proved fatal.

The Water Supply of Chicago.—We are informed that the water supply of Chicago in 1899 was equivalent to a daily per capita of one hundred and eighty-seven gallons instead of one hundred and nineteen, as stated in a recent issue.

A Woman's Hospital in Toronto.—A committee was appointed at a meeting of women held recently in Toronto to formulate plans for the maintenance of a women's hospital in connection with the Women's Medical College of Ontario. All the members of the medical staff, both attending and interne, are to be women. It is proposed to ask for twenty-five-cent subscriptions for the work from women of Ontario.

Legislation against Alcoholism in France.—A resolution has been adopted unanimously by the French chamber of deputies calling upon the government to prohibit the manufacture and sale of all alcoholic liquors pronounced "dangerous" by the Academy of Medicine. The resolution is said to be aimed especially at absinthe, the consumption of which has nearly doubled in France since 1894, and now stands at 10,000,000 litres annually.

A Veterinary Corps for the Army.—An amendment to the army bill now before congress provides for a veterinary corps, consisting of one colonel, one major, four captains, ten first lieutenants, and twenty second lieutenants. The pay of these officers will amount to $64,000 a year, besides longevity pay, allowances, and travelling-expenses. At present there are thirty-four veterinarians in the army. Fourteen of these are sergeants, one being attached to each field battery. Twenty are commissioned officers known as senior and junior "veterinarians," one of each grade being attached to each of the ten cavalry regiments.

Pathological Society of Philadelphia.—At a stated meeting held December 13th a general exhibition of card specimens was made and proved most interesting and successful.

The British Congress of Tuberculosis will be held in London during the week beginning July 22, 1901, under the auspices of the National Association for the Prevention of Consumption. The president of the executive committee of the congress is Dr. T. Clifford Allbutt and the general secretary is Mr. Malcolm Morris. The congress will be opened by the Prince of Wales. There will be four sections on state medicine, pathology, human medicine, and veterinary medicine respectively. The section meetings will be held in the forenoons and the general sessions in the afternoons. Foreign governments and universities will be invited to send delegates.

Cornell Medical College Building in Ithaca.—The executive committee of the board of trustees of Cornell University has awarded the contract for a building for the use of the medical department on Cornell campus. The building will cost $125,000, and when finished will, it is said, be the handsomest on the campus. The building will be situated next to the College of Law, and will nearly complete the large quadrangle of university buildings. The contract calls for the completion of the work so that the building will be ready for occupancy in the autumn of 1902.

Philadelphia County Medical Society.—At a stated meeting held December 12th Dr. Ernest Laplace exhibited a young man from whom he had removed a neuroma of the ulnar nerve resulting from traumatism, with almost immediate restoration of motility and sensibility. Dr. John C. Munro, of Boston, read by invitation a paper entitled "Lymphatic and Portal Infection Following Appendicitis." The discussion was participated in by Drs. H. A. Hare, Edward Martin, John B. Roberts, John G. Clark, Simon Flexner, M. H. Fussell, Mordecai Price, T. S. K. Morton, and G. E. Shoemaker.

Sanitation in Havana.—Some of the residents of Havana are getting uneasy over the work of the sanitary authorities and are complaining bitterly of the new order of things. We learn from *The Sun* that a meeting of three hundred householders and tenants was held in Havana last Sunday, under the auspices of the Havana Union of Property Holders, to protest against the sanitary department. Various house owners who addressed the meeting declared that the sanitary department had no definite plan, and that it often issued unnecessary and even impossible orders (such as to connect the houses with the street drains when the streets had no drains), the householders then being heavily fined for not obeying. The meeting resolved to name a committee to explain to Governor-General Wood the cause of the discontent, and to ask him to define all the requisites which householders must fulfil in order that they might know how they stood within the law. They will also ask that the sanitary depart-

ment be abolished. Some of the speakers asserted that many of the changes made in houses resulted only in profit to the contractors who furnish the labor and material. The sanitary department may, as these complainants assert, have occasionally been somewhat arbitrary in its provisions, but that it has on the whole been productive of an enormous improvement in the health conditions of the city no one, except those who have to pay for making their houses clean, will deny. Major Gorgas in his report for November states that the number of deaths during that month was only 444, which is the smallest number of deaths for any one month in the past ten years. "The mortality records," he says, "show a steady and rapid improvement in the sanitary condition of the city, and the death rate of this month, 21.31, will compare very favorably with that of many of the large cities of the world. Munich with 23.09, St. Petersburg with 25.02, Dublin with 30.08, and several other large centres in Europe, had a very much larger death rate for the year 1899 than we had during the month of November." While the general sanitary conditions show such marked evidence of improvement, the number of yellow-fever cases has been large for the time of the year. The total for the month was 214 cases, or one-third less than it was for October, and, from the rapid way in which it is decreasing, Dr. Gorgas thinks that it will disappear by the middle of December. If that proves to be the case, the congress will have been unnecessarily postponed. The idea of a body of medical men postponing a meeting through fear of disease has already been the occasion of some gentle banter on the part of the unthinking laity, and if there should be no disease after all, then the banter might become ridicule.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting held December 10th Dr. F. A. Packard exhibited "A Case of Probable Localized Interlobar Pleurisy." Dr. D. J. Milton Miller reported "A Case of Malignant Endocarditis with Extensive Vegetations on the Pulmonary Valves Alone, and he exhibited the heart. Dr. J. Dutton Steele read a paper entitled "The Association of Chronic Jaundice with Gastroptosis, with the Report of a Case and the Exhibition of the Patient." Dr. F. A. Packard exhibited an enlarged liver and a greatly distended gall bladder containing calculi from a case presenting during life symptoms of ball-valve calculus of the gall bladder.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending December 15, 1900. December 7th.—Pharmacist J. F. Pearson ordered to the naval academy. December 10th.—Assistant Surgeon J. C. Pryor detached from the *Albatross* on reporting of relief and ordered home to wait orders. Assistant Surgeon C. S. Butler detached from the *Independence* and ordered to the *Albatross*. Assistant Surgeon J. B. Dennis detached from the *Wheeling* on reporting of relief and ordered home and to wait orders. Assistant Surgeon C. N. Fiske detached from the naval hospital, Mare Island, Cal., and ordered to the *Wheeling*. December 13th.—Passed Assisttan Surgeon W. M. Wheeler detached from the *Kearsarge* and ordered to the *Alabama*. Passed Assistant Surgeon T. W. Richards detached from the *Alabama* and ordered to the Bureau of Medicine and Surgery, navy department. Passed Assistant Surgeon F. L. Pleadwell detached from the Bureau of Medicine and Surgery and ordered to the *Kearsarge*.

Philadelphia Association of Medical Inspectors of Schools.—The medical inspectors of the Schools of Philadelphia have formed a permanent organization for the purpose of raising to the highest standard the service rendered. Meetings are to be held monthly, when papers will be read and topics having relation to school hygiene will be discussed. The work of the inspectors has thus far been voluntary and gratuitous, but it is hoped that an appropriation will be made sufficient to yield each a nominal honorarium.

Influenza is reported to be prevailing to an unusual degree in Berlin.

Smallpox Cases are still found nearly every day in the city, but most of them can be traced to the original focus of infection, and the threatened epidemic is wholly under control by the board of health. A case was reported in Jersey City last week and according to the daily papers was the third case that has come to the notice of the health authorities in that city in four years.

Obituary Notes.—Dr. William K. Jones died of diabetes at Bethlehem, Pa., on December 13th, at the age of sixty years. He was graduated from the medical department of the University of Pennsylvania in 1863 and was appointed acting assistant surgeon in the United States navy, becoming passed assistant surgeon three years later. In 1873 he was commissioned surgeon and in 1891 medical inspector, being retired in 1893.

Dr. Leroy J. Brooks, of Norwich, N. Y., died on December 12th. He was a graduate of the Bellevue Hospital Medical College in the class of 1872. He was a prominent member of the Chenango County (N. Y.) Medical Society, which body met in special session on the day of his funeral and adopted resolutions of regret and of sympathy with the family of the deceased.

Dr. James Fleury Stewart died on December 11th at the S. R. Smith Infirmary, at New Brighton, S. I., where he was resident physician. He was twenty-three years of age.

Dr. Henry Barton Fellows, a homœopathic physician of Chicago and at one time dean of the Hahnemann Medical College in that city, died on December 16th at the age of sixty-three years. He was a graduate of the Homœopathic Hospital College of Cleveland, Ohio, in the class of 1861.

Dr. John C. Acheson died at his home in this city on December 12th, of valvular heart disease. He was born here in 1832 and was graduated from the College of Physicians and Surgeons in 1859. He was one of the founders of the Medical Association of Greater New York.

Progress of Medical Science.

Medical News, December 15, 1900.

Influenza and the Nervous System. — J. M. Mosher concludes that: (1) The infection of influenza produces a toxin, which has a severe and selective action upon the nervous system. (2) The immediate effects of this toxin are shown in affections of the peripheral nerves and the cerebro-spinal centres. (3) The remote effects are manifested in lowered tone of the nervous system, predisposing to other diseases. (4) These ensuing diseases arise in weakened or predisposed organs, giving rise to the different classes of "respiratory," "alimentary," "genito-urinary," and "circulatory" forms of influenza. (5) Post-influenzal insanities are also a complication of the post-influenzal states of nervous debility, in patients mentally predisposed. (6) The post-influenzal insanities are not essentially different from other insanities due to vital depression. (7) The prognosis of influenzal affections is generally good, under proper management. (8) Exception to this is in influenzal affections arising during the course of other severe diseases, as pneumonia and general paralysis, and during senility complicated by mental or physical deterioration.

The Clinical Picture of Epidemic Influenza.—Glentworth R. Butler declares that the symptomatology of this disease is extraordinarily diverse. The attack is generally ushered in by chilliness or rigor. Fever is nearly always present. As a rule there are severe headache and general aching, with weakness and prostration. Delirium is not uncommon. Dependent upon the special localization of the infection, certain varieties of the disease with their attendant symptoms are recognized, viz., the respiratory form, the nervous form, etc. Circulatory symptoms are common. The nervous system is affected to some extent in all cases. The spleen may enlarge acutely. Acute nephritis is not rare. Vertigo is not infrequently observed. Herpes labialis is common. In doubtful cases a bacteriological examination is valuable. The disease may require differentiation from typhoid fever, cerebro-spinal meningitis, and broncho-pneumonia. Recovery occurs in the large majority of cases.

A Note Concerning the Treatment of Influenza by the Employment of Hydrotherapy.—E. L. Shurley states that the first therapeutic indication should be to assist nature in the elimination of the infection and in the modification of the action on the ganglionic nervous system. The hot-water bath, steam bath, or hot pack with quinine and mild anodynes should be used at first. When the temperature is very high, the cold pack should be used instead of the hot baths. Especially for pain tinctura opii camphorata or opium may be given. To relieve debility and nervousness, following the first stage, phosphorus (gr. $\frac{1}{100}$) in capsule, in oil, is good. Strychnine is useful. Complications and sequelæ must be treated according to the circumstances of the case. The employment of the coal-tar products is as a rule inadvisable.

The Bacteriology of the Influenza Bacillus.—By August Jerome Lartigau.

The Treatment of Influenza in Adults.—By Reynold Webb Wilcox.

The Treatment of Influenza in Children.—By A. Jacobi.

The Journal of the Amer. Medical Ass'n, Dec. 15, 1900.

Ear Diseases in Infancy and Childhood.—J. Homer Coulter states that the ear conditions most often met with in infancy and childhood are acute middle-ear suppuration with or without its complications—impacted cerumen, foreign bodies, furunculosis, granulations, eczema, necrosis, polypi, meningitis, extradural abscess, cerebral abscess, and traumatisms. The main causes of ear troubles in children are: (1) General, as exposure, climatic influences, etc. (2) Exanthemata, typhoid, diphtheria, post-nasal pathologies, etc. (3) Traumatisms and foreign bodies in the tympanic cavity. The prognosis will depend on the following conditions: (1) The age and physical condition of the child. (2) The severity of the attack and, if purulent, on the seriousness of the concomitant disease which gives rise to the purulency. (3) Whether or not there be brain or sinus involvement pending or threatened. (4) The extent of bone necrosis present when first seen. (5) Nursing. As to treatment, the earlier it is instituted the better. The use of opium in earache is rarely or never to be advised. The application of heat or cold will usually give quite as much relief from the pain. If this method does not greatly relieve the suffering in twenty-four hours, then heroic measures must be adopted. Usually there will by such time be indications sufficient to warrant a paracentesis. That such operation should be done as soon as there is any bulging noted in the tympanum, is now the unanimous verdict of otologists. Many authorities advise the use of leeches to deplete the congestion. Politzerization in any of the ear diseases of childhood is impracticable in almost every conceivable case. So also, as a rule, is the application of poultices. The pathological conditions of the nasopharynx and pharynx should always be thoroughly treated. The diet should be limited and mild. Early and thorough cleansing and antisepsis are always a necessity.

Treatment of Skin Cancers without Operation.—Henry W. Stelwagon is convinced that for the more superficial skin cancers the treatment by the caustic method is equal and in many cases superior to operation. Irrespective of the natural objections of many patients to operative measures, he believes that the caustic method, properly followed out, lessens the chances of recurrence. There is no damage done with caustics if they are judiciously and boldly used; it is the temporizing treatment with mild caustics, or the hesitating treatment with active caustics, which may often do harm. The caustics which the writer has found most useful are: Arsenious acid, caustic potash, zinc chloride, and pyrogallol. The first three are most commonly used, the most valuable being arsenious acid. Pyrogallol and arsenious acid have practically an elective action, destroying the pathological tissues, and having, when properly employed and not too long applied, but little influence on healthy structures. The writer has never seen toxic absorption from the cautious use of arsenic. The arsenious acid is made into a paste with mucilage acacia by mixing with a little water or a solution of cocaine hydrochlorate which somewhat lessens the pain of application. The writer also describes the methods of application of each of the four caustics mentioned in the beginning.

Tænia Flavopunctata.—Frederick A. Packard describes a parasite taken from a Syrian woman aged forty years. One specimen was passed during life and another was taken from the intestine after death; the latter was 27 cm. long and different from the former specimen in no way except by the presence of the head and of a short neck, and by its color. The specimen passed during life was brownish-yellow, while that found at autopsy was almost pure white with a faint yellow tinge. This specimen consists of a head and a short neck separated by a slight constriction, and of a segmented body. The head is black at the tip, the pigment being arranged somewhat like the leaves of a four-leaf clover, as though each division represented the sucking-discs seen in other tænia. No distinct cupping is visible. At a distance of 1.5 cm. from the head, distinct transverse striations are seen which evidently indicate division into proglottides. There is no branched arrangement of the egg-sacs nor any central clumping as in the bothriocephalus latus. This cannot be a tænia common to this part of the world, nor is it an example of bothriocephalus. It must, the writer believes, be a specimen of tænia flavopunctata which has been described but six times as occurring in the human subject.

Treatment of Immature Cataract.—John E. Weeks, after speaking of general and local therapeutic measures in respect to cataract, reviews the operative procedures for the removal of immature cataract as follows: In young individuals, needling of the lens, with or without subsequent extraction of the broken-up lens substance, by means of small linear incision in the cornea; preliminary iridectomy, with or without direct or indirect trituration of the lens, for the purpose of hastening the maturity of the cataract, applicable to old or young individuals; extraction either simple or combined. The ripening operations have been abandoned by the writer. Whenever, in the development of cataract, the vision is reduced to such a degree that the individual cannot follow the ordinary pursuits of life, provided there is any reason for not waiting until the cataract is mature, he does not hesitate to advise operation.

New Points in the Anatomy and Histology of the Rectum and Colon; the Treatment of Obstinate Constipation Based on Points Set Forth in the Foregoing.—By J. Rawson Pennington.

The Use of Alcohol in Treatment of Carbolic-Acid Burns and Poisoning.—By Herman A. Klein.

Sarcoma of Vermiform Appendix; Sarcoma of the External Urethral Orifice.—By Theo. G. Davis.

Colitis, Constipation, and Appendicitis: their Etiological Relations.—By Miles F. Porter.

Rheumatism and the Prevention of Heart Complications.—By James J. Walsh.

Compact Operating-Case for Military Service.—By Nicholas Senn.

The Heart in Acute Rheumatism.—By Delancy Rochester.

Nephrorrhaphy.—By Charles P. Noble.

New York Medical Journal, December 15, 1900.

Derangements of the Organs of Vision which may be Attributed to Auto-infection, or to Auto-intoxication.—J. H. Woodward's headings of this subject are functional derangements (neurasthenia and migraine) and organic derangements (rheumatism, Bright's disease, and intra-ocular hemorrhage). In neurastheuic cases we find imperfect gastric and intestinal digestion with constipation and a sluggish liver. These patients complain of blurring of vision, lacrymation, photophobia, inability to read without pain in the eyes, etc. As soon as the primæ viæ are regulated, the ocular disturbances disappear. A similar line of reasoning applies to migraine and the other bodily states mentioned. The importance of the matter lies in the proper recognition of the underlying cause in each individual case.

The Prevention of Nausea and Vomiting during Anæsthesia.—L. J. Hirschman advocates the use of a new preparation called chloretone, which is in general a hypnotic, antiseptic, and analgesic. It is given in doses of from gr. x. to xv. half an hour before the anæsthetic is administered. From an experience with sixty cases, half of which received the drug, while half did not, the claim is made that nausea and vomiting were seventy per cent. less in the former group than in the latter.

The Treatment of Trachoma by Expression, with Special Reference to the Recurrence of the Disease.—By T. R. Pooley.

Strangulated Inguina Hernia Containing the Cæcum and Appendix.—By L. J. Hirschman.

Remarks on Indication for the Radical Therapy of Uterine Fibroids.—By O. Thienhaus.

Cysts in the Ligamentum Latum; their Kinds and Location.—By Byron Robinson.

Philadelphia Medical Journal, December 15, 1900.

Venesection in Pneumonia followed by Injection of Normal Salt Solution.—William Porter, in treating this subject, refers to the lobar or so-called croupous inflammation. In the experiments which he reviews, venesection is ordered as soon as the diagnosis is well established, *i.e.*, within four days, at farthest, from the initial chill, and generally earlier. The amount of blood removed is not necessarily large. From eight to ten ounces will generally give relief in average cases. At once the subcutaneous injection of the salt solution is ordered. Transfusion could be performed in an urgent case. The following solution is useful:

℞ Sodium chloride	gr.	30
Potassium chlorate	"	60
Sodium sulphate	"	60
Sodium phosphate	"	40
Sodium ca bonate	"	60
Distilled water to make	f℥	6

One piut of this solution in sixty of distilled water.

The writer hopes that further investigation may justify this method as an addition to our treatment in pneumonia.

The Electrical Treatment of Uterine Fibroids.—Gideon C. Segur concludes that: (1) Electricity properly applied may be considered a specific for the treatment of uterine fibroids. (2) A moderate dosage, 40 to 50 milliamperes, applied for twenty to thirty minutes relieves pain and influences a diminution in size. (3) There are no dangers to be feared from its use if carefully conducted. (4) Puncture is not necessary in order to obtain practical results. (5) No serious operation should be undertaken until after electricity has been tried.

National Volunteer Emergency Service Medical Corps; its Objects, Scope, and Importance.—By J. Adelphi Gottlieb.

Principles of Asepsis Applied to Operative and Other Wounds of the Eye.—By Edward Jackson.

The X-Ray in the Treatment of Carcinoma.—By Wallace Johnson and Walter H. Merrill.

Congenital Unilateral Ptosis with Associated Movements.—By Frederick Krauss.

Report of a Case of Foreign Bodies in the Brain.—By Clarence A. Greenleaf.

Some Remarks on Catalepsy, with Notes of a Case.—By George William Norris.

Hyaline Casts Present in Puerperal Eclampsia.—By L. Napoleon Boston.

Foreign Bodies in the Air Passages.—By Francis T. Stewart.

Some Remarks on Hygiene of the Ear.—By Emil Amberg.

The Struggle for Like Lobule.—By Wallace Wood.

A Tropical Ration.—By J. R. Kean.

British Medical Journal, December 8, 1900.

Clinical Lectures on the Causes and Cure of Insomnia.—Sir James Sawyer declares that hypnotics should be given only in exceptional cases and only when unavoidable. As a rule the successful treatment of a case of sleeplessness follows from the discovery of its cause. In the severer forms of psychic insomnia sleep must often be secured by the action of some efficient hypnotic, of which opium and chloral are to be preferred. A few nights of good sleep will do more than anything else to restore to the brain the power of sleeping without further aid from drugs. A patient should never be allowed to dose himself with hypnotics. An overworked man or woman must never be permitted to go on with overwork and habitually secure sleep by chloral or any other hypnotic. It is mostly worry, not overwork, or it is work under wrong conditions, which brings unrest. When a drug is necessary, potassium bromide is by far the best hypnotic in well-nourished patients and in the slighter cases generally. It is marvellously powerful in producing nervous calm; it is a direct and quite safe brain sedative. After getting into bed, gr. xxx. to lx. dissolved in water should be the dose. In many cases of chronic wakefulness arising from prolonged mental strain, the patient is distinctly anæmic. This patient needs hæmatinics, of which the best are iron and arsenic, singly or combined. The diet must be generous, containing plenty of fish, meat, and eggs. For such a patient alcohol is often the best hypnotic. Alcohol is the best hypnotic in many cases of chronic psychic insomnia when the patient is worried and weakly, sorrowful and anæmic. A bicycle, a horse's back, gardening in the open air, muscular exercise of various kinds—all have a place in the cure of insomnia. Sunshine is a valuable adjuvant in the cure of insomnia. Monotonous counting has been suggested. Deep inspirations often help to induce sleep. Bedclothes should be sufficient, but not excessive. In all cases the bedroom window should be open all night and all the year round, but so arranged that there be no draught. A hair mattress is the best bed. In some cases a little food taken just at the time for sleeping is an efficient soporific. In the toxic kinds of insomnia the consumption of the disturbing tobacco, tea, etc., must be lessened or stopped. Senile insomnia is very obstinate. Perhaps the bromides, with full doses of hop or henbane, are the most efficient remedies in these cases.

Remarks on the Diagnosis and Treatment of Arsenical Neuritis.—Judson S. Bury, in speaking of the recent epidemic, points out several symptoms which serve to diagnosticate arsenical neuritis: Hyperæsthesia of the skin and muscles, although common in alcoholic neuritis, is more constant and generally more severe in the cases now under observation. Erythromelalgia. — The vasomotor phenomena which characterize the condition known by this name, while only occasionally present in alcoholic cases, have been conspicuous features in the present epidemic. Ataxia has been comparatively frequent in the present series of cases. There seems to be no evidence that arsenic directly attacks the muscular tissue of the heart. Psychical disturbances in arsenical neuritis are mentioned by several authorities. The first step in the treatment is removal of the cause. Next, rest in bed is advisable. A water-bed affords great comfort. The patient should be handled as gently as possible. The limbs should never be massaged. Warm fomentations are indicated for the relief of tender nerves and muscles. Salicylate of sodium and potassium iodide are of great service in the early stages. Antipyrin, phenacetin, or exalgin are efficacious in the presence of neuralgic pains. Strychnine must not be given in the acute stage. Diet is of more importance than are drugs and should consist of boiled milk, beef tea, beef extracts, soups, and broths. Nutrient enemas should be administered when vomiting is troublesome. Complete rest in bed in a well-ventilated room, careful feeding, and exposure to sunlight are the essential points in the treatment of the early stages of multiple neuritis. When the acute symptoms have subsided, but not before, recourse may be had to massage, electricity, and tonic treatment. Of all drugs tending to the restitution of the paralyzed parts, strychnine is unquestionably the most valuable.

Foreign Body Long Retained in the External Auditory Meatus.—William L. Cullen reports the case of a lady aged seventy-eight years, who had complained for thirty years of deafness in her left ear. The ear was syringed, and after one or two large pieces of hardened wax had come away, a small round ball about the size of a pea was discharged. This proved to be a piece of tortoise shell which had broken off from a comb she had worn thirty years previously. After using Politzer's bag twice, the hearing was almost normal in the ear in question.

Dislocation of the Styloid Process.—Wyatt Wingrave calls attention to the existence of the subpharyngeal cartilage of Luschka, which is probably often mistaken for a

displaced styloid process. It consists of hyaline cartilage embedded in a capsule of white fibrous tissue, and is supposed to be a vestige of the third post-oral arch. It sometimes offers an exceptional resistance to the guillotine.

Case of Hour-Glass Stomach and Pyloric Stenosis; Gastro-enterostomy; Death.—By Sidney Martin and Bilton Pollard.

The Harveian Lectures on Prognosis and Treatment in Pulmonary Tuberculosis.—By Robert Maguire.

On Recent Researches with Regard to the Parasitology of Malaria.—By the Right Hon. the Lord Lister.

The Surgery of Chronic Ulcer of the Stomach and its Sequelæ.—By B. G. A. Moynihan.

A Case of Conglutinatio et Atresia Orificii Uteri during Parturition.—By P. G. Edgar.

Aneurism Bursting into Pericardial Sac.—By John William Taylor.

A Case of Scarlatina Pemphigoides.—By E. A. C. Baylor.

French Journals.

Hygiene of the Cyclist.—Just Lucas-Championnière states that cycling, like all exercise, should be taken up moderately. The heart should be carefully watched, not because this exercise is more harmful in this respect than others, but because it can be indulged in much longer without giving a sense of fatigue. Vicious attitudes, such as a crooked posture, although not being so important as is generally supposed, nevertheless, ought to be avoided. In a long journey the position in which the body is moderately inclined is best for the organs of respiration and circulation. The position in the saddle is hard to decide upon for every case. Practice shows that the perineum accommodates itself to the saddle better than would have been supposed. Moderation in eating is a necessity in muscular work, as is also abstention from alcohol. The bicycle should vary in details for the man, the woman, the child, the racer, and the invalid. In the case of a man, the perineum, with its component parts, should be carefully watched. As to the woman, this exercise is easier for her than for the man, since she is more supple. • It causes far less fatigue than walking. Its effects on the pelvic organs are good. The exercise should be suspended during menstruation, and it is not to be recommended during pregnancy. The child does not feel so much fatigue as the adult, but it should use the bicycle with the greatest moderation. As a rule the courier understands his limitations well. He should, like all athletes, possess perfect organs. As to the invalid, many ailments are improved or even cured by the use of the bicycle, *e.g.*, gastro-intestinal troubles, deformities of the vertebral column, etc. Indeed, the author believes that this branch of the subject is so extensive as to deserve a special chapter.—*Gazette Médicale de Strasbourg*, November 1, 1900.

Foreign Bodies in the Orbit.—Paul Boudin, in reviewing this subject, says that no classification of foreign bodies that have been found in the orbit could be really complete since the variety is so very great. Bits of lead, fragments of wood, needles, bits of stone, bits of glass, pencils, metal tips, umbrellas, etc., are found in the list. As to the symptoms, there is no real pathognomonic sign of the affection. It is really remarkable how many cases there are in which no clear symptoms of inflammation are seen. Recently radiography has proved an efficient aid in diagnosis. By this method it is possible to determine the presence of the foreign body, its form, and its position. As a general rule extraction should be advised if the wound is recent, the foreign body visible, tangible, easily accessible, and if it is retained in the orbital cavity without affecting the walls. As to the use of the magnet, although it has been successful when the body was superficial, it has failed when the object to be extracted was either deeply or firmly fixed. Treatment of foreign bodies in the orbit should depend entirely on the symptoms which tell whether the physician may temporize or not.—*Gazette des Hôpitaux*, November 17, 1900.

Seborrhœic Eczema of Unna.—Léon Perrin declares that Unna with his conception of eczema has revolutionized all ancient dermatology. For him the majority of eczemas are seborrhœic. Seborrhœic eczema is the type of eczema. Wherever the eczema may be found the extension of seborrhœic eczema in the adult and in the nursling has a certain number of common characteristics: (1) A centrifugal extension in discs and circles. (2) A yellowish coloration that is frequently seen after it is healed. (3) Three varieties of lesions: (*a*) Squamous, in which inflammation is very slight; (*b*) erythematous with crusts; (*c*) humid and oozing, frequent in children and women. (4) The odor of the discharge; the thickness, the yellow color, the friability, and the oily condition of the scales. As to the therapeutic agents for this affection, preparations with a base of sulphur, salicylic acid, resorcin, oil of cade, etc., form the basis of treatment. The individual who has once suffered with seborrhœic eczema should observe extreme precautions in external antisepsis and cleanliness.—*Gazette des Hôpitaux*, November 15, 1900.

The Relation of Leucoplakia Buccalis to Syphilis and Cancer.—Alfred Fournier concludes that: (1) Leucoplakia is an affection confined almost exclusively to the masculine sex (three hundred and nineteen cases out of three hundred and twenty-four). (2) The two principal etiological factors are syphilis and tobacco. (3) It ends in buccal cancer with a frequency greater than thirty per cent. (4) When it is found in syphilitic subjects, it proves absolutely refractory to treatment said to be specific for syphilis. (5) Its pathological classification would place it among the parasyphilitic affections. (6) Finally, it makes a great difference in the prognosis of syphilis since so many syphilitics die of buccal cancer through the intervention of leucoplakia.—*Gazette Hebdomadaire*, November 15, 1900.

Two Cases of Intestinal Occlusion by Cancer of the Colon.—Victor Pauchet concludes after reviewing these two cases that when there exists an acute intestinal occlusion from cancer of the colon, if the intestinal coils are very much distended and conditions for relief are not favorable, and if the general condition of the patient permits, an artificial anus should be established. This will be only a temporary condition, for some weeks later the cancerous segment can be treated and the artificial opening can be closed.—*Gazette des Hôpitaux*, November 13, 1900.

Münchener medicinische Wochenschrift, Nov. 27, 1900.

Observations on Suicide Based on Three Hundred Autopsies.—Arnold Heller draws some interesting conclusions from a careful analysis of the results of three hundred autopsies on suicides. The fallacy of the belief current in professional as well as lay circles, that such individuals are usually subjects of some definite mental disease, is shown by the fact that this was found in only five per cent. of the cases. A more important observation, however, is that nearly one-half of the subjects, at the time the act was committed, were in such a state of disturbed mental equilibrium as to be unable to resist impulses which would ordinarily have left them unaffected. More exactly stated, it was found that forty-three per cent. were in such a condition, owing to the early stages of unrecognized acute infectious diseases, the menstrual epoch, pregnancy, etc., as to be temporarily incapable of sound judgment, without being the victims of any actual mental disease. The significance of such a result may be realized when it is considered that this really means that nearly fifty per cent. of these three hundred cases were not true suicides at all in the sense so severely condemned by sociologists and moralists, since the act was performed at a time when the individual was not responsible for his actions, and the inference is that a careful post-mortem examination should be made by competent pathologists in every case of supposed suicide before it is pronounced as such, with the consequent stigma on the descendants, loss of insurance, etc.

Hereditary Progressive Spinal Muscular Atrophy in Childhood.—J. Hoffmann describes a disease of which he has seen six cases and of which the essentials may be summed up as follows: The patients are children of good parentage and usually between the ages of five and nine months. The first symptom is a symmetrical, atrophic, slowly progressive paralysis of the muscles of the thigh and pelvis, shown by cessation of the natural kicking and attempts at crawling and standing. The process gradually invades the musculature of the back, abdomen, neck, and shoulder girdle, involving both upper and lower extremities in a descending palsy to their very tips. At the same time the reaction of degeneration and absence of the tendon reflexes are noted, together with obesity and, ultimately, contractures. The sensory system is unaffected, the organs of special sense functionate normally, and muscular hypertrophy or pseudo-hypertrophy is absent. The disease always terminates fatally in from one to four years after its onset, death being due to secondary pulmonary infections.

The Atropine Treatment of Intestinal Obstruction.—By Lüttgen. The results of other advocates of this method of dealing with intestinal obstruction have already been reported in abstract in this journal and the observations of the above writers confirm the favorable conclusions of their predecessors. Of the four cases they detail, recovery followed in three, and was undoubtedly due to the atropine injection, and though the fourth terminated fatally the medical treatment was not resorted to until after operation had failed to relieve. The dose employed is the huge one of 0.005 gm. (gr. $\frac{1}{12}$), but toxic symptoms were noted in only one instance and then soon subsided, while happy results have now been reported in so many cases as to justify a trial of the method whenever operation is contraindicated or refused.

A Practical Method of Increasing the Digestibility of Cow's Milk.—The process suggested by v. Dungern consists in raising the previously sterilized milk to the body temperature and precipitating the casein with lab ferment. The resulting curds may now be easily subdivided by agitation or churning until they remain suspended as fine flakes which resemble the coagula produced in human milk. By this means the chief factor in making cow's milk less digestible than breast milk, viz., the large and tough casein clots formed on contact with the gastric juice, is eliminated, while experiment has shown that milk so prepared is just as readily taken and retained as when given in the usual way.

Further Contributions to the Atropine Treatment of Intestinal Obstruction.—By Demme.

Personal Prophylaxis and the Abortive Treatment of Gonorrhœa.—By C. Kopp.

The Action of Naphthalan in Eczema of the External Ear.—By H. Sagebiel.

The Atropine Treatment of Intestinal Obstruction.—By Holz.

Disinfection with Carbo-formal Glow Blocks.—By Erne.

Auto-infection in Obstetrics.—By H. Fehling.

Artificial Infant Feeding.—By Soxhlet.

Deutsche medicinische Wochenschrift, Nov. 29, 1900.

The Value of the Serum Reaction in the Early Diagnosis of Tuberculosis.—Arloing and Courmont publish a refutation of the conclusions drawn by Beck and Rabinowitsch in a recent number of the same journal, which reflected on the utility of the serum reaction, to which the names of the first two authors are now attached. The discrepancies of the results obtained by the later observers are attributed to differences in technique, and the authors adhere to their former dicta that (1) in tuberculous subjects agglutination takes place at a dilution of from 1 : 5 to 1 : 20 or even higher. (2) The reaction is most marked in light cases and may even fail completely in advanced stages. (3) The diagnosis of tuberculosis by means of the serum reaction seems adapted, on account of its quickness and harmlessness, to win clinical consideration in spite of the technical difficulties its performance presents.

The Treatment of Heart Disease.—H. Hellendall's device consists of a truss having a pad controlled by a spring and designed to support the apex beat. Not all cases derive benefit from this apparatus; out of ten it was found inapplicable in two, viz., one of aortic insufficiency and one of aortic aneurism. In the others, which comprised exophthalmic goitre, neurasthenia, mitral and aortic incompetence, and secondary hypertrophy, the beneficial effect was very great in reducing the tendency to palpitation and relieving the sense of oppression and dyspnœa on exertion.

Second Report on Malaria and Mosquitos on the West African Coast.—By H. Ziemann.

The Radiograph of a Tablespoon in the Œsophagus.—By L. Stembo.

The Technique of X-Ray Examinations.—By Albers-Schönberg.

Berliner klinische Wochenschrift, No. 47, Nov. 19, 1900.

Symptomatology of Facial Paralysis.—By M. Bernhardt. Details are given of a series of cases differing somewhat from the classical type. They show that cases due to peripheral lesion exist, in which there is no reaction of degeneration, but in which the muscles react instantly to the electric stimulus; in addition there are cases, probably congenital, in which are contractions on the affected side of the muscles in the vicinity of the middle line of the chin and lower lip from the crossing over of exempt fibres from the normal side. Finally, there are cases congenital or occurring in early years, which show this peculiarity that irritation with currents so weak that no contraction results on the sound side, causes a lessened irritability of the affected side.

Woman's Milk.—M. Cohn has examined many specimens of human milk under various conditions of lactation and finds therein certain elements which he suggests may possibly be the cause of infantile dyspepsia.

Effect of Bloodletting or Metabolism.—By G. Ascoli and A. Draghi.

Morphology of the Staphylococcus Albus.—By E. Saul.

Treatment of Cross Presentations.—By A. Cramer.

Archives of Pediatrics, December, 1900.

Fœtal and Infantile Typhoid.—John Lovett Morse says that, except for the lessened exposure in the first year through food, there seems no obvious reason why typhoid should be less frequent in infancy than in later life. Nevertheless, judging from the small number of cases reported, it is less frequent. As to fœtal typhoid, the bacillus can traverse the abnormal, and possibly the normal, placenta from mother to fœtus, and infection of the fœtus results. The fœtus as a result usually dies in utero or at birth, or it may possibly live a few days. Intrauterine typhoid is, from the first, a general septicæmia. Classical lesions of typhoid are wanting. Infection does not always occur, the pregnant woman not necessarily transmitting the disease to her child. The serum reaction occurs in infantile as in adult typhoid. There are no data as to whether or not it occurs in fœtal typhoid.

Pulmonary Tuberculosis in Infants and Children.—Frank P. Norbury holds that this disease is not a rarity among children. It may occur by direct hereditary transmission, but is more likely to be due to infection from a tuberculous mother. Milk is also a source of infection. The child of a tuberculous mother should be artificially fed with sterilized milk, should sleep in a room apart from its mother, and kissing by her should be prohibited. To the child afflicted with the disease, the open-air treatment is the best, the most suitable, and the most satisfactory. Knopf says, "Children and young people often develop tuberculosis for no other reason than that they are naturally bad eaters." Hence wholesome food, plenty of it, at proper intervals should be given. Raw eggs are good. Children often acquire a real liking for pure Norwegian cod-liver oil. The weight of the patient is the best guide for us in determining the benefits of treatment.

A Report of One Hundred and Eighty-seven Cases of Measles with Reference to Koplik's Spots, and their Value in Diagnosis.—John I. Cotter gives the following figures as the results of the observations made: Koplik's spots—positive, one hundred and sixty-nine cases; negative, eight; doubtful, ten. Of the entire one hundred and eighty-seven cases not a single one presented Koplik's spots as the only evidence of the disease which was to follow. Other evidence regularly presented was a rise of temperature to more than 99° F. The authors were unable to diagnose a single case on the strength of the spots alone, because the two symptoms, fever and spots, travelled together invariably. However, it is not known that any disease other than measles presents these spots, and their value in diagnosis should meet with the universal appreciation which their importance demands.

Fatal Intestinal Hemorrhage without Known Cause in an Infant of Five Months.—By Maurice Ostheimer.

Poisoning by Vapo-Cresolene.—By S. S. Adams.

Annals of Surgery, December, 1900.

Structure, Fracture, and Refracture of the Patella.—E. M. Corner states that the patella is peculiar in that when submitted to direct violence the femur acts as an anvil and it is violently compressed between the "hammer" and the "anvil." Under such circumstances a stellate fracture results. In two directions the above must be modified, viz., the extent of the areas over which the direct violence is diffused or applied, and the relations of the size of the "force-areas" to that of the "contact-areas" between the patella and the femur. To deal with the first of these, it may be stated that the greater the "force-area" the greater the likelihood of stellate fracture and comminution, and *vice versa*. With regard to the second, if the force-area equals or is greater than the contact-area, a stellate fracture will probably result. If, on the other hand, the force-area is less than the contact-area, a transverse or oblique fracture may result, and the smaller the force-area the more likely is this result to be attained. Such an accident as the last is of rare occurrence. From a study of one hundred and ninety-one cases occurring during nine years and treated at St. Thomas' Hospital, Corner finds that in transverse fractures the upper fragment was the larger in 37.7 per cent., the line of fracture about at the centre in 45.5 per cent., and the lower fragment the larger in 16.8 per cent. Hence the lower half of the bone is more often broken than the upper, and this is accounted for by the fact that anatomically this lower half is weaker in structure. He believes that one of the reasons for the failure of ossification to extend into even short fibrous unions is the fact that the patella is a sesamoid bone; it differs from other bones in that it is not surrounded by a periosteum. In consequence of this, the osteogenetic powers must be comparatively small, and so bony union will not occur unless there is close approximation of the fragments.

The Radical Cure of Inguinal Hernia in the Female.—W. B. Coley has employed in one hundred and twenty-three cases a method of operation which is practically Bassini's method as performed in the male, the single step of transplanting the cord being omitted. The incision is made one-half to three-fourths of an inch above and parallel to Poupart's ligament, and should extend nearly to the level of the anterior superior spine. The aponeurosis of the ex-

ternal oblique is slit up well over the internal ring and dissected back to the edge of the rectus on the inner side and on the outer sufficiently far to expose the thick fold of Poupart's ligament. If the sac is sought for high up just below the edge of the internal oblique muscle, there will be no difficulty in finding it. After the sac has been dissected from the round ligament and thoroughly freed well within the external ring, it is transfixed and tied off with catgut. The wound is then closed in three layers, as in Bassini's method, a medium-sized kangaroo tendon being used for all buried sutures and catgut for the skin. In the deep layer, interrupted sutures, usually four or five in number, are introduced from above downward, bringing the internal oblique and transversalis muscle over to Poupart's ligament. The round ligament is allowed to drop back into the lower angle of the wound, and as it approaches the pubic bone it is so small that it requires much less space than the cord in the male. The aponeurosis is now sutured with a continuous suture of kangaroo tendon, about the size of a number one catgut. The skin is closed without drainage, and the wound dressed with iodoform gauze and moist bichloride gauze 1 : 5,000.

Fracture of the Spine.—W. Lathrop thus summarizes indications for operative intervention: (1) In partial lesions we should operate. (2) Where the lumbar region is involved with lesions of the cauda equina, operation offers the best chance for recovery. (3) In fracture of the spinous process, lamina, or entire neural arch, operation is demanded. (4) Should immediate operation not be done, and we wait six to eight weeks, with the result that paralysis of the bladder and bowel continues, with cystitis and severe bedsores present, we may be sure that nature cannot relieve the case, and an operation is not only indicated but demanded.

Suppurative Pericarditis and its Surgical Treatment, with an Analysis of Fifty-one Cases Reported in Literature.—By C. B. Porter.

Transperitoneal Ureterolithotomy, Report of a Case in which the Stone was located by the X-Ray.—By G. N. J. Sommer.

A Complete Series of Clinical Charts for Keeping the Records of Surgical Cases.—By C. H. Frazier.

Echinococcus Cyst of the Liver.—By R. S. Fowler.

Operation for Cancer of Penis.—By N. Raw.

American Journal of the Medical Sciences, Dec., 1900.

The Cortical Localization of Sight and Hearing.—Clarence A. Good reports the case of a woman fifty-five years old. About seventeen years previous to her admission to the asylum she had fits at night. These lasted for about two years. When admitted to the hospital she was practically blind. The pupils were equal, reacting to light. She was deaf. The sense of smell was keen. The speech was drawling and the gait lame. She was slightly paretic in all limbs. Cutaneous sensibility was normal so far as could be determined. Mental action was slow and incoherent, memory *nil*. From April, 1892, to her death in November, 1893, she suffered from convulsions. The brain was carefully examined, and the writer draws the following conclusions: 1. Destruction of the cortical visual areas will lead to a degeneration of the cells in the geniculate ganglia and the corpora quadrigemina, and to a degeneration of the nerve fibres of the optic tracts and nerves. 2. The macula lutea of one eye is in connection with the opposite angular gyrus.

The Operative Treatment of Cirrhosis of the Liver.—Charles H. Frazier believes that operative interference has a future in properly selected cases, viz., (1) cases in which the liver is cirrhotic; (2) cases in which there is reason to believe the liver cells are not devoid of function; (3) cases in which internal medication (particularly iodide of potassium) and paracentesis fail to afford relief, or, in other words, in utterly hopeless cases; and (4) cases in which there is no reasonable contraindication. The cases are so hopeless, the technique is so simple, the dangers are so trivial, and the outlook is so promising that the prospects of this mode of treatment becoming an established one seem bright. That surgeons now have at their command a method both rational and reliable of affording relief (sometimes temporary but often permanent) to intractable cases of ascites, seems a very fair conclusion to draw from the accumulated evidence.

The Leucocyte Count in Serous Pleurisy.—John Lovett Morse presents the following conclusions: Serous pleurisy is only exceptionally accompanied by an increase in the number of white corpuscles, and then intermittently. The white count is of value in two ways in the diagnosis of serous pleurisy: If the physical signs are doubtful and there is no leucocytosis the condition is almost certainly not pneumonia or empyema, but serous pleurisy. If there is a serous pleurisy with a continuous leucocytosis, some complication is present. The white count in serous pleurisy affords no information as to the duration of the process, the amount of the fluid, and its increase or diminution. The number of white cells is not influenced by the presence of blood or microscopical pus in the fluid or by the degree of fever.

On the So-Called "Irritable Bladder" in the Female.—Frederic Bierhoff concludes that: 1. The term "vesical hyperæsthesia" or "irritable bladder" is in almost every case in the female erroneously applied. 2. As a true neurosis vesical hyperæsthesia rarely occurs. 3. When vesical hyperæsthesia exists it does so only as a symptom; in the majority of cases as a direct result of some change in the vesical mucous membrane, in the minority as an indirect result of changes in other organs adjoining or near the bladder. 4. The diagnosis of the causative factor must rest upon a thorough examination not only of the bladder, but of the urethra and genital and pelvic organs as well. 5. The treatment must be directed against both the local changes and the causative factors.

A Case of Malaria Presenting the Symptoms of Disseminated Sclerosis, with Necropsy.—By William G. Spiller.

Report of a Case of Extensive Dissecting Aneurism of the Aorta.—By Herbert Swift Carter.

The Laryngoscope, October and November, 1900.

Report of a Case of Spontaneous Cure of a Severe Mastoiditis.—H. S. McGavren saw a girl of ten years with a suppuration from the right middle ear. On examining the left ear he found a depression of the mastoid eminence similar to that following an ordinary operation for mastoiditis except that it was cup-shaped, nearly round, and appeared to be very deep. There was no tenderness. The mother stated that two years before there had been trouble in the left ear, and that finally there had been an exfoliation of a bony mass, about the size of the thumb-nail, and that thereafter all trouble ceased in that ear. No physician was consulted at the time and only household remedies were used.

Adenoids from the Standpoint of Hemorrhage.—I. E. Kimball advises keeping the patient in bed for from twenty-four to forty-eight hours, during which time nothing but cold food should be given. He insists upon the following points: 1. Thoroughness of removal and carefulness in technique at the expense of time. 2. The selection of instruments the best suited to perform the operation safely and efficiently. 3. The positive exclusion of the hemorrhagic diathesis. 4. Competent supervision of the patient until the danger from hemorrhage is over.

Nasal Synechia.—M. D. Lederman advises the use of surgical sponge or spunk for the relief of this condition. One should select the soft elastic variety, which can be cut into any shape, may be covered with any antiseptic powder and allowed to remain in the naris for forty-eight hours. It comes away from the wound very easily and does not cause any bleeding. In introducing the plug we must be careful to avoid bruising the tissues with the end of the forceps, as synechiæ sometimes form behind the site of the tampon.

Primary Epithelioma of the Antrum of Highmore.—H. Holbrook Curtis reports a case of this nature occurring in a woman of fifty years. The points of interest were that the antrum was primarily invaded, that the growth was of an epitheliomatous nature, and that after operative procedure it extended with startling rapidity, finally proving fatal six weeks after the evulsion of the antrum contents. A review of the literature of similar cases closes the report.

Journal of Laryngology, November, 1900.

Anosmia.—A. Onodi divides anosmias into three classes: 1. Essential or true anosmia, either central or peripheral, caused by inflammation of the olfactory region, syphilitic changes, ozena, various central changes, intoxications from various drugs, irritating gases, toxins of various diseases, congenital structural defects, and pigmentary atrophy; 2. Respiratory or mechanical anosmia, caused by any local change preventing free respiration through the nares; and 3. Functional anosmia due generally to hysteria, but which may come from various reflexes, *e.g.*, after ovariotomy, during menstruation, after cauterization of the inferior turbinals, and after extirpation of the Gasserian ganglion. Hallucinations of smell, various parosmias, and kakosmias are frequent precursors of anosmia.

Experiments on Anæsthesia of the Semicircular Canals of the Ear.—G. Gaglio insists on the conclusion that the nystagmatic movements of the eyeballs which are observed to follow destruction of the labyrinth are phenomena not of excitation but of paralysis; that is, of a loss of function of an organ which normally by a reflex path influences the function of the muscles of the eyes. In other words, he admits that the semicircular canals and other parts of the membranous labyrinth originate normally a wave of excitation, slow and continuous, which carried to the nerve

centres and following them, extends to the nerves and muscles of the eyes.

Treatment of Laryngeal Tuberculosis by Intra-Tracheal Injections.—L. Vacher advises the use of the following: Saturated solution of iodoform in ether 100 parts, guaiacol 9 parts, eucalyptol 2 parts, and menthol 1 part. The amount to be injected should not pass beyond 2 c.c. It is better to begin with a smaller quantity. He found that by its use pain was lessened, eating made easier, and respiration more ample.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

POISON IN BEER; A TRAGIC RESULT—PROFESSOR CALMETTE'S HARBEN LECTURES ON PLAGUE—GENERAL MEDICAL COUNCIL—CHILDHOOD SOCIETY—THE "MEDICAL DIGEST"; DEATH OF ITS AUTHOR—OTHER DEATHS.

London, November 30, 1900.

"A thousand cases of poisoning!" "Arsenic in the beer!" Startling enough headings these for the most sensational papers. But they were nearer the truth than many supposed. Manchester is the centre of an epidemic which has for weeks puzzled the medical men. It is said, indeed, that cases may be traced back for six months. Some were at first supposed to be alcoholic peripheral neuritis, but the numbers increased so much that some other explanation was sought. At the various hospitals and infirmaries great numbers of applicants presented anomalous symptoms of peripheral neuritis, and at length it was recognized that they were all drinkers of beer—mostly cheap beer. Then Dr. Reynolds, of the Union Hospital, announced at the Medical Society that he had found arsenic in the beer, and the fact was published in the newspapers. How the arsenic got into the beer was the next question and one more easily solved. Chemists knew the large quantities of glucose employed by brewers and that sulphuric acid is used in its manufacture. They, therefore, at once went for the glucose, and while some samples in use were pure, others were contaminated with arsenic. The amount of glucose used by different brewers varies largely, and this fact goes to explain the remarkable variations noticed in the intensity of the symptoms produced. The typical symptoms of arsenic poisoning can be traced in groups of cases, though individuals present great divergences. Thus the sensory symptoms are said to have been almost always obvious but of every degree of severity, from a sensation of slight numbness to pain so intense that the patients dreaded to be touched. Cramps, too, of the extremities frequently occurred, and there was often impaired motility—in some cases complete paralysis. The catarrh of the respiratory membrane extending over the eyes, nose, and larynx was marked, but did not seem to implicate the bronchi. The digestive membrane seemed less affected; the silvery tongue was present and anorexia common, but vomiting and diarrhœa were often absent. The skin seemed always to suffer. Pigmentation of every degree; erythematous, papular, and vesicular eruptions, followed by desquamation, were generally complained of. Many patients paid little attention to their rashes, but others found them marked enough to alarm them. Others sought advice for intense itching; others again, for constant colds, hoarseness, or smarting and running of the eyes and nose; others, for the nervous symptoms. Many cases so closely resembled beriberi that physicians familiar with the tropics were inclined so to call the trouble.

Not only Manchester but Liverpool and other northern and midland towns have suffered, and about eight hundred patients have sought relief at the various hospitals. It is estimated that more than sixty deaths during the last six months have really been due to arsenical poisoning through beer drinking, although they have, of course, been registered under different names.

Professor Calmette has been over here and delivered the Harben lectures. In them he discussed the bacteriology, diagnosis, clinical appearances, transmission, prevention, and treatment of plague. All that he said went to show the importance of serum treatment. He said it had been clearly proved that after repeated subcutaneous or venous injections of the bacilli, killed by heat, it is possible to inject, after an interval, into small animals cultures which would be fatal without the previous injections. He described Haffkine's mode of preparing dead cultures, and said if they were injected twice or three times at a week's interval, a more durable immunity could be obtained, extending over three or four months in guinea-pigs or monkeys and six months in rats. Haffkine believed a single inoculation might often suffice to render a man immune during an epidemic. But it has been shown that, during the period of immunization, animals are extremely susceptible to minute doses of plague virus. Therefore, if any one were to be inoculated during the incubating period of a slight attack of plague that attack would be aggravated and most likely prove fatal. Other methods of preparation devised to meet this objection were also described. Professor Calmette's own cultures are from a virus taken at Oporto, which has never passed through any animal and which he keeps on gelose and re-fertilizes every eight or ten days, raising the temperature to 36° C. for twenty-four hours each time. These cultures he then places, still on gelose, in large flat bottles and in forty-eight hours an enormous development has taken place. An emulsion with sterilized water is filtered and the microbes are washed, heated up to 70° C. for an hour, and dried in vacuo. Thus the dead bodies of the dried bacilli are obtained free from any trace of toxin and are kept in sealed tubes until wanted. When required for use they are suspended in sterilized salt solution and may be injected under the skin or into a vein.

Prophylaxis must be based on the knowledge that rats and fleas are the principal agents in propagating plague. The best methods of destroying vermin must therefore be employed. Any town threatened with plague should spare no effort to exterminate vermin. If a suspicious case occurs a confidential note detailing the symptoms and the requisite precautions against contagion should be sent to the several medical men. A supply of serum should be at hand.

The General Medical Council met on Tuesday. The president, Sir William Turner, had more excuse than usual for indulging in an address, but his performance ought to have been much curtailed. The finances of the council are in a parlous state, and its interminable discussions at a guinea a minute ought to be shortened. The presidential address is useless. A brief report of anything done since the previous session should be prefixed to a proper programme. Surely the representatives of universities and colleges could understand the programme and proceed without instruction from the chair as to its meaning. But there is a tendency to keep matters in the hands of the chairman, and, to this end, it is convenient to delay the programme and spring important work on the council without notice. A glaring illustration of this truth was furnished when the report of the public-health committee was brought forward. It contained important statements and suggestions, as well as a set of new draft rules concerning the diploma in public health, but it was produced to members only on the morning of the discussion. Why, it ought to have been circulated weeks before. The subject has been debated again and again for years. There was no reason for this absurd method of burking proposals up to the last minute, and objection to such a course was taken by several councillors. A long discussion ended with no more decisive result than in other cases. So the time of the council was squandered, and time in this case is money.

A communication was read from our consul at Chicago about the bogus diploma mill. The names of parties who had corresponded with those engaged in that fraud were sent, but none of them are "registered practitioners."

There are changes in the council—three new members: one, Professor Windle, representing the new Birmingham University—quite an apt illustration of the strange constitution of the council. Here is a brand new university with no graduates—it can have none in the medical faculty for five years—sending its representative to the medical council. Prof. C. B. Ball succeeds Sir Philip Smyly who has resigned. Professor Young takes the place of the late Dr. Leech. A portrait of the last-named gentleman has been presented to the council by a fellow-worker on the pharmacopœia committee.

It was duly reported that all connection of the Dublin College and Hall for the purpose of a conjoint examination ceased last July.

The new "Society for the Study of Disease in Children," or, as it is already being called, the "Children's Society" and the "Childhood Society," has already more than one hundred members. For the present it is arranged to hold the meetings at various hospitals—a chairman being chosen at each meeting from those present.

Doubtless you know the "Medical Digest," a monument of the patience and perseverance of its author, Richard Neale, M.D. Lond., etc. He died on the 22d, aged seventy-three years. He spent about four hours a day for fifty years on this labor of love. It was a costly work to print, and though several editions appeared at rather a high price, it could not pay. Nevertheless, he continued his self-imposed task for the benefit of his profession—the last appendix appearing last year. People ask, Who will continue the work? Can any one be expected to do so? I fear it must be as with your Billings and his "Index."

And Dr. Neale's "Digest" was after all only his hobby. He had an active medical life, too. He retired about three years ago and went to live at the seaside. It was intended to present him with his portrait as a testimonial of the esteem felt for him personally and the admiration with which his devotion to his great work is regarded. Failing health prevented the accomplishment of this purpose and now the end has come.

Dr. Mortimer Granville died on the 23d, aged sixty-seven years. He was at one time on the staff of *The Lancet*, but eventually devoted himself to practice. He wrote on gout and nervous diseases several little books—his best perhaps being on "The Care and Cure of the Insane," which consisted for the most part of articles he had contributed to *The Lancet*. He devised the "percuteur" for treating nervous disease by rapid vibrations and some other instruments—also, I think, a modification of the sphygmograph.

Among other deaths are three octogenarians: Dr. Cordwent, aged eighty-five years; Dr. Riggall, aged eighty-two years; and Deputy-Surgeon-General George Mackay, M.D., aged eighty-one years.

TREATMENT OF GASTROPTOSIS.

To the Editor of the Medical Record.

Sir: In your issue of to-day I read with great interest the article "Gastroptosis," by Dr. George Roe Lockwood, which gives many important original observations. The author, as it appears, has not seen my publication on the same subject in *The Post-Graduate*, March, 1900; otherwise, I am certain he would have mentioned a method of treatment which I have suggested, namely, the support of the abdomen by a piece of rubber plaster cut to cover the whole abdominal wall, tapering off behind, with two extra pieces for support of the hypogastric, inguinal, and iliac regions.

This bandage was described by Dr. H. W. Lincoln[1] who had assisted me in the out-door clinic of the Post-Graduate Medical School when I first applied this method there. My experience now extends over about one hundred cases of gastroptosis with and without nephroptosis, hepatoptosis, a number of cases in which no diagnosis of gastroptosis could be made but where splashing sound could be easily produced and extended far down. The effect was most gratifying in all instances, and it was most remarkable in the cases of reflex vomiting and reflex cough caused by gastroptosis. The distressing symptoms of the so-called nervous dyspepsia would at once disappear after the application of the bandage. I have expressed myself on former occasions to the effect that we have here the ideal treatment for floating kidney, since it is not the displaced kidney which causes gastric symptoms but the coexisting displacement of the stomach. In one case of floating kidney, after the plaster had been borne for only six weeks, I could observe, for months afterward, that the relief had been permanent, the relaxation of the organs or ligaments suspending the organs, together with the relaxation of the abdominal wall, was not found any more; such was, at least, the case when I saw the patient last, six months after the plaster had been removed. In cases in which the skin is tender the rubber plaster may cause unpleasant irritation; in such instances we may apply first to the skin, for protection, Unna's pink rubber plaster and over this the ordinary rubber plaster.

Perhaps some Parisian or Berlin colleague will now discover this method and have it ascribed to his name, in order that the profession in America may find it worth while to take notice of it.

A. Rose, M.D.

New York.

HOW IS MOTILITY IN THE RED BLOOD CELLS EFFECTED?

To the Editor of the Medical Record.

Sir: A recent number of the *Popular Science Monthly* contained an interesting article, entitled "The Psychology of Red," by Havelock Ellis. The author quotes Finsen as having shown that inflammation of the skin caused by chemical or violet light leads to contraction of the red corpuscles. In the same way heat and moisture at about the body temperature lead to contraction of the cells.

But these investigations, like observations of these cells under varying pathological conditions, may give varying results, and hence investigators on this subject may be a little at variance. Without wishing to discredit the influence of physical factors in leading to contraction of these cells, I think they would not in themselves solve the problem as to how the motility is effected, unless numerous observations under varying conditions were made.

The red blood cell, like other cells in the body, has a function to perform in the economy, and it is this physiological function, I believe, which influences the motion more than the light or heat employed. These latter agents may set the cells in motion, but when once this is effected it will be seen that they possess a self-movement which is not to be confounded with a "Brownian movement." This latter motion is an oscillatory or rotary motion on their own axes, and is purely physical. It is seen in the red cells when the specimen of blood to be examined is not in as thin a layer on the cover glass as it ought to be.

Microscopical examinations alone have convinced me that the motility of this cell can be effected in only three ways, and these are the following:

1. By continuous inherent contractility.
2. By alternate contraction and expansion.
3. By the side-to-side movement of the protoplasmic process, which acts as the propelling force and carries the rest of the cell or cell body with it. The process is not retractile.

In my opinion, it is not the light (or the heat) which controls the motion, but the cells must move in conformity with certain physiological laws.

They may be quickened in movement by the chemical products circulating in the blood in pernicious anæmia, but the erroneous deduction must not be made that it is the chemical substance circulating in the blood which propels the cells, any more than light or heat does. The construction of the red cell differs from that of the white cell which has a different function to perform. The white blood cell is a phagocyte, the red cell carries oxygen to the tissues.

"Physiology is the study of the phenomena of life, and knowledge thereof can only be obtained by direct observation and not by analogy or inference" (Dalton's "Physiology," p. 1). If we take one cell, common-sense reasoning would refute the idea that the cell could move in all three ways at one and the same time. But if we study different cells, as in pernicious anæmia, we can observe the motility to be effected in the three different ways before described and in no other way, and investigators who have studied this subject have at times confounded physical or non-vital movements with self-movement or vital movements.

I believe the movements in the red cells in pernicious anæmia are all self-movements. The cells are simply quickened in their movements. Hence I differ from some writers on this subject. The "Brownian movement" causes the cell by the rotary or oscillatory motion to change its position. But this is always slight; and the cell even slightly changes its shape, but this appearance is nearly always stellate. A close observation of both forms of movements in the red blood cells readily distinguishes the two.

The object of this letter is not to discredit careful work, but to show how investigators can, according to the methods employed, arrive at different results.

W. Moser, M.D.

Brooklyn, N. Y.

[1] "Gastroptosis with Special Reference to a new Mechanical Support," Medical News, September 1, 1900.

THE POVERTY OF TROPICAL COUNTRIES AS A CAUSE OF THE FEEBLENESS OF THE NATIVES.

Cordoba, State of Vera Cruz, Mexico.

All men dream of the marvellous riches of the tropics, of the birds with rainbow plumage, of the extravagant flowers, of the elegant tree ferns, of the banana and palms with waving leaves, and of the cocoa palm which furnishes man with everything necessary for life. Indeed, we pity him who has never seen a tropical landscape, as we pity him who has never seen the sea. Then we think of the enormous treasures the English, Spaniards, and Dutch have harvested from their tropical colonies, and naturally we think that the tropics are the richest regions of the world. All this may be true, yet nevertheless, in another sense, instead of being rich, the tropics are fatally poor. Unable to secure the necessaries of life, the people of tropical countries are like the man in whose hand everything turns to gold, yet who perishes of hunger and thirst.

Of all the breadstuffs necessary for man, the tropics furnish only corn and rice, and these only to a limited extent. They have no wheat, rye, or potatoes. The banana may be, as Humboldt says, one hundred and thirty-three times more productive than wheat and forty-four times more so than potatoes, yet it cannot replace either as food. Nor can white men live for any length of time on rice and corn alone, nor on bananas and palm nuts. Native tropical foods can only hold body and soul together, as they furnish but little vigor, energy, and power. No machine can do good work with poor fuel. A man who has neither bread nor meat, cannot get life and strength and push

from tea, coffee, sugar, vanilla, and all the precious spices. Tropical products are merely commercial luxuries, and if the inhabitants of cold climes did not buy them the people of the tropics would lack the necessaries and comforts of life and would yet choke with their own riches.

If we wish to know the effects of the poor diet of the tropics combined with the effects of the heat, we have only to look at the inhabitants of these countries. As a general rule, they are thin, poorly built, and unfit for intellectual or physical labor. Occasional exceptions will only confirm the rule.

Even the foods which are produced are insufficient in amount, so that the least interference with the annual crops results in famines, as is the case in India to-day. Indeed, India has always been the land of fabulous riches of a few and of famines of the millions. Until recently in the cold countries there were none of fabulous wealth and but few famines.

Everything in hot countries is harmful to man; the ground, the water, and the air, swarming with miasms and vermin, and with torment and danger. Life is as much a torment as a pleasure, for whatever makes life worth living is lacking. They depend for indispensable necessaries upon the temperate zones, to which they furnish only the luxuries.

Some one may mention the art, science, and culture of Hindoostan, Ceylon, Java, and the tropical Americas. These were possible when the Aryans and other conquerors who had come from the colder countries had still preserved their original vigor and energy before they mingled with the former inhabitants and degenerated. Then, we ought not to forget that all these great works were done when the great institution of slavery placed tools in the hands of the conquerors to do work they themselves could not do in the heat. In our day, it is machinery, the great liberator of man, which does the work performed in those remote ages by the hundreds of thousands of miserable slaves.

The temperate zone is the one which breeds everything grand, and of these countries, and not of the tropics, Goethe sang,

"Nach der Wärme ziehen sich Musen,
Nach der Wärme Charitinnen."

Lord Macaulay, in his essay on Warren Hastings, *Edinburgh Review*, October, 1841, p. 174, in discussing the prevalent ideas of the wonderful riches of the Indies, said, "Nobody seemed to be aware of what nevertheless was most undoubtedly the truth, that India was a poorer country than countries which in Europe are reckoned poor, than Ireland, for example, or than Portugal. It was confidently believed by lords of the treasury and members for the city that Bengal would not only defray its own charges, but would afford an increased dividend to the proprietors of India stock and large relief to the English finances. These expectations were disappointed." Are not the people of the United States to be disappointed in the Philippines?

F. Semeleder, M.D.

Reviews and Notices.

A Text-Book upon the Pathogenic Bacteria, for Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, etc. With 142 illustrations. Third edition, revised and enlarged. Philadelphia: W. B. Saunders & Co. 1900.

This is the third edition of a work which had already a field of usefulness as a convenient handbook of the natural history of the various forms of bacteria. This edition is considerably enlarged and to some extent remodelled. The accounts of the characteristics of the different bacteria are lucid and concise, and in its new form the volume will undoubtedly increase its popularity and usefulness, especially as a reference text-book.

Practical Manual of Diseases of Women and Uterine Therapeutics, for Students and Practitioners. By H. MacNaughton-Jones, M.D., M.Ch., Master of Obstetrics (Honoris Causa), Royal University of Ireland; Fellow of the Royal Colleges of Surgeons of Ireland and Edinburgh; President of the British Gynæcological Society; Formerly University Professor of Midwifery and Diseases of Women and Children, and Examiner in Midwifery and Diseases of Women and Children, in the Royal University of Ireland. Eighth edition, revised and enlarged, with 640 illustrations and 28 plates. New York: William Wood & Co. 1900.

The eighth edition of the English gynæcologist, H. MacNaughton-Jones, shows an improvement that speaks well for the enormous strides gynæcology has made in the last half-dozen years. In every direction has this work been enlarged and improved, making it rather too bulky and cumbersome a volume to handle with ease. Concise is the general analysis of the author, as respects this new edition, when he states in the preface: "Obsolete views, practices, and appliances have been omitted, and I have endeavored to make it, for both student and practitioner, a condensed compendium of gynæcology, including everything of practical importance which has appeared up to the date of its publication." To give a thorough review consciously and critically is much beyond the space allotted to the reviewer. Of the scientific work shown by the writer we can say nothing but the warmest praise. We accept the instructions given us with good grace, for we feel satisfied that such teaching is safe and worthy of the deepest consideration. A few chapters, then, of greater importance and worth will be more fully gone into; not, remember, for purposes other than the frankest criticism, but solely for calling attention to these particular chapters. In the subject "Ectopic Gestation" we call especial attention to his classification of varieties, his careful study of pathology and etiology. When the treatment is advocated we note great progress, and advice which, while radical, paradoxic as it may appear is ultra-conservative. One sentence makes clear the author's positive position. There is no procrastination, no wavering. "Whenever tubal gestation is discovered, operation for the removal of the fœtus and sac should be undertaken at the earliest possible moment." This is the spirit in the right direction, and experts nearly all the world over look upon ectopic gestation as a malignant condition, to be treated as such, immediately and thoroughly, and by the knife only. We cannot accept the statement made that in cases of abdominal or other forms of vicious pregnancy, operation is best at midterm, and not at term or as near such as possible. Surely the experience of Cragin, of New York, in his recent case, as well as of others, proves that a living child can be delivered and remain alive for some years when elective operation is undertaken at term. The chapter on the Bladder has been very thoroughly gone over, largely quoting from Kelly; and while we do not believe that bladder affections should occupy a place in gynecic surgery, the chapter is so complete that it adds very much to the value of the book. The last chapter, which includes the subject of "Massage," would better have been omitted, since mechanical treatment is to-day hardly looked upon by us as a justifiable, let alone a legitimate aid to the cure of diseases peculiar to women.

A Text-Book of the Diseases of Women. By Henry J. Garrigues, A.M., M.D., Gynæcologist to St. Mark's Hospital in New York City; Gynæcologist to the German Dispensary in the City of New York; Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Physician to the New York Mothers' Home and Maternity Hospital; Ex-President of the German Medical Society of the City of New York; Fellow of the American Gynæcological Society; Fellow of the New York Academy of Medicine; Member of the Society for Medical Progress, of the Eastern Medical Society, of the New York County Medical Society, etc. With 367 illustrations. Third edition, thoroughly revised. Philadelphia: W. B. Saunders & Co. 1900.

The gynæcological surgeon will find much to interest him in this very complete work on diseases of women. A third edition is now before us, thoroughly revised in every respect and up to date in many particulars. The distinguished author finds many ways of making his particular specialty a decidedly interesting one, and after a careful perusal and study such as we have given the work, we can earnestly recommend it not only to experts in this field but also to practitioners in general. It is just enough theoretical and just enough practical to stand as an excellent text-book for students of medicine. The arrangement of the topics is particularly to be admired, since one topic follows the other in a fashion that makes both reading and study a sort of continuous performance, connected and jointed as it were. The classification is so perfect that one is led gradually and unconsciously into deeper and deeper subject matter, until the book is read through before one is aware of it. His generalization of the various subdivisions is as complete as—we were going to say, an encyclopedia—we have ever read. For example, under "Examination in General," a topic of great importance, the author covers over forty pages, replete with many practical suggestions; but what appealed to us most was the chapter on "Treatment in General," comprising eighty full pages, which certainly increases our previously profound respect for the author, and stamps him as one who knows his subject not alone from the standpoint of the expert in diseases of women, but from the thorough experience obtained in the school of general medicine. Under operative technique we have clear wording, concise and to

the point, making plain even to the most obtuse mind the delineation of the various steps in the many complicated gynæcological operations. All descriptions of operations are, as far as possible, accompanied by good, well-marked plates, which further assist us in our perusal. Speaking of plates, while we feel that they are well worth printing when they have an object in view, we certainly object to one that is unnecessary and flavors of padding. Such is the plate after Spencer Wells, showing the "facies ovariana," which, so far as we could make out without reading what it was all about, might have represented an old lady with a lace hat on. This we would advise the doctor to omit in his next work. We pardon this minor defect, believing full well that the distinguished author will know that the good more than compensates for the little with which we do not agree.

Die Urogenitalmuskulatur des Dammes, mit besonderer Berücksichtigung des Harnblasenverschlusses. Von Dr. Otto Kalischer, in Berlin. Mit 36 farbigen Abbildungen im Text und 33 Tafeln. Berlin: S. Karger. 1900.

The author considers carefully both the striped and the unstriped muscle of the urogenital regions. He takes up the subject from the standpoint of both sexes, treating it both macroscopically and microscopically. Since the muscles in the very young are so much more sharply defined than in the adult, and consequently the origin and insertion far more easily traced, the author begins his studies on the fœtus and the child. The work is richly supplied with illustrations of serial sections taken from subjects representing both sexes and various ages.

Händereinigigung, Händedesinfektion und Händeschutz. Eine experimentelle und kritische Studie. Von Dr. Carl S. Haegler, Docent für Chirurgie und I. Assistenzarzt der chirurgischen Klinik zu Basel. Mit vier Tafeln. Basel: Benno Schwabe. 1900.

The author has been particularly interested in the subjects of wound infection and wound treatment for the last twelve years, and now, in looking over the ground covered, he treats of the localization of micro-organisms on the hand, of the mechanical cleansing and the cleansing by disinfectants of the hands. He takes up the subject of operating-gloves, and concludes his work with a chapter on prophylaxis.

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge of Discrimination of Diseases. By J. M. Da Costa, M.D., LL.D., Physician to the Pennsylvania Hospital, etc. Ninth edition. Philadelphia and London: J. B. Lippincott Company. 1900.

In calling attention to the ninth edition of this classic, a book which has been the guide of several generations of medical men, thirty-six years having passed since the first edition saw the light, we are saddened with the thought that this is the last revision of the accomplished author, death having put a seal upon his works. In this edition Dr. Da Costa added much new matter, especially in the sections on fevers and diseases of the blood and of the stomach, and in other parts made changes necessitated by the constant advances being made in the direction of greater diagnostic precision. The plan of clinical classification adopted when the work was composed has been retained, since long experience has demonstrated its utility. The list of illustrations has received several additions made necessary by the new process of skiagraphy. Da Costa's work was a pioneer in this essential branch of medicine, and it remains to-day in the first rank of guides to the diagnosis of disease.

Manual of Pathology: Including Bacteriology, the Technique of Post-Mortems, and Methods of Pathological Research. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. Third edition, revised and enlarged. Three hundred and thirty illustrations and seven colored plates. Philadelphia: P. Blakiston's Son & Co. 1900.

We are glad to welcome a new edition of this exceedingly practical guide for the worker in the post-mortem room and the pathological laboratory. In this edition the number of pages has been increased by two hundred, and that of illustrations by over thirty, and colored plates have been introduced. The work is divided into three parts, viz., technique, general pathology, and special pathology. The aim of the author was the practical one of providing a manual for the actual worker, and not merely furnishing a work of reference for the student and practitioner; but while he has succeeded in attaining the first-named object he has also written a treatise on pathology which may be studied with profit away from the laboratory and may be kept on the shelf as a valuable work of reference by the practitioner. Its usefulness in this respect is enhanced by a very complete index.

Clinical Studies in Vice and in Insanity. By George R. Wilson, M.D., Medical Superintendent, Mavisbank Asylum. New York: The Macmillan Company. 1899.

Drawn from the records of cases kept by the graphic and chart methods in the Mavisbank Asylum the author has presented the subject in a practical manner, quoting cases freely to illustrate his ideas and points of view from which they are discussed. Under "alcoholic predisposition" types of alcoholists are given and considered from the point of view of the question, "what kind of men and women are predisposed." There is included the report of an exceptional instance of voluntary or conscious mania. The cases make interesting reading.

Canine and Feline Surgery. By Frederick T. S. Hobday, F.R.C.V.S. Edinburgh and London: W. & A. K. Johnston. 1900.

This little text-book gives simple directions with illustrations for the management of cases. Much of the material appeared in serial form in the *Journal of Comparative Pathology and Therapeutics*. The book is built upon the clinical experience of several years in the out-door department of the Royal Veterinary College.

La Peste et son Microbe. Par le Dr. Netter, Professeur agrègè à la faculté de médecine de Paris. Paris: Georges Carré et C. Naud, Editeurs. 1900.

A very timely little work including orrhotherapy and vaccination questions. The microbe of the plague is illustrated in five figures on inserted leaves. There are also maps showing localities affected in recent times and charts to illustrate the difference in course in those vaccinated and those not protected.

Normal Histology. By Edward K. Dunham, Ph.B., M.D. Second edition. New York: Lea Brothers & Co. 1900.

There is hardly a book published in the English language that can compete with the one under discussion. It is well adapted to convey to both student and advanced physician all modern views concerning normal histology. It is amply illustrated and written in a comprehensive style.

Contagious Ophthalmia, Acute and Chronic. By Sydney Stephenson, M.D. London: Baillière, Tindall & Cox. 1900.

This is one of the most practical monographs on this subject, dealing with the bacteriology, diagnosis, and treatment of this disease. A great deal is concentrated herein, and it fully serves its purpose.

The Medical Diseases of Childhood. By Nathan Oppenheim, M.D. New York: The Macmillan Company. 1900.

In this new book we are brought face to face with a new method of instructing in the diagnosis and therapeutics of pediatrics. The author maintains that photomicrographs of pathological sections are of greater didactic value than pictures of instruments and photographs of patients. He does not believe in the efficacy of statistics. Some of the illustrations are very good. The book consists of over six hundred and fifty pages, and is printed with clear type on good paper.

University of Pennsylvania: Contributions. William Pepper Laboratory of Clinical Medicine. Philadelphia. 1900.

Whoever is in search of valuable contributions to modern medicine may well read the various articles in this excellent book. Commencing with an article on "Muscular Dystrophy," we next see an article on "Amyotrophic Lateral Sclerosis"; following this, "Cellular Changes"; following, "Venom Injections." Next follows an article on "Melanotic Sarcoma of the Spinal Cord"; then, "Studies in Leukæmia." "The Pathology of the Erythrocyte," "The Blood Plasma after Saline Injections"; then, "The Influences of Immoderate Water-drinking upon Metabolism and Absorption"; then, "Experimental Appendicitis"; then, "Primary Endothelioma of the Left Superior Pulmonary Vein," the "Estimation of Proteids in Milk"; and lastly, "The Etiology and Treatment of Pertussis." The value of the work is greatly enhanced by the excellent illustrations. There is hardly a more complete contribution published, and we feel that the authors should be congratulated, as their type of good work will serve to illustrate what American physicians can do.

Society Reports.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

ROBERT F. WEIR, M.D., IN THE CHAIR.

Stated Meeting, Held December 10, 1900.

Spinal Anæsthesia.—The entire evening was devoted to a discussion on this subject.

The Neuro-Physiological Aspect.—DR. J. LEONARD CORNING opened he discussion. In response to a request to tell how he first came to make an experiment on spinal anæsthesia, he said that he knew that cocaine possessed a chemical affinity for the sensory nerves, or, at least, for those parts of their structure essential to conduction. Why, then, should not this same affinity hold good of the sensory conducting paths in the cord? To prove this theory he injected twenty minims of a two-per-cent. solution of the hydrochlorate of cocaine into the space situated between the spinous processes of two of the inferior dorsal vertebræ of a young dog. Five minutes after the injection there were evidences of marked inco-ordination in the posterior extremity. A few minutes later there was marked evidence of weakness in the hind legs, but there were no signs whatever of feebleness in the anterior extremities. He tested the condition of sensibility by means of a powerful faradic battery. When the wire brush was applied to the hind legs, there was no reflex action whatever, but when it was applied to either of the anterior extremities the limb was drawn away violently, and the animal set up the most dismal howls. Traces of inco-ordination were observed two hours after the injection had been made. After the lapse of about four hours the dog seemed to have recovered his usual health. The action of the anæsthetic was practically local; however, if the quantity of anæsthetic fluid injected had been greater, the anterior limbs might also have been affected. Absolute localization of the anæsthetia was scarcely possible, but the local action of the drug was greatly favored, so far as the anterior segment of the cord was concerned, by reason of the lethargy of the circulation at this point. Dr. Corning then applied the principle in the human subject, developing the refinements of technique as time and opportunity allowed. Of late there had been much discussion touching a possible poisonous action, more or less permanent, of the anæsthetic upon the central nervous system. The same question was raised when peripheral anæsthesia was enjoying its first vogue. These fears seemed to be ill founded, for when the peripheral nerves were copiously steeped in the anæsthetic, a considerable quantity of the latter must reach the central nervous system through the general circulation, sufficient to set up permanent trouble if such a thing were probable. The previous hypodermic exhibition of morphine, nitroglycerin, and strychnine served to minimize the symptoms. A minor objection was the rather frequent defecation observed. This might be remedied by inserting a short pear-shaped electrode into the lower rectum and passing a faradic current of sufficient intensity to cause continuous contraction of the sphincter. It was possible to achieve the same results by emptying both the rectum and the bladder shortly before making the injection. Vomiting was more difficult to remedy, but this inconvenience was not peculiar to spinal anæsthesia. Abstinence from food for several hours before the injection was made would tend to minimize the difficulty. In fleshy persons a short incision through the integument, immediately over and down to the apices of the spinous processes at the point of election, would enable one to introduce the point of the finger, and so establish the most positive orientation. The question of rigid asepsis was, of course, of the first importance. Spinal anæsthesia must necessarily remain *sub judice* for a long time. Technically complete as it might appear at first view, modifications in method were sure to come about, and no one could foretell what the future might bring forth.

Spinal Analgesia in General Surgery.—DR. GEORGE R. FOWLER, of Brooklyn, continued the discussion. His experience with spinal anæsthesia embraced eighty-one cases, which he divided into the following classes.

I. Operations involving the peritoneum. These numbered twenty-six. In five the analgesia was incomplete, and in three of these the operation was for inguinal hernia, the patients complaining of pain when the distribution of the ilio-inguinal and the ilio-hypogastric nerves was invaded. In all the cases of abdominal section vigorous peritalsis of short sections of the intestinal canal was noted, the contracted areas resembling hard fibrous cords and presenting sharp borders between the contracted and uncontracted portions, which suggested an imminent intussusception. Complaint was made when the hand, previously dipped in an alcoholic solution of corrosive sublimate, came in contact with the peritoneum. The moderate Trendelenburg position was not complained of, but the patients did express discomfort when an extreme elevated pelvis was maintained for some time.

II. Operations in the pelvic region not involving the peritoneum. These cases numbered thirty-four. In cases of varicocele the patients complained of pain when the cord was handled.

III. Amputations. These cases numbered five. In all of these cases the analgesia was absolute and complete, and the length of time which it lasted was ample for the purposes of the operation.

IV. Operations upon the lower extremities not included in the above. These cases numbered thirteen. In a case of ligaturing of the internal saphenous veins, the patient, in spite of the fact that her eyes were bandaged and her ears stuffed with cotton, heard the doctor call for a second knife after an absolutely painless incision of the skin had been made; thereafter she complained of pain upon the slightest touch. The operation of arthrotomy was upon a distended Charcot's joint in a case of advanced locomotor ataxia; here the analgesia lasted one hour and twenty minutes above the knee, and three hours and forty minutes in the parts below the knee.

V. Unclassified operations. These numbered three. In a case of costal resection the patient complained greatly when the periosteum and intercostal nerves were peeled off the bone. In the case of nephrectomy the patient declared her absolute disbelief in the doctor's statement that he had removed the kidney.

Technique of the operation. The space between the third and fourth spinous processes was usually the most available, but either the space above or below that point might be utilized if more easily identified. A sensation of suddenly passing through a tense membrane and entering a free cavity was sometimes distinctly appreciated by the operator as the needle perforated the intraspinous ligament. The use of a double needle permitted the operator to eliminate the accident of occlusion of the lumen of the instrument. A full minute was used for the injection, thus allowing time for the solution to mingle evenly with the cerebro-spinal fluid.

The solution should be freshly made with sterilized water and boiled one minute before being used. A concentrated solution of a definite quantity was no more likely to produce disagreeable symptoms than the same dose in a diluted solution, and its effects

lasted longer. He believed the Sims position rendered the patient more comfortable and tended to relax the muscles of the back. For short operations he used a quarter of a grain, for longer operations half a grain of cocaine.

Extent of the analgesia. Analgesia was present in the soles of the feet in from one to five minutes and extended to the umbilicus in from five to fifteen minutes. In two of his cases it had reached the vertex. In no case did the analgesia subside in the region below the umbilicus under twenty-seven minutes (one case); in all the rest it lasted more than forty minutes. If from one-fourth to three-eighths of a grain dissolved in ten minims of sterilized water be injected, analgesia to and including the perineum may be depended upon for a forty-five minute operation. Probably the extent of the analgesia, as well as its duration, depended somewhat upon the amount of the cerebro-spinal fluid present. Progressive dilution of the cocaine solution from this point of introduction lessened the effect of the drug upon the nerve structures with which it came in contact until, finally, if the amount of cerebro-spinal fluid be larger, this was practically *nil* at points high up in the canal. The circulation of the cerebro-spinal fluid, comparatively free from cocaine, through the lymph spaces in the nerve structure washed out the cocaine solution carried to these by the cerebro-spinal fluid when the injection was first made, until finally the cocaine was so diluted in the general bulk of cerebro-spinal fluid as to be useless for the purpose of analgesia.

Disagreeable features. In the majority of his cases one or more of the disagreeable features—vertigo, nausea, vomiting, headache, chills, rise of temperature and increased pulse rate, pallor, cold sweat, and involuntary defecation and urination upon the operating-table—were present. He would not admit that all these were due to the drug *per se*, in the face of the fact that they had occurred to an equal extent whether large or small doses were used, as well as in cases in which antipyrin or chlorotone were used. Not only this, but in one case of vertigo, pallor, cold sweat, sighing respiration, increased pulse rate with lessened force, cough, nausea, and vomiting, all these symptoms took place when the puncture was made and a drop or two of cerebro-spinal fluid withdrawn and before any injection whatever had been made. Among the cases reported, vertigo was complained of in but three cases. Nausea occurred in about one-half the cases and actual vomiting in about two-thirds of these. In the majority of instances in which vomiting took place it subsided in less than two minutes. Headache occurred in about two-thirds of the cases, the severity and duration varying greatly. Rise of temperature was noted in all the cases. Increased pulse rate always seemed to the doctor to be an incident of the nervousness of the patient rather than an effect of the injection, for the reason that, in the majority of cases, it had been less when the patients left the operating-table than when they were placed upon it. There had seemed to him to be some relation between the nausea and vomiting and the force of the circulation. When the former had been most pronounced, the heart's action had been the feeblest. In recent cases he had attempted to guard the heart during this, the most trying portion of the séance, by a preliminary injection of gr. $\frac{1}{10}$ of strychnine, and with some success. Involunary defecation took place in less than one-eighth of the cases. The patients were conscious of its occurrence in four out of the five cases. The entire aggregation of symptoms, save the nausea and vomiting, had been decidedly lessened since he began the preliminary injection of a gr. $\frac{1}{10}$ dose of strychnine, administered hypodermically. Inasmuch as the dangers from this method probably related entirely to circulatory failure, he deemed it important that provision should be made against this contingency by the preliminary use of a full dose of strychnine.

His cases were not selected ones. Cardiac, renal, and pulmonary lesions had been disregarded for the sake of giving the method an absolutely fair trial. Many of the cases had heart murmurs and not a few were the subjects of degenerative kidney diseases, and one suffered from the gravest of all pulmonary lesions, gangrene of the lungs, from which death occurred one week later. One case had actual suppression of urine, unknown to the speaker at the time of operation. One case of amputation at the hip joint was in an exceedingly weak and feeble old woman of sixty-eight. One case of tuberculous peritonitis was in a patient far advanced in the disease and greatly emaciated, and in whom an incision from the ensiform cartilage to the symphysis pubis was made. The upper part of the incision was necessary to enable him to reach a gastric ulcer. The case of tuberculous ulceration of the thigh was in an old man of sixty-three. Another case of amputation of the leg was in an old and feeble woman of sixty-nine with arterial sclerosis, gangrene of the foot and ankle, in a condition of septicæmia. He referred to many other of the cases operated upon, and he believed that these cases, unsuitable for general anæsthesia in the judgment of any surgeon, showed, as a rule, less pronounced alarming effects from the spinal cocainization than many of the younger and more vigorous subjects in his lists. He had also tried to obtain analgesic effects from antipyrin alone and in combination; also, from a solution of chlorotone; none proved successful.

Conclusions. In closing he stated that, in spite of the favorable experiences with spinal cocainization, he held to the proposition that the ideal anæsthetic agent was one which, with absolute safety, would render the patient entirely oblivious, not only of the pain of the operation, but of each of the disagreeable features, including knowledge of the surroundings, the fear of fatal results, etc. These, together with the disagreeable incident of vomiting, to say nothing of the disgusting occurrence of involuntary urination and defecation while upon the operating-table, should be eliminated from the conscious environment of the patient whenever possible with safety.

Obstetric and Gynæcological Aspect.—Dr. S. Marx continued the discussion on this topic. His first cases were absolute failures for the reason that he did not feel that it was necessary to get cerebro-spinal fluid. One case he had had gave the classical picture of locomotor ataxia, and he thought then that he never would give it again; but afterward he thought it was an ideal anæsthetic. In the hospital he had used it for experimental purposes only. He thought we were invading a dangerous territory, if infection occurred it was beyond one, and the patient was beyond one's help. Up to the present day he had had one hundred and twenty-five spinal punctures, and he had had two absolute failures. In one the anæsthesia was incomplete. The question of failure after spinal anæsthesia might be relative or absolute; some of the cases seen in the hands of other surgeons were only apparent failures. The psychical pain we could not get rid of; there was something so very uncanny about it all, that the psychical fear was very great. The other day he operated upon an old lady who had chronic emphysema, chronic bronchitis, etc., for the radical cure of a hernia; when the needle was thrust in forcibly she cried out; but when the parts were sewn up carefully and deliberately there was no pain. In all these cases he had never failed to get cerebro-spinal fluid; in one case he had punctured six times before he had succeeded. One young man, whom he

was showing how to do the puncture on the cadaver, introduced the needle, endeavoring to get within the cavity, and it was later shown when the abdomen was opened that the needle had been thrust into the peritoneal cavity. It was a simple matter to perforate large blood-vessels, and the conditions could not be controlled, because the trouble was beyond the point of the needle.

The symptoms produced could not be always attributed to the cocaine. These symptoms were quite regular in their occurrence, and they occurred whether cocaine was injected or not. In one case, instead of cocaine solution, a salt solution was injected, and the same symptoms were produced but no anæsthesia. In one case a woman had a terrific headache for three days, with a temperature of nearly 104°, and yet not one drop of cocaine had been used. In another case in which no cocaine was used the same symptoms appeared due to the shock or disturbance in the equilibrium inside the canal. He never gave this injection without expecting to have chill, vertigo, and nausea following; but these symptoms disappeared as soon as the flow of fluid ceased. He did not think these symptoms could be anticipated by the use of any drugs; he believed that some of them were due to nervous conditions and others to shock, for the reason that if powerful sedatives and bromides were given, they did not counteract all the symptoms; this probably proved that all the symptoms were purely nervous. Certain classical symptoms would always arise, but the doctor did not fear them; if the pulse ran up to 140 or 160 or even further, he knew relief would follow when the patient vomited. He was satisfied that gr. $\frac{1}{6}$ or $\frac{1}{12}$ would do all of the work.

Area of analgesia. He did not think that the analgesia was increased by a larger amount of the drug. He had seen analgesia from the ears down. The increased area was not due either to the amount of the drug or to the position of the patient. He had stood patients nearly on their heads to permit gravity to act, and yet no effect on the area of analgesia was produced.

Eucaine had proven an absolute failure. He was now experimenting with the idea of making the solution isotonic with the cerebro-spinal fluid. We knew that the specific gravity of the latter was from 1,009 to 1,010, and he thought, by injecting a solution of the drug of a similar specific gravity as that of the cerebro-spinal fluid, he might be able to get rid of some of the disagreeable symptoms.

Effect upon labor. The effect upon labor was absolutely *nil*, except that the pains continued without the patient being cognizant of them. These patients did not feel the necessity for bearing down; if the anæsthesia was incomplete bearing down followed, which fact showed a relationship between the two. He believed the method was indicated in a prolonged first stage. In gynæcology he did not think this method would ever supplant general anæsthesia. If one injection failed he waited half an hour and then gave a second injection. As to the ultimate results he knew of no deaths from cocaine poisoning, but he had heard of innumerable reports of failures and death, but none was authenticated. A Parisian operator had reported that out of one hundred punctures there were seventeen failures and five deaths, but the name of this operator was refused. These were the reports that tended to damn the operation. Another case of failure was mentioned by a doctor who asked "if he had heard of that death in Carbondale where the patient died three days after the injection." Cocaine did not kill in three days; it killed in three hours. This was an operation that belonged to the domain of skilled, aseptic surgery.

Contraindications. He considered that there were two absolute contraindications: first, in that class of individuals upon whom cocaine had absolutely no effect: second, in the highly neurotic individuals in whom cocaine had absolutely no value.

Intra-Spinal Cocainization from the Anæsthetist's Standpoint.—Dr. S. Ormond Goldan, since the report of his last series of twenty cases, had eleven more to present, making a total of thirty-one cases. The last eleven did not differ materially from the others. Of the thirty-one, nineteen were in women and twelve in men. The punctures were uniformly successful, and, in all his patients, he never failed to get the cerebro-spinal fluid. The twenty-first case presented no special features except that, after the operation, she did not have the intense headache that she did formerly. The twenty-second case was that of an Italian woman in whom it was necessary to substitute chloroform on account of her being such a highly neurotic individual. The twenty-third case was one of vaginal hysterectomy and no after-symptoms were present. The twenty-fourth case was one of vaginal section. The operation was begun ten minutes after the injection, and there was a decided sensation; toward the end of the operation there was no pain. The twenty-fifth case was one of inguinal herniotomy. The anæsthesia extended as far as the chest, the operation was satisfactorily performed, and no after-effects occurred. The twenty-sixth case was also a herniotomy and operation for hemorrhoids. No after-effects occurred. The twenty-seventh case was for the removal of a tuberculous testicle. The anæsthesia was perfect, but during the tying of the cord the patient complained of pain; after the tying of the cord there was no sensation. The analgesia extended to the lower ribs. There were no after-effects. The twenty-eighth case required two injections. The patient was a large, strong fellow, and the doctor had difficulty in getting the man to bend his back, making it almost impossible to get into the canal. The second injection was tried upon the opposite side, between the fourth and fifth lumbar vertebræ, and there no difficulty was experienced in getting in. The twenty-ninth case had ℥ xx. injected without anæsthesia resulting; this patient was not hysterical, and she had much pain during the operation. The thirtieth case was of a highly neurotic person. After waiting five or ten minutes he got fluid; ℥ xx. were injected with perfect anæsthesia. Just before the needle was withdrawn the patient started up, bending the gold needle at a right angle. The thirty-first case was in a highly neurotic patient, but she was carried through without evidences of pain.

Dr. Virgil P. Gibney said that in orthopedic surgery this method had but a small range. He had experience with but five cases, in four of which there was no difficulty in obtaining the cerebro-spinal fluid. In one case a second puncture was required. In some cases of osteotomy the girls rather laughed at the idea of pain. Nausea and vomiting usually occurred in tapping the spinal canal, and he did not think these symptoms should always be attributed to the cocaine used.

Dr. Egbert H. Grandin said his experience with this method was limited to three cases. One was an exploratory abdominal section. He secured the services of an expert, and he furnished a solution of cocaine from the hospital. He had quite an attendance, and all said that the anæsthetic was a failure. He waited twenty-nine minutes and then had to resort to the use of chloroform. Gr. $\frac{1}{5}$ was injected between the fourth and fifth vertebræ and so far as the anæsthetic effect was concerned it did not prove successful. The cocaine was tested afterward and was found to be good. His second case was in a patient upon whom he operated for a pyosalpinx. Here the same expert was obtained, gr. $\frac{1}{5}$ was injected between the fourth

and fifth vertebræ, fluid was obtained as in the first case, he waited nineteen minutes, and when he started to do a posterior section to evacuate the pus the patient shrieked. Both women were neurotic Italians. The third case was one of strangulated hernia occurring in the practice of Dr. Walsh at St. Vincent's Hospital. The same expert was there, and the same anæsthetic was used. The patient was an apoplectic woman seventy-three years of age, with emphysema and a chronic bronchitis—a typical case for this method, *i.e.*, a case in which there were contraindications for the use of ether or chloroform, although the use of the infiltration method or nitrous-oxide gas might not be considered contraindicated. In this case the fluid was obtained, gr. ½ was injected, there was a wait of fifteen minutes, and then the operation was proceeded with. During the course of the operation, which lasted thirty minutes, the woman complained. The hot water poured on caused her distress. The above cases represented his experience with this method of anæsthesia, and he was rather sceptical as to its value. He questioned if there was any surgeon who cared to deal with anything that was uncertain. In dealing with ether and chloroform and nitrous oxide during the past twenty or twenty-five years he had never known them to fail. What was desired in an anæsthetic was certainty. In regard to ether it was stated that it affected the kidneys; might not cocaine, he asked, affect the cord? Might we not get a septic meningitis? Again, chloroform was said to affect the heart; even so might cocaine. He failed to see why cocaine, if injected into the spinal canal, could not affect the heart as cocaine would if injected under the skin. He wished to go on record in the statement that he did not think this method was justifiable in obstetric practice. He considered labor a physiological act, and he did not deem it right to subject these women to the possibility of pathological conditions from the practice of such a procedure. He had always been able to control a tedious first stage by the use of chloral or morphine. In the third stage he never hesitated to give the women chloroform. He knew of only one death that was due to this anæthetics, and that was because the anæsthetist watched him operate instead of watching the patient. In gynæcology he did not think there was a need for such a method. If work of a minor nature was to be performed he preferred nitrous oxide. He did not wish to be regarded as one who was pouring cold water upon these enthusiasts in any way or as blocking the wheels of progress, but he could not help remembering Dr. Corning's statement that "he trembled for the cord."

Dr. W. S. Bainbridge said that, several months ago, he started to experiment with spinal injection. At that time there had been no cases reported of children under eleven years of age, so he determined to try the method in such patients. While he did not believe for a moment that here we had a substitute for the general anæsthetics now employed, he felt that there might be a limited field of usefulness in certain selected cases, both of children and of adults in which ether and chloroform were considered far from safe. In the next issue of the Medical Record would ap pear a paper on analgesia in children, giving the results of his first seven cases. To date he had had some twelve cases with about twenty punctures. Several times he had had the advantage of testing the potency of eucaine in comparison with cocaine in different operations on the same patient. The results so far showed that the former was less certain, more evanescent, the analgesia less complete, and accompanied with the same sequelæ as the latter. Knowing of the failure attributed by a number of observers to the use of heat in the sterilization of the cocaine, he endeavored to secure the same end in some other way. He used ether without heat and secured a satisfactory injection fluid. He had had some cases without nausea or vomiting. In only two involuntary defecation occurred. It was very interesting to see many of the children go through a severe surgical operation, while their attention was wholly taken up by some plaything. One failure he had to report—a boy of ten years received two injections of one-percent. solution of cocaine, in all ℥ xii. He showed all the physiological symptoms presented in the other cases, except the analgesia. Tests were made of the solution which was used with this patient, and it was found to be inert.

Dr. Frederick Kammerer said he had had forty cases in general surgical practice in which he had employed this method, and he had made it a point to use as small a dose of the cocaine as it was possible to give. He found that the method answered best in operations upon the lower extremities, and that abdominal hernias, operations upon the genito-urinary tract, upon the kidneys and bladder seemed to be specially well adapted to this method. He did not think it was so well suited for intra-abdominal work. The most interesting question pertained to the causes of the symptoms. In some of his cases they had been quite alarming, the pulse going to about 180, and then down to 70. He could not look upon these symptoms as not alarming. The after-effects in his cases had been mild—headaches and slight rise of temperature. He asked why these symptoms did not appear after removal of the fluid in lumbar puncture if they were not due to the cocaine. The difference in pressure had nothing to do with the symptoms, nor did operative shock. He thought we were now face to face with an important method which should be approached in a very serious manner.

Dr. Robert F. Weir said that Tuffier, of Paris, showed this brilliant procedure at the recent meeting of the congress, when a large number of physicians, especially English, surrounded him, watching him taking out a kidney, or removing a uterus, and which was one of the most impressive things witnessed in surgery; it excited admiration. Esmarch's bandage treatment of aneurism, too, was a most brilliant thing, but it died down. There were all sorts of fads and fashions in medicine and surgery, and spinal anæsthesia might be one of them. Tuffier had been asked about his deaths, and stated he had had five, but only one was due to the cocaine. Tuffier was an enthusiast in this department. As Dr. Fowler stated, this was something yet in abeyance: it could not yet be classed as a perfectly safe thing to use, certainly not so safe as ether. Was it suitable for those cases in which it was found that ether and chloroform were not advisable? Tuffier said he did not think so. It was interesting to note that most of the Americans present at Tuffier's operation under spinal cocainization had flushed faces from the excitement, all were interested to the same degree. Several said to each other: "We will try this when we get home." This procedure spread in America more widely than in England or France, while Germany practically ignored it. What was being done was largely experimental. At the Roosevelt Hospital it had been tried in ten cases, in three of which eucaine was used and failure resulted. In seven, there were two or three anxious moments, more so than he had ever had with ether in many, many years. Experience at the New York Hospital since 1847 showed that but one death occurred in three thousand cases, and he could not make the statement too strong that this new procedure did not present itself to him in an encouraging way, yet Dr. Weir had collected the following cases: Matas, 9, severe symptoms occurring in 3; Fowler, 81; Goldan, 31, severe symptoms occurring in 1; Keen, 1 which was

fatal (eucaine was used); Lee, 7; La Place, 2, severe symptoms occurring in 1; Murphy, 25; Severaneau, 70; Tuffier, 125, death occurring in 5; Brewer, 6 (eucaine used in 2 of these); Rodman, 2; Weir, 3, severe symptoms occuring in 1 (eucaine used in 1). This made a total of 362 cases, of which 6 were fatal (4 of these Tuffier claimed were not due to the injection) and 6 had severe symptoms. In other words, 1 in every 30 was in danger. Of the failures, Fowler had 5 out of 81; Goldan, 3 out of 31; Murphy, 1 out of 25 (this makes 9 failures in 126 cases in which cocaine was used). Brewer had 2 out of 6 (in 2 eucaine was used); Weir, 1 out of 3 (in 1 eucaine was used). In the 3 cases in which eucaine was used failure followed. He did not see why one should speak of cocaine, when used in this particular line, as ever safe; it seemed that there was a certain amount of risk in thrusting it into the canal. He did not wish to pose as one opposed to this method of anæsthesia. He looked upon it with circumspection. We must wait; a time limit must be allowed before this method was considered of much value.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, December 10, 1900.

CHARLES N. DOWD, M.D., CHAIRMAN.

Total Ureterectomy.—DR. WILLY MEYER presented a man, thirty-seven years of age, who had suffered from pyelonephrosis on the left side several years ago. A surgeon had performed nephrectomy at that time, and had cut off the ureter as low as possible. Four months later some surgeon had found it necessary to drain the bladder, and had done so by means of a perineal section. Later on another surgeon had opened and drained the bladder through a suprapubic incision. On coming under the speaker's observation, he had complained of pain on the left side and running into the extremity, and had also suffered from frequent micturition. Owing to the existence of a valve in the posterior urethra, such as repeatedly occurred after prolonged perineal drainage, he had found it impossible to examine the interior of the bladder with the cystoscope. Not being able to verify the possible presence of a chronic suppurative pyelonephritis he had collected two specimens of urine, one before and the other after massage of the ureter on the suspected side. There had been such a marked difference in the two specimens, and this had been observed so many times, that he had felt satisfied regarding the diagnosis. The attempt to remove the ureter had proved very difficult, because of the fact that at the previous operation the ureter had been cut off so low down. He had had to dissect through a mass of dense adhesions, and had perforated into the peritoneal cavity, so that he had felt compelled to tampon and leave the wound open. The man had made a good recovery. The speaker said it was most important always to test the patency of the ureter by means of a bougie in every case of nephrotomy.

Pecularities in Appendicitis.—DR. JOHN ROGERS presented three cases. The first was that of a boy who had been admitted to St. Francis' Hospital in October. About one pint of fetid pus had been evacuated at the operation, and for a few days he had done well. Then, after some error in diet, he had suddenly developed pain on the left side, and exploration had revealed a large abscess on that side. About November 5th he had begun to have an afternoon rise of temperature, and with this a secondary agglutinative peritonitis simulating abscess. The second case was that of a boy who had been supposed to be ill with typhoid fever for three or four weeks before admission. On examination there was a tumor in the iliac region, and every appearance of sepsis. There was a history of a violent gastro-enteritis following an error in diet, and associated with tenderness on the left side of the abdomen. A diagnosis of appendicitis had been made on this history, and this had been confirmed by the finding of a gangrenous appendix and a collection of pus. The third case was that of a little child who also had had an appendicitis marked by pain in an atypical position. Within an hour after an indiscretion in diet the boy had developed symptoms of a violent gastro-enteritis. There was much abdominal distention with dulness in the region of the gall bladder. The next day an operation had been done, and had revealed a long, crooked, and gangrenous appendix adherent to the duodenum.

DR. A. A. BERG presented a man who had been admitted to the Mount Sinai Hospital about the middle of September with a typical history of suppurative appendicitis. The next day, immediately after bimanual rectal examination, the man had begun to complain of much more pain, and this had been followed by a rapid pulse and a temperature of 104° F. By evening the pain had become excruciating. The abdomen had been at once opened. There was a diffuse, extensive, fetid peritonitis, which could hardly have been of a few hours' formation. The peritonitis appeared to be as general as was usually seen on the operating-table. The exudate had been sponged out from the pelvis and beneath the liver and spleen, and a collection of about four or five ounces of pus had been evacuated around the appendix. This cavity alone was cleansed with peroxide of hydrogen, and a very small wick drain inserted down to the stump of the appendix. As was usual in such cases, the patient had reacted most admirably after the operation. Two or three weeks later a secondary accumulation under the liver had been found and drained. This abscess was probably owing to the fact that the speaker had neglected to sponge out thoroughly the suprahepatic region.

DR. ROBERT T. MORRIS said that left-sided infection in cases of appendicitis was not very rare. He would explain it on the theory that the infective process on the right side had so stimulated leucocytosis as to protect the person on that side, but the infection extending across to the other side of the pelvis was not so quickly met by leucocytosis.

DR. A. A. BERG said that he had very recently seen a little child with a large appendicular abscess occupying the left iliac fossa. This situation was explained by the pathologist on the theory that the streptococci present had wandered out through the peritoneal coat of the appendix across the cavity into the left iliac fossa.

DR. J. F. ERDMANN also reported a case of large left-sided accumulation with a history of appendicitis, and two others situated in the epigastric region. He remarked that the very fetid character of the pus in Dr. Berg's case seemed to him a favorable omen, particularly as he understood the infection had been one of the colon bacillus. His own experience had been that this form of infection gave a very favorable prognosis.

DR. BERG replied that this had not been his experience. It was not so much a question of the nature of the bacteria present as it was as to the quantity of toxins that had been absorbed prior to the operation.

A Method of Fixation of Loose Kidneys.—DR. ROBERT T. MORRIS presented a paper on this subject. He said that since 1881 surgeons had been busily engaged in perfecting the technique of this operation.

Guyon had suggested the removal of a part of the capsule together with the fatty capsule. Some operators since then had even gone so far as to strip the kidney of its capsule, and stitch the bared organ into the muscle defect. Kidneys anchored by Guyon's method usually remained where they were placed, but they had not been free from pain. Senn adopted a radically different procedure when he removed the fat, scarified the capsule, and passed iodoform gauze around the kidney to support it at the site of the wound until granulations had formed on the fibrous capsule. In this way secondary firm adhesions were secured. Dr. Morris said that in the two cases in which he had tried this method the result had been excellent, but the healing-process had been entirely too slow. For the past two years he had made use of a method which he had seen described in literature, but he had been unable to learn the name of the person who had devised it. A quadrangular portion of the fibrous capsule of the kidney was turned up and drawn through a slit in the psoas or quadratus muscle, and sutured there. No injury was done to the parenchyma of the kidney, as occurred when sutures were passed through this part. The insertion of sutures in the parenchyma of the kidney was followed by the formation of more or less fibrous tissue, and this fibrous substitution led at times to neuralgia. His experience with the method just described had been entirely satisfactory.

Frequency of Movable Kidney.—Regarding the frequency of loose kidney the speaker said this question could not be settled until some standard of measurement was adopted; in any event it was known that movable kidney was very common. One of our very prominent pathologists had told him that he almost never saw loose kidney at the post-mortem table. When death occurred the kidney usually slid back into its normal situation, and was fixed there by rigor mortis.

Symptomatology.—He was inclined to believe that direct pressure of a loose kidney on the common bile duct caused jaundice and other symptoms oftener than most authors would lead us to believe. Sometimes great pressure was exerted upon the duodenum, or upon the superior mesenteric vein. A large proportion of these patients presented chronic congestion of the cæcum and appendix with symptoms referable to the appendix. Among the reflex disturbances were those arising from involvement of Meissner's plexus, as for example membranous colitis. In support of this view a case was reported which had occurred in the person of a physician. The membranous colitis had been severe and obstinate, but had been completely relieved by fixation of the kidney, and the man's general health had been greatly improved. The speaker said that he was accustomed to operate only in those cases of movable kidney which were not readily controlled by a support, or in which the suffering continued. There were very few dangerous features about the operation.

Dr. G. M. Edebohls said the advantage claimed for the operation advocated by Dr. Morris was that no sutures were passed through the parenchyma of the kidney. This would certainly appeal to every surgeon, but it must be remembered that a careful series of experiments had shown that regeneration of kidney tissue promptly followed such an injury as was done by the introduction of sutures. If the sutures were absorbable, no permanent trace of their introduction would be left. He had done over two hundred nephropexies, and had made it a rule to pass the sutures through the parenchyma of the kidney. The chief cause of pain in the region of operation after nephropexy was from division of the ilio-inguinal and ilio-gluteal nerves during the operation. If it were impossible to avoid dividing them at the operation, they should be sutured afterward. He would not like to trust entirely to the capsule of the kidney to hold this organ in place. The capsule was often a thin, frail membrane, and the making of the flap of capsule necessitated leaving a large area of denuded kidney. It was strange that Dr. Morris favored this operation, as he seemed to dread so much the results of leaving such a bare surface. He would say that his own experience had taught him that there was no better or surer way of fixing the kidney than by extensively denuding this organ. Whatever fixation was secured by the method advocated in the paper, he believed, was in proportion to the amount of denudation of the kidney. His rule was to anchor the middle of the kidney to the entire length of the space between the last rib and the crest of the ilium. Forty-day catgut should be the suture material used. The capsule should be split on the convex border, and reflected on either side a distance of two or three inches, and then the sutures should be inserted into the reflected portions as well as into the kidney corresponding to the denuded areas. He had examined most of his cases again and again, some of them six or eight years after operation. With the exception of a few of his earlier cases he knew of none that had become loose again.

Dr. Willy Meyer said that after one had partially stripped off the fibrous capsule, one could not be sure that the capsule would not be stripped off further, thus neutralizing the effect of the operation. He had been making use of Dr. Edebohls' method, and had been entirely satisfied with the results. He had been careful to avoid injuring the nerves in the field of operation, and had found no difficulty in doing this.

Dr. A. A. Berg said that he was under the impression that the experiments cited by Dr. Edebohls in support of the theory of regeneration of kidney tissue had been overthrown by the recent investigation of Max Wolff, who had shown that the regeneration was only apparent and due to a hypertrophy.

Dr. Morris, in closing, said that he had also been careful not to injure the large nerves, but he knew of a number of physicians who had had their patients complain of most persistent pain after nephropexy. Possibly this was to be explained by their lack of care in preserving these large nerves.

A New and Simple Method of Sterilizing Sponges by Boiling.—Dr. C. A. Elsberg gave a demonstration of this method. He said that sterilization of sponges by boiling had hithereto been impracticable because it had rendered the sponges inelastic and unfit for use. Other methods of sterilization had been so tedious and troublesome that gauze pads had largely taken the place of sponges in surgery. Sponge consisted essentially of an albuminoid material called "spongein." It was perfectly precipitated from its solutions by a solution containing two per cent. of tannic acid and one per cent. of caustic potash; hence it should be perfectly possible to sterilize sponges in such a solution without destroying their desirable qualities. On testing this in practice the theory had been found correct. The solution could be used again and again, and after infected sponges had been treated in this way bacteriological investigation showed them to have been rendered absolutely sterile. The method of procedure was briefly as follows: The sponges were freed from calcareous matter by immersion for twenty-four hours in eight per cent. muriatic-acid solution, and then thoroughly washed in water. They were next boiled for fifteen minutes in a solution containing one part of potassium hydrate and two parts of tannic acid to one hundred parts of water. The sponges were then washed and squeezed in sterile water or in carbolic-acid or corrosive-sublimate solution until the potassium hydrate and tannic acid solu-

tion had been removed. They were then preserved in a three- to five-per-cent. solution of carbolic acid.

A Cystoscopic Prostatic Incisor.—This instrument was presented by Dr. Willy Meyer. It was easy to understand, said the speaker, that at the time when Freudenberg of Berlin, with the aid of his improved modernized instruments, revived Bottini's operation, the desire to perform the operation under the guidance of the eyes found expression. A few operators proposed suprapubic incision, with the help of which one was enabled not only to see exactly how the beak of the incisor was placed, but also to guide it so, with the finger in the bladder, that it firmly and properly hugged the body of the gland. This procedure, however, was inadvisable, because of the fact that it would interfere, to a greater or less extent, with the passage of the urine through the newly established gateways in the prostatic gland—so necessary in order to insure a good result. Besides, such an incision would unnecessarily complicate the operation.

Thus the only available instrument for the shedding of light on the otherwise obscure field of operation was the cystosocpe. It was, therefore, entirely correct on the part of Freudenberg to insist upon cystoscopy as a preliminary step to Bottini's operation. The visual examination of the bladder might be done either a few days prior to, or simultaneously with, the operation. If the trouble was not far advanced, and the kidneys were not yet affected, it was immaterial when the inspection of the bladder was done. However, in the case of a markedly enlarged prostate accompanied by pronounced renal symptoms, the additional procedure of performing cystoscopy might sometimes mean a serious complication. If done immediately preceding Bottini's operation it would unnecessarily lengthen the operation, and meant repeated introduction of steel instruments, which a large prostate in an advanced stage of the disease often seriously resented. And if done a few days prior to the operation in this class of cases, symptoms of urethral fever might follow its performance, so severe in character as to render impossible the principal part of the work, viz., Bottini's operation. The speaker stated that in cases complicated with pyelo-nephritis he now generally omitted cystoscopy. In view of these drawbacks incidental to cystoscopy as a preliminary step to Bottini's operation, the news that Freudenberg, with the help of Dr. Bierhoff, had constructed an instrument which permitted of simultaneously performing cystoscopy and Bottini's operation was hailed with a great deal of satisfaction. The device was called the cystoscopic prostatic incisor. As a whole, the instrument was a most ingenious one, and beautifully manufactured, as were all the instruments that came from the Berlin firm which had placed also this one upon the market. The cystoscope, with its lamp firmly attached, passed through the centre of the incisor, the same as we found it arranged in the various instruments belonging to the set of Casper's operating cystoscope. The channel through which it passed could also be used for irrigation of the bladder whenever the injected water should become turbid by hemorrhage, etc. As a matter of course, the handle as well as the screw which moved the knife had to be arranged on a somewhat different plan. The cystoscopic prostatic incisor, however, had a number of drawbacks if compared with Freudenberg's improved Bottini's incisor which really was a most beautiful and reliable instrument. These drawbacks, some of which, by the way, had already been mentioned by the two gentlemen who designed the instrument, were evidently unavoidable, and they were certain to make the new cystoscopic prostatic incisor not the principal instrument for Bottini's operation, but only an adjunct, indicated in but a certain number of cases. The drawbacks were: The size (26, the incisor being only 23 French); the shorter shank and smaller knife; the latter point especially was one which would limit the usefulness of the instrument. Referring to Freudenberg's improved incisor, the speaker explained that if we saw to it, when making the posterior (backward) incision through the prostate gland—which must lower the internal urethral opening to the base of the bladder (interior galvano-caustic prostatotomy)—that the beak of the incisor slid gently over the base of the bladder when pulled forward in order to hug the body of the gland; and if we then, by means of the assistant's finger, or our own, in the rectum, measured the distance of the tip of the beak from the external sphincter ani muscle, we were generally enabled to know that the beak was in its proper place. If, furthermore, on repeating this manœuvre a number of times, the distance of the tip of the beak from the sphincter ani muscle was found to be always exactly the same, we could rest assured that we hooked, not a transverse fold of the bladder, but the prostate itself, and that, therefore, we need have no fear of perforating the bladder when proceeding with the operation. The direction of the lateral incisions, whether they be done at an angle of forty-five, sixty, or ninety degrees, was generally not of great value as far as the final result of the operation was concerned. The speaker, therefore, stated that, so far, he had not felt the necessity of doing the operation under the guidance of the eyes. Nevertheless, cases would occur in which it would be of value and importance to see exactly where the beak was located. This applied especially to such cases as had been operated upon before, but in which the obstruction had not yet been entirely overcome, and to early cases of prostatic enlargement. Unfortunately sufferers from the latter condition, so far, were rarely willing to submit to operation. On account of the nearness of the prism to the beak of the incisor, the latter was seen very much magnified, so that only a very narrow circle of the inner surface of the bladder became visible. It was also to be expected that, in the more advanced cases, the generally occurring slight hemorrhage would eventually prevent a proper view when the lateral incisions were made, although the water within the bladder had been changed. In view of the foregoing, it was evident that, before passing definitely upon the value of the instrument, we should have to gain further experience with it. There could be no doubt, though, that it should be in possession of all who took an interest in and were used to perform Bottini's operation.

A Useful Saw for Bier's Osteoplastic Amputation.—Dr. Willy Meyer also exhibited an instrument which he had devised for this purpose. The two essentials were to have the saw blade under strong tension, and so made that it would cut in all directions. The blade in this instrument was 3 mm. wide, and the frame holding this blade was a metallic semicircle. With such an instrument it was possible readily to cut out a very small circle of bone, and hence it was particularly useful in operating upon the humerus and femur.

Neuro-Serum: Destructive and Protective Serum for the Nervous System.—Eugenio Centanni reports the results of his experimentation with an emulsion of nerve substance taken from a sheep. A dose of one-third c.c., introduced by trephining into a rabbit's skull, proves fatal in forty-eight hours. When introduced intravenously, however, it is perfectly well tolerated, although the dose be twenty or thirty times greater than that which kills when introduced into the brain. Ten or more c.c. will prove fatal.—*La Riforma Medica*, November 7, 1900.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 15, 1900:

	Cases.	Deaths.
Tuberculosis	210	161
Typhoid fever	104	28
Scarlet fever	171	6
Measles	111	1
Diphtheria	264	37
Laryngeal diphtheria (croup)	12	8
Cerebro-spinal meningitis	0	5
Varicella	80	0
Smallpox	15	0

A Doll House for a Hospital.—One of the most famous of very modern doll houses is the one given to the children of Edinburgh hospital by the King of Siam. In all his travels, so said the soft-spoken, gentle-faced Oriental, nothing else moved him and appealed to him as did that pathetic crowd of white-faced, suffering children: so he went back to London and took counsel with English friends. As a result of this consultation a $500 doll house went to the Children's Hospital at Edinburgh, with the compliments of the King of Siam—and Queen Victoria is second in the hearts of one group of her subjects.—*Sun.*

Comparative Physique of Recruits for the Navy, East and West.—Passed Assistant Surgeon Dr. Edward R. Stitt, United States steamer *Hartford*, in his report to the surgeon-general, United States navy, says: "In connection with the physical examination of the landsmen received from the *Richmond* and *Vermont* on the arrival of the *Hartford* from the Pacific station, a great superiority has been observed as regards the outward manifestations of a sound physique among those born in the middle West over the natives of the Atlantic coast. There were noted among the recruits from the Eastern cities a large number of cases of persons who would probably develop unfitness for the service by reason of catarrhal conditions of throat and nose, as well as from relaxation of inguinal rings; these conditions being far less frequent among the recruits from the Western States. While the most striking feature differentiating the two classes was as regards general appearance, yet the following averages, obtained from measurements, are in a degree indicative of this superiority: Of 163 men, natives of the Eastern coast cities, the averages were: age, 20.3 years; weight, 129 pounds; height, 66 inches; chest expansion, 3.2 inches; circumference of arm, 11 inches, and circumference of thigh, 19 inches. Among those born in the middle West, numbering 92, the average was 20.5 years; average weight, 135 pounds; average height, 67 inches; average chest expansion, 3.4 inches; average circumference of arm, 11.5 inches, and average circumference of thigh, 19.5. Of the 251 recruits who were enlisted for this ship about one year ago, all coming from the West, the following averages pertained at time of first examination: Age, 21; weight, 139 pounds; height, 66.6 inches; chest expansion, 3.2 inches; circumference of arm, 11.7 inches; of thigh, 19 inches."

First Woman Medical Graduate in Germany.—It was in the year 1754, says the Berlin correspondent of the London *Lancet*, that the degree of M.D. was first conferred on a woman in Germany. The *Vossische Zeitung* of July 18, 1754, mentions that the medical faculty of the University of Halle had granted the degree of M.D. to Mrs. Dorothea Christiana Erxlebin, after she had passed the examination with distinction. The title of her dissertation which, according to the custom of that time, was written in Latin, was "Quod nimis cito et jucunde curare sæpe fiat causa nimis tutæ curationis." This lady had been an apprentice of her father, a well-known medical practitioner at Quedlinburg, and as she could not matriculate at a university she learned medicine by reading only. By a royal decree of Frederick the Great, she was then recommended to the faculty of Halle as a candidate for graduation, but she presented herself only after the death of her husband. She also published an essay on the utility of learning for the female sex.

The First Public Free Bath in the United States.—Chicago claims that the Carter Harrison Bath in Maher Street was the first free public bath in the United States, and, so far as is known, the first in the world to be absolutely free; all other public baths prior to the opening of this charging a small fee, ranging from five kreutzers (about two cents) at the Volksbad in Vienna to five cents in the public rain baths in New York City. The Harrison bath was opened to the public in January, 1894, having cost to construct $7,825 for the building and $2,511 for plumbing and heating apparatus. It is needless to say that the Harrison bath has been a conspicuous success.

Knock-Out Drops.—In at least fifty stores in this town, says a writer in the Sunday *Sun*, of December 2d, a stranger can buy chloral hydrate without a physician's prescription. Some of the druggists know what use it is to be put to at the time they sell it, but they charge $2 to $3 for an ounce bottle of the mixture, and so long as they get a good price for it they ask no questions. There are two drug stores in Manhattan that are thriving on the sale of chloral hydrate. Their customers are thieves who make a practice of drugging and robbing men who come to New York to see the town.

Boiling-Point of Water.—Most persons are apt to regard the point at which the water in the domestic saucepan boils as a fixed quantity, unalterable as the laws of the Medes and Persians; but the cooks of a certain town in New Mexico have discovered that in consequence of its great altitude above the sea, water boils there at 202° F. instead of at the normal 212°. This means that all the cooking calculations depending upon the heat of the water have to be revised. Everything from a breakfast egg to a silver side of beef takes longer to cook than it does lower down in the atmosphere. Another thing which militates against the calculations of the ordinary cook of the same town is that the air is so dry that vegetables are deprived of half their natural moisture, and must be left a long time in water to recover themselves before being cooked. In connection with this matter of the boiling-point we might observe that if our cooks at home could only realize the fact that it is impossible to heat the water in an open vessel above boiling-point they would save much of the gas used in so many houses for fuel.—*Chambers' Journal.*

A Remarkable Weapon.—At a meeting of the Zurich Medical Society on October 27th, Professor Krönlein demonstrated a pistol which is creating quite a stir in army circles. A man shot himself with this weapon, a "Selbstlade-Pistole" (self-loading pistol) Patrick Mauser modification. Bergmann was admitted to the surgical clinic with a perforated skull and died soon after. The necropsy revealed a most extraordinary power of destruction in the bullet, there being quite a network of fissures in the skull, besides the

small wounds of entrance and exit. Professor von Bruns, of Tübingen, made experiments on the dead subject with the original Mauser pistol three years ago, and the German army authorities intend to introduce this destructive weapon into the army. The Swiss army authorities have not yet come to a final decision. The weapon is very light and has a light but strong leather case into which the weapon can be so fixed that it serves as a short gun, which greatly facilitates taking aim. The weapon is remarkable from its simplicity of construction and want of screws. The projectile has a diameter of 7.6 mm., and the velocity on firing is 450 metres or 482 yards; the velocity after the bullet has reached a distance of 1,000 metres or 1,093.6 yards is still 120 metres or 130 yards. The simplicity of loading is such that 120 shots can be fired in one minute. It seems a weapon admirably adapted for cavalry forces and mounted infantry.—Zurich correspondent of *The Lancet.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 14, 1900:

		Cases.	Deaths.
Smallpox—United States.			
California, Oakland	November 24th to December 1st	4	
Georgia, Houston	December 1st to 7th	24	1
Illinois, Chicago	December 1st to 8th	1	
Kansas	December 1st to 8th	9	
Kentucky, Lexington	December 1st to 8th	2	
Russell	November 20th	*	
Michigan, Detroit	December 1st to 8th	2	
Grand Rapids	November 24th to December 1st	1	
Reported present at 28 places	November 25th to December 1st		
Minnesota, Minneapolis	December 1st to 8th	1	
Nebraska, Omaha	November 24th to December 1st	3	
N. Hampshire, Manchester	December 1st to 8th	20	
New York, New York	December 1st to 8th	12	3
Ohio, Ashtabula	December 1st to 8th	4	
Cleveland	December 1st to 8th	32	2
Pennsylvania, Steelton	December 1st to 8th	1	
Tennessee, Memphis	November 24th to December 8th	5	
Nashville	December 1st to 8th	5	
Utah, Salt Lake City	November 24th to December 8th	69	
* Epidemic.			
Smallpox—Foreign.			
British Columbia, Gabriola Island	November 21st	1	
Nanaimo	November 21st	13	
Egypt, Cairo	November 11th to 18th	1	
France, Paris	November 18th to 25th	..	8
Mexico, Tuxpam	November 19th to 26th	..	4
Russia, St. Petersburg	November 10th to 17th	4	1
Vladivostock	July 1st to 30th	1	
Warsaw	November 10th to 17th	..	32
Scotland, Glasgow	November 23d to 30th	30	1
Spain, Barcelona	October 6th to November 11th	..	49
Valencia	November 4th to 18th	1	
Yucatan, Merida	November 15th to 30th	Several.	
Yellow Fever—Foreign.			
Cuba, Havana	November 24th to December 1st	..	7
Puerto Padre	December 3d	1	
Mexico, Mexico	November 18th to 25th	..	1
Tampico	November 18th to 25th	..	6
Vera Cruz	November 24th to December 1st	..	2
Cholera.			
India, Bombay	October 30th to November 6th	..	3
Madras	October 27th to November 2d	..	10
Plague—Foreign.			
Egypt, Alexandria	November 5th to 12th	1	1
Germany, Bremen	November 6th	..	1
India, Bombay	October 30th to November 6th	..	84
Madras	October 27th to November 2d	..	1
Madagascar, Tamatave	October 15th to 29th	2	1
Plague—Insular.			
Philippine Islands, Manila	October 13th to 20th	3	2

Diabetes Mellitus and its Treatment.—J. H. Reed says that if not more than 25 to 30 gm. of sugar are being passed daily it is not necessary to resort to the severe régime so often forced upon patients. The chief point is to see to it that the patient does not lose flesh. It is a mistake to restrict the diet to the extent to which it is so often done. Antipyrin gr. xv. given morning and night with gr. vi.–viii. of bicarbonate of sodium will show a disappearance from the urine of from 30–50 gm. of sugar within thirty-six hours. Reed prefers, instead of Fowler's solution, the arsenate of sodium in a solution of 3:80 gm. of water, of which a teaspoonful is to be taken at each meal. He also believes that it is not necessary to suppress milk in the dietary because of the lactose it contains, but thinks it should be given, as lactose is not transformed into glucose. In cases of severe diabetes the patient should be allowed to drink freely, to wash out the sugar if possible, instead of allowing it to accumulate. For diabetic coma he advises small doses of antipyrin and rectal injections of bicarbonate of sodium, ʒ ii. in a pint of hot water. He positively interdicts stimulants. He also advises the free use of citrate and carbonate of lithium, regulating the amount according to the quantity of sugar present.—*Physician and Surgeon*, October, 1900.

Pelvic Massage.—E. E. Montgomery describes the process, which he considers advantageous in uterine displacements; in chronic inflammation of the uterus, tubes, and ovaries; in subacute and chronic peritonitis and cellulitis; for the removal of pelvic exudates and unfortunate adhesions after pelvic operations. It is contraindicated in all cases in which it is evident that recent pus collections are present, in suspected ectopic gestation or in recent internal hemorrhage, in ovarian cysts, unless they are very small, when it has been advised that they should be forcibly ruptured with the hope that the cysts will be obliterated and their subsequent growth be prevented. The procedure is absolutely criminal in every case of suspected malignant disease.—*The Therapeutic Gazette*, November 15, 1900.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Medical Examination for Life Insurance. By Charles Lyman Greene, M. D. 8vo, 426 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

Materia Medica and Therapeutics. By John V. Shoemaker. 8vo, 766 pages. F. A. Davis Company, Philadelphia, Pa.

Studies in the Psychology of Sex. By Havelock Ellis. 8vo, 275 pages. F. A. Davis Company, Philadelphia, Pa.

Diseases of the Nervous System. By H. Oppenheim, M. D. 899 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa.

Grundriss der Inneren Medicin. By Max Kahane. 8vo, 810 pages. Illustrated. Franz Deutickle, Leipzig, Germany.

Proceedings of the Association of Military Surgeons of the United States. 8vo, 382 pages. Berlin Printing Co., Columbus, Ohio.

Practical Homœopathic Therapeutics. By W. A. Dewey, M. D. 8vo, 379 pages. Boericke & Tafel, Philadelphia, Pa.

Orthopedic Surgery. By Charles Bell Keetley. 8vo, 527 pages. Illustrated. Smith, Elder & Co. London, England.

Physiology of the Brain. By Jacques Loeb, M. D. 8vo, 309 pages. Illustrated. G. P. Putnam's Sons, New York.

Thomas Sydenham. By Joseph Frank Payne, M. D. 12mo, 264 pages. Longmans, Green & Co., New York.

The Treatment of Fractures. By W. L. Estus, M. D. 12mo, 216 pages. Illustrated. International Journal of Surgery Company, New York.

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SOME REMARKS ON MEDICINE IN 1800.[1]

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THE subject of the somewhat disconnected paper to which you are about to listen, was suggested by the date assigned for its reading. As this is the last regular meeting but one of our society in the nineteenth century, the topic seemed timely. Not long since the State and county societies celebrated their centennials, and the Hartford Medical Society its semi-centennial, on these occasions many able papers were prepared and read, describing the organization and progress of these societies, containing much interesting information in regard to medicine during their life, and many reminiscences of old physicians, this paper cannot, does not attempt to, and does not desire to compete with these, but it has seemed that by treating of a different portion of the subject some things of interest and perhaps novelty might be set down.

It is a twice-told tale, and would not be interesting or informing to you to discuss at length, with names and dates, the discovery and employment of the stethoscope, the microscope, the clinical thermometer, and vaccination, all of which date, however, in a general way, from the beginning of the century.

Medicine, however, in 1800, with a very accurate knowledge of gross anatomy bequeathed to it from past centuries, waited only for these helps to begin the study of physiology and the symptoms of disease in a scientific way.

A further impulse toward the more scientific study of medicine was the fact that the beginning of the nineteenth century coincides quite closely with the emergence of the art from the domination of the so-called "systems" which, one by one, arose, flourished, and died out. Cullen, who died in 1790, and his pupil Brown, later the author of a rival "system," were almost the last to consider it incumbent upon prominence in their profession to promulgate a complete personal theory of medicine, a "bed of Procrustes," to which all facts, if necessary, must be clipped or stretched to fit.

They, however, had no premonition of this, and their text-books on "Practice" show that each was convinced that his was the only true theory of medicine. In his very long introduction Cullen reviews at length the history of medicine for two centuries, treating first of the Galenists and their partial overthrow by the chemical theory of Paracelsus. He states that later, Galileo's introduction of mathematical reasoning and Lord Bacon's method of induction, with the discovery of the circulation of the blood, favored a disposition to observe facts and make experiments, but (to quote) "it is easy to show that it never could be applied to any great extent in explaining the animal economy."

Stahl's system (which seems to have been an approach to "Christian Science") held that the rational soul governed the whole economy of the body, and was the art of curing by expectation, accompanied by the administration of inert or frivolous remedies, with opposition to the most efficacious.

Hoffman's system followed, laying the cause of all diseases on the nervous system, with spasm and atony as the two extremes. He then refers to the system of Boerhaave, the one under which he was instructed, in which disease was considered due to the laxity or rigidity of the solids and the acidity or alkalinity of the fluids of the body, as the most important of all. Having said this, he goes on to criticise it, root and branch, and points out errors in all its theories, claiming that, although still taught, it should be superseded.

He then discusses Lieutaud's system, which lays stress upon the collection of facts, and while admitting that they are useful, insists that some "system" is necessary for their proper interpretation. He holds up to ridicule, not unjustly perhaps, Lieutaud's remarks on the cure of dropsy: "The cure may be begun by bloodletting in certain conditions, but in others it cannot be employed without danger, it gives relief in difficult breathing, but after it is practised the symptoms are aggravated; . . . some persons have been cured by repeated bloodletting. . . but the remedy. . . has in many instances hastened the fatal result."

Having thus attacked all previous systems, he lays down his own, which, based upon Hoffman's, which he considers the least objectionable, makes diseases dependent upon the motions and moving powers of the animal economy.

Brown, in a shorter but equally combative preface, says that he had wasted twenty precious years of his life (when he was Cullen's disciple) before he discerned the true light. He then details his own division of all diseases into the sthenic and asthenic types, with a copper-plate schedule of diseases and a diagram resembling a thermometer scale divided into eighty degrees with "Mors" at each end, indicating the sthenic and asthenic modes of death. He airily concludes in these words. "Medical art, hitherto conjectural, incoherent and in the great body of it false, is at last reduced to a demonstrated science, which might be called the science of life."

Before this the names of Locke, Sydenham, Boerhaave, and others stand out—men whose natural abilities were so great as to render them successful and famous in spite of imperfect knowledge, prevalent incorrect theories, and lack of instruments of precision. These men, however, were so hampered by their environment that, although they and their predecessors stand credited with single brilliant discoveries, they were not able to advance practical medicine so much as many of less ability since. Many others, whose names have not come down to us, doubtless had much honor in their day, for as Dr. John Brown says, "It is the lot of the successful medical practitioner to be invaluable while alive, and to be forgotten soon after he is dead, and this, not altogether or chiefly from any special ingratitude or injustice on the part of mankind but from the very nature of the case."

Rosari, about this time, was the author of a system by which patients were treated with enormous doses

[1] Read before the Hartford Medical Society, December 3 1900.

of powerful and poisonous drugs, and cases were related at length of persons with slight illness slowly dying, poisoned by aconite, tartar emetic, and digitalis. To this and the unmentionable "system" of "isopathy" homœopathy was to some extent a reaction.

Although the significance of temperature as a symptom of disease had always been recognized, the accurate determination of the body heat as a help to prognosis, and the importance of its fluctuations as a means of diagnosis, was not recognized until the beginning of the nineteenth century. The uniformity of animal heat under extremes of heat and cold was demonstrated in 1775 by Blagden and John Hunter, but the latter held that the temperature of the body was not maintained by the circulation of the blood, but by a different principle, intimately connected with life itself, and considered the seat of the power to be the stomach. In 1787 Cullen published a work on temperature containing much practical matter and it attained considerable notice at the time, but it fell into oblivion, and although the subject of fever and the theories of its production were discussed, there was no endeavor to evolve practical laws until forty years later.

The physician of 1800 had at his service a very complete and accurate knowledge of gross anatomy. Dissection had been practised for five hundred years, and the sixteenth and seventeenth centuries gave birth to many of the great anatomists whose names are forever impressed upon our organs. This being a department of medical science consisting entirely of facts of structure patent to the eye, could not be distorted by the adherent of this or that "system." Small practical use, however, could be made of this anatomical knowledge, in the absence of correct physiology and microscopical anatomy.

Against the statement that the beginning of the nineteenth century marked the fall of all-embracing systems of medicine it might be argued that homœopathy exists at present, and that other absurdities—"Christian Science," osteopathy, and the like—in turn are born, flourish, and die. The difference, however, is, that before 1800 the leaders in the profession felt it necessary, or at least desirable, and a proof of their leadership, that they should originate a special personal theory of disease and its treatment; and that the rank and file of physicians should profess an almost religious adherence to one of these systems; whereas since, the regular profession, finding still, it is true, sufficient opportunities for differences of opinion, is not divided into several hostile camps with opposite opinions on the essential facts of their art, and have placed the mushroom theories of recent times where they belong—in the region of quackery and pretense for the purpose of money-making.

This release of the professional mind from the necessity of constructing or accepting an imaginary theory of medicine, joined to the discovery of means which rendered it no longer necessary to diagnose illness merely by the appearance of the patient and his statements, was a great incentive to the noting and recording of facts which served as a basis for further advance. The achromatic microscope, anæsthesia, and the cell theory toward the middle of the century, and later, antisepsis, powerfully aided this advance, and with steadily increasing rapidity medicine has become what it is to-day.

The illness and death of Washington, occurring so near the close of the last century, caused by an acute disease demanding energetic and intelligent treatment, as well as the great prominence of the patient, naturally attract attention, as the management of his case affords an example of the most approved treatment of that day. From the popular record of his illness in Irving's "Life" it would appear that he died from laryngeal diphtheria after an illness of about one day, and that the principal treatment was large and repeated blood-letting, and external applications, and that the symptoms steadily increased until death. Dr. Craik, the attending physician, perhaps naturally affected and unnerved by the prominence of his patient, seems to have done little. At his second call (to quote) "he pressed his hand in silence, retired from the bedside, and sat by the fire absorbed in grief." Dr. Dick, the consulting physician, was made of sterner stuff, and although he apparently held his peace for eight years, he then wrote a letter to a medical journal in which he speaks very frankly of the treatment pursued by the attending physician, states that the disease was manifestly hastening to a fatal termination, and that he (Dr. Dick) strenuously recommended tracheotomy. He says further (to quote): "At first I had reason to flatter myself that I had obtained the concurrence of the other physicians, and was about to make preparations to carry the measure into immediate execution, when I was rendered unhappy by discovering that Dr. Brown had availed himself of the few minutes of my absence to operate unfavorably on the mind of Dr. Craik, whose assent I was unable to reclaim, by either argument or entreaty. Both of these gentlemen were advanced in years and had each acquired a considerable share of reputation in his profession; but that increased timidity, which is, perhaps, a common attendant on old age, seemed not only to have extinguished all ardor in pursuit of additional celebrity, but also to have created a determination to hazard no part of that stock which had already been acquired. . . . I know not what might have been the result . . . but I shall never cease to regret that the operation was not performed. In this awful and afflicting state of things the lancet was once more resorted to."

This was published about eight years after Washington's death; but Dr. Dick, in 1800, signs with the other physicians an account of Washington's illness published in the *Medical Repository*, in which no mention is made of tracheotomy. It is somewhat long to quote in full, but quite interesting.

"Sometime on Friday, the night of December 13th, General Washington was attacked with an inflammatory affection of the upper part of the windpipe called in technical language cynanche trachealis. The disease commenced with a violent ague accompanied with some pain in the upper and fore part of the throat, a sense of stricture, a cough, and a difficult, rather than a painful, deglutition. The necessity of blood-letting suggested itself to the General, and he procured a bleeder in the neighborhood, who took from his arm in the night twelve or fourteen ounces of blood. He would not by any means be prevailed upon by the family to send for the attending physician until the following morning, who arrived at Mount Vernon about eleven o'clock on Saturday. Discovering the case to be highly alarming, and foreseeing the fatal tendency of the disease, two consulting physicians were immediately sent for. In the interim were employed two copious bleedings, a blister was applied to the part affected, two moderate doses of calomel were given, and an injection was administered, which operated on the lower intestines, but all without any perceptible advantage, the respiration becoming still more difficult and distressing. Upon the arrival of he first of the consulting physicians it was agreed that, as yet there were no signs of accumulation in the bronchial vessels of the lungs to try the result of another bleeding. When about thirty-two ounces of blood were drawn without the smallest apparent alleviation of the disease, vapours of vinegar and water were frequently inhaled, ten grains of calomel were given, succeeded by repeated doses of emetic tartar, amounting in all to five or six grains with no other

effect than a copious discharge from the bowels. The powers of life were now manifestly yielding to the force of the disorder, respiration grew more and more contracted and imperfect, till half past eleven o'clock on Saturday night when retaining the full possession of his intellect he expired without a struggle.

"Several hours before his decease, after repeated efforts to be understood, he succeeded in expressing a desire that he might be permitted to die without interruption. (Signed) James Craik, *Att. Phys.* Elisha C. Dick, *Cons. Phys.*"

The treatment, therefore, of an old man, sick with a disease very exhausting to vitality, and so severe that the illness lasted but twenty-four hours, consisted in the abstraction of between two and three quarts of blood, the administration of about gr. xx. of calomel and gr. vi. of tartar emetic, an injection, with external applications of a blister—and a pressure of the hand. This treatment administered to a well man in so short a time would go far toward preparing him for his last journey.

The repeated regretful statements of the physicians that they noted no benefit from their treatment, with continual repetition of the unsatisfactory means of cure already employed, and their apparent inability to suggest others, and the last request of General Washington that he might be allowed to "die without interruption" have their pathetic side. Brandy was surely in common use at the time, and no doubt "in the house." Peruvian bark, iron, and digitalis were well-known drugs in the materia medica of 1800, but there is no record of their use. The almshouse patient to-day has more rational treatment than the ex-president of the United States had in 1800.

An examination of the medical periodical of one hundred years ago is of greater assistance in showing what the physician of that time was interested in, than a similar examination of the more formal medical treatise. The latter was more under the influence of the moribund theories of medicine. Absurdities are not lacking, but some such will be found by the investigator of 2000 in the periodicals of to-day.

The *Medical Repository* began publication in New York in 1798, and the first four annual volumes will cover the period of our investigation. The magazine was a quarterly containing about 120 pages. The first number begins with a "Circular Address," the gist of which was that the absurd "systems" of medicine, in which facts were made to fit preconceived theories, had lost their value and authority, and that the time had arrived when "Collections of Histories and Observations" and the accurate record of facts should take their place, and was therefore ripe for the establishment of the magazine.

The articles and communications are many of them quite informal, and the publishers print in the second volume a list of their subscribers as a society might print a list of its members. In this list appear the names of two Hartford physicians, Mason F. Coggswell and Nathaniel Dwight. One of the original editors was Elihu H. Smith, who was the first clerk of the Hartford County Medical Society. His death in 1798, at the age of twenty-seven, of yellow fever, then epidemic in New York, is recorded in the second volume, with a very laudatory sketch of his life. In this it is stated that he had practised in Wethersfield, Conn., where (to quote) "finding little employment in the place for any but his social and moral virtues" he went to New York. While there, in addition to his professional and editorial duties he found time to write an opera in three acts entitled "Edwin and Angelina," a copy of which is among the Brinley books in the Watkinson Library in this city, very beautifully printed, in a style which would do credit to typographical art to-day.

There seemed to be a tendency to the publication of papers describing epidemics in comparatively remote countries such as the West Indies, numerous articles on chemistry, of varying degrees of absurdity, as for example a paper by Dr. Gertamer, who had discovered that phosphorus, sulphur, and arsenic were not simple bodies (which, indeed may be true) but composed of carbone, azote, and hydrogene; a paper "proving" that water could be entirely converted into air by repeated freezing, and another on the noxiousness of rain-water and dew. Another long paper treats of "Observations on the Influence of the Moon on Climate and the Animal Economy"; with a proper method of treating diseases when under the power of that luminary. There are also papers of no medical significance whatever, as one describing a cabinet of coins and medals.

It is interesting to note that at this time smallpox inoculation was quite common in the United States, and in one report of such inoculations a physician was proud of the fact that in only one case had he had as many as thirty pustules. In the New York City Dispensary from January to July of this year forty cases of smallpox were treated, all of which ended in recovery. Through the four volumes examined short items and paragraphs occur from time to time in reference to Jenner's experiments in cowpox inoculation, with a gradual increase of confidence in the efficiency of the "vaccine disease" in preventing smallpox, but the subject does not seem to have been regarded with such lively interest as its nature and importance would deserve, and volcanic eruptions in Guadaloupe and a "theory of hail" take up much more space. In a paper on the subject of vaccination it appears that from 1 in 2,000 to 1 in 6,000 died of the vaccine disease.

In the first volume are some matters of local interest. A report of a meeting of the Connecticut Medical Society records the expulsion of Elisha Perkins for patenting his tractors. An open letter from Dr. Coggswell to Dr. E. H. Smith records the diseases prevalent in Hartford and vicinity during the winter, with an account of the weather which appears to have been as changeable as at present. In this account he implies that Indian summer is due about the middle of January. He notes a freshet covering all the town east of Market Street, but states that, in spite of this, catarrhal and pneumonic complaints have been less frequent than usual.

An abstract of a paper on "Sick-Head-ach" read before the Hartford County Society in September, 1797, by Dr. Nathaniel Dwight is printed. His treatment was "half a pint of hard cyder drank on an empty stomach in the morning." We must conclude that if the "head-ach" sees fit to appear after dinner it must wait till the next day for treatment.

Hospital reports are given in each number. In the list of diseases treated the classification is somewhat vague. In one quarter we note seventeen cases of "sore legs" and two of "disordered spine." This quarter was also somewhat exciting, for two patients were "discharged disorderly" and nine "eloped."

A large proportion of the second volume was taken up with papers and discussions upon yellow fever, as was natural in view of the great epidemic then prevailing throughout the United States.

This paragraph also occurs in the same volume: "It is pleasing to find Philadelphia engaged with so much assiduity in the plan of supplying their city with water. Measures are begun and already in forwardness by which the waters of the Schuylkill, which were found upon experiment to be eminently pure and wholesome, will be conveyed to the town in any desirable quantity." One hundred years later the people of the same Philadelphia are engaged with the same assiduity

in avoiding the water of the Schuylkill, which have ceased to be "eminently pure and wholesome."

In Volume III. is a long review of "A History of Epidemic and Pestilential Diseases" written by Noah Webster and published in Hartford in 1800. The book is an endeavor to prove that epidemics of all kinds are closely connected with, and dependent upon, comets, volcanic eruptions, earthquakes, meteors, extremes of temperature, excessive rain and drought, tempests, high winds, plagues of insects and famine: and that all these outbreaks of nature's forces and the resulting epidemics of disease are due to the electric fluid; that when the atmosphere becomes surcharged with electricity the normal action of the animal economy could not be maintained.

The report of a case of chylous dropsy is attractive. I quote: "The patient, a boy of twelve years, was brought to town and tapped. On withdrawing the stilette you may judge our surprise to find a most pure, white and fragrant chyle, or milk, which continued to flow until we had obtained between seven and eight quarts. It was perfectly sweet and pleasant both to the smell and the taste; and after standing through the night afforded a good cream, though not quite so much as is usually obtained from the same quantity of cow's milk." This novel source of dairy products was not, however, destined to long service, for after a second tapping there was no return of the fluid, and recovery took place. The diagnosis was rupture of some of the chyliferous vessels.

In the fourth volume is printed a paper of especial interest to us, entitled "The Improvements, Progress and State of Medicine in the Eighteenth Century; read on the first day of the nineteenth century before the Medical Society of South Carolina." The author, of course, would make the most of his subject and record as much progress as possible. His list of the discoveries and developments of the hundred years then just past is as follows: improvements in anatomy in the preparation of specimens, new operations in surgery, instruction of the deaf, experiments with poison on living animals, establishment of humane societies, cool regimen in fevers and smallpox, establishment of medical societies, hospitals and infirmaries, improvement and simplification of the materia medica, discoveries in chemistry, triumph of physic over smallpox by inoculation and over scurvy by vegetable diet and oxygen, and the abatement of plague and pestilential fevers. This is the record for one hundred years previous to 1800.

The writer of this paper made no prophecy for the coming century, but if he had, we must believe that the facts would have exceeded his reasonable imagination. Can we safely predict an equal advance in the coming twentieth century? At first thought one might say, Why not? The nineteenth century has made discoveries not only wonderful but previously inconceivable in their nature—why should not the twentieth?

Alfred Russel Wallace says that for a proper estimation of the nineteenth century it should be compared, not with the preceding century, but with all historic time; and, doing this, he finds twenty-five discoveries of the first rank in the nineteenth century and fifteen of equal importance in all preceding time. He enumerates these twenty-five, of which five are medical, as follows: railways, steamships, electric telegraph, telephone, matches, gas illumination, electric lighting, photography, the phonograph, Roentgen rays, spectrum analysis, anæsthetics, antiseptic surgery, theory of the conservation of energy, molecular theory of gases, measurement of the velocity of light, rotation of the earth experimentally shown, the uses of dust, definite proportions in chemistry, the meteoric theory, the glacial epoch, the antiquity of man, organic evolution, the cell theory, and the germ theory of disease. The fifteen discoveries of all previous time, of which only one is medical, are the mariner's compass, the steam engine, the telescope, the barometer and thermometer, printing, arabic numerals, alphabetical writing, modern chemistry, gravitation, Kepler's laws, the differential calculus, the circulation of the blood, the finite velocity of light, and the development of geometry.

This enumeration must influence us toward the opinion, that, since the nineteenth century so overshadows not one but all previous centuries, it is not likely that any succeeding one will equal it. The reasonable prophecy seems then to be that the coming century will witness very great advance growing out of discoveries already made, and less discovery of new principles.

Professor Dolbear, in a Boston address, sums it up as follows: "This century inherited the horse, it bequeaths the bicycle, the locomotive, and the automobile; it inherited the goose-quill, it bequeaths the typewriter; it inherited the scythe, it bequeaths the mowing-machine; it inherited the hand printing-press, it bequeaths the Hoe cylinder; it inherited the painted canvas, it bequeaths the photograph; it inherited the hand loom, it bequeaths the cotton and woolen factory; it inherited gunpowder, it bequeaths nitroglycerin; it inherited the tallow dip, it bequeaths the arc and incandescent light; it inherited the galvanic battery, it bequeaths the dynamo, it inherited the flint-lock, it bequeaths the Maxim gun; it inherited the sailing-ship, it bequeaths the steamship; it inherited the beacon signal fire, it bequeaths the telephone and wireless telegraphy; it inherited ordinary light, and it bequeaths the Roentgen ray."

In the field of medicine the antithesis is equally striking. If we note the contrast between the fanciful and changeable theories of medicine in 1800, and the well-grounded and stable theories of to-day; the practically non-existent physiology of 1800, and physiology to-day; the surgery of 1800, without anæsthesia or antisepsis, and surgery to-day; the therapeutics of 1800, with the domination of the lancet, prostrating emetics and cathartics, and modern treatment; the guesswork diagnosis of 1800, and the scientific investigation of the functions of the body with instruments of precision, and of its organs by many well-adaped means, to-day; the wild theories of etiology prevalent in 1800, with the present steadily lengthening list of the diseases the exciting cause of which is certain—we shall be assured that medicine stands abreast of other arts and sciences in the century's advance.

> "For still the new transcends the old,
> In signs and tokens manifold;
> And step by step since time began
> I see the steady gain of man."

The twentieth century enters the hundred-year race with a good pedigree (by "Science" out of "Nature"), vigorous, well-shod, well-trained, and ambitious; sound in wind and limb; "will *not* stand without hitching;" but the race is "against time," and the odds are that the record will not be beaten.

The Treatment of Puerperal Fever. — Victor Steiner reports three such cases. In one of these Marmorek's serum was used with apparently specific results, in another the serum therapy failed, but recovery followed the employment of the more usual measures, and in the third the temperature came down to normal under ordinary treatment before the serum could be obtained. This does not seem to promise very well for the serum therapy, but in desperate cases the author advises its use.—*Centralblatt für Gynäkologie*, November 3, 1900.

A CASE OF GONORRHŒAL ENDOCARDITIS WITH CONGENITAL MALFORMATION OF MITRAL VALVES.[1]

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THE following case is reported principally because the physical signs of a cardiac lesion were carefully studied during life and compared with the anatomical changes found at the autopsy, although it presents several other points of considerable interest.

Mr. H——, aged thirty-three years, was first seen in consultation with his attending physician, November 21, 1899. His health was always good until January, 1898, when he had a severe attack of typhoid fever with intestinal hemorrhages, which was very protracted, lasting over three months. Recovery was very slow but was apparently complete and he remained in good health until January, 1899, when his attending physician was called to see him on account of a severe chill following self-catheterization on account of a stricture from an old gonorrhœa. Some five or six weeks later (February, 1899) the present illness began with general malaise, afternoon elevation of temperature ranging from 100° to 102°, with morning temperature 99° or less. From this time there was progressive loss of strength with emaciation. One or two slight pulmonary hemorrhages occurred about the time of my study of the case.

For several weeks preceding my first examination he had been suffering from joint pains in the fingers, toes, and knees. There was also some soreness on deep pressure over the right kidney and a tendency to looseness of the bowels which had been present since the attack of typhoid fever, prior to which there was a tendency to constipation. Urination was normal; there was no headache, nausea, or vomiting. Some dyspnœa was experienced on slight exertion. The tongue was red and irritable, and slightly coated. Physical examination showed the liver greatly enlarged but not indurated. The stomach could be distinctly outlined by succussion and the phonendoscope, and was in the umbilical region, but not much enlarged —principally ptosis. In the left second interspace there were both a diastolic and a systolic bruit, and also a distinct visible impulse synchronous with each systole of the heart. There was marked hypertrophy of the left ventricle, the dulness extending beyond the nipple line, and the impulse was also felt far to the left. The physical examination was otherwise negative.

Uranalysis: Total quantity in twenty-four hours, 1,200 c.c.; sp. gr. 1,019; total solids, 53 gm.; urea, 2.4 per cent., total 29 gm. Trace of albumin by Tanret's and Heller's test but not enough to be estimated by centrifuge. No sugar. Acidity, 40°; uric acid, 1.6 gm.; ratio to urea, 1 to 18; total sulphates, 2.3 gm., ratio 1 ½ to 10; indican, .03 per cent. or 360 mgm. Microscopical: granular casts, pus, and a branched organism closely resembling this form of tubercle bacilli. At another time the albumin was two per cent. by centrifuge estimation.

Blood examination: Red cells 40 per cent. of total bulk by centrifuge method, equivalent to about 4,000,000 per c.mm. Hæmoglobin 65 per cent. White cell count 1,300 to c.mm. A fresh slide showed very poor rouleaux formation, with numerous irregular extracellular granular masses—probably the nuclei and other débris of disintegrated leucocytes.

The diagnosis was endocarditis due either to typhoid or gonorrhœal infection, the lesion being limited to the aortic and mitral valves, and subacute nephritis of recent date and toxic origin. It will be noted that the greatest intensity of the aortic murmur was in the left interspace; but the diagnosis of aortic lesion was nevertheless made on account of the hypertrophy of the left ventricle and associated symptoms. This point will be referred to again later. The bruit was distinctly transmitted posteriorly over the third and fourth ribs near the inner margin of the left scapula. One month after my first visit he had a distinct hemiplegic attack the result of a cardiac embolism, the right side being completely paralyzed. The patient gradually lost strength and flesh and finally died January 4, 1900. Shortly before his death purpuric spots appeared over the upper part of the body and there was marked hæmaturia.

The autopsy was made by attending physicians twenty-four hours after death. The liver was enlarged, weighing five and one-half pounds, and on its outer surface was found a number of calcareous deposits. The gall bladder was greatly distended, the stomach was somewhat dilated and prolapsed. The right lung showed slight general adhesion. Nothing else abnormal was noted. Heart left ventricle greatly hypertrophied, right flabby and thin. The valves on the right side of the heart were perfectly normal in appearance and seemingly competent. The aortic valves were thickened, distorted, roughened and covered with vegetations, and obviously incompetent. The mitral valve was also the seat of inflammatory changes and did not completely close the orifice, although its incompetency was partly due to the predominance of dilatation which greatly enlarged the orifice of the auriculo-ventricular septum. There were two perforations in the posterior cusp of the mitral valve which led into two sac-like formations perhaps half a centimetre in diameter, on its auricular aspect. The spleen was about twice its normal size, and just beneath its capsule were also found calcareous concretions similar to those found on the liver. Both kidneys were enlarged, the right presenting a pelvic hemorrhage.

Scrapings from the aortic valve showed micro-organisms morphologically identical with the gonococcus, which proves the endocarditis to be of gonorrhœal origin. The liver, in sections, showed the typical structure of chronic congestion from heart disease.

There are several points of interest in this case. One of especial interest from a diagnostic viewpoint is the left-sided location of the greatest intensity of a basal murmur, proven by autopsy to have been the result of an aortic lesion. The general statement of the authorities with reference to this question ought to be qualified materially, as there are doubtless many cases in which this anomalous location of the greatest intensity of aortic murmur exists; and unless the exceptional cases are kept well in mind may lead to errors in diagnosis.

With reference to the bruits caused by aortic disease Vierordt[1] says that they are heard over the right second intercostal space; H. A. Hare,[2] that they are heard over the aortic cartilage, Whittaker,[3] that they are heard over the aortic valve or second right interspace; Osler[4] says that the murmur of incompetency is heard over the second right interspace and the stenotic murmur over the aortic cartilage. In his article in Pepper's "System of Medicine," however, vol. iii., p. 663, he says that the systolic murmur may be heard at any point over the base of the heart and usually has its maximum intensity at the sternal end of the right second cartilage or at the sternal junction of the

[1] Read before the Northern Tri-State Medical Association at Montpelier, Ohio, July, 1900.

[1] "Medical Diagnosis," p. 192

[2] "Medical Diagnosis," p. 324

[3] "Twentieth Century Practice," vol. iv., p. 251.

[4] "Practice of Medicine," p. 640

third rib on the left side; Gibson says[1] that "it may be laid down as a general principle that the maximum intensity of the aortic regurgitant murmur is rarely found in the conventional aortic area." Gibson cites a case with autopsy in which the aortic murmur had the same location as in the case which I have here recorded.

It will thus be seen that it is necessary to take into account all other physical conditions, as well as the location and transmission of bruits, in reaching a conclusion in regard to the precise seat of a cardiac lesion. Another point of interest in connection with the heart is the very marked visible impulse seen in the second left interspace near the sternum. This pulsation is generally regarded as due to a morbid expansion of the conus arteriosus and is therefore present in disease of the right side of the heart. It was a perplexing phenomenon in this case, especially when taken in conjunction with the anomalous location of the greatest intensity of the aortic bruit. I did not have an opportunity of examining the entire heart, but it is positively stated by the physician in the case, who is an intelligent and capable man, that both the right auricle and ventricle were practically normal. The pulsation was probably caused in the manner just indicated; only the over-distention was due to disease, not on the right but upon the left side of the heart, the chain of causes acting through the pulmonary circulation, the evidence of which was furnished by one or two slight hemorrhages, or there may have been a right-sided incompetency due to dilatation, without valvular disease.

Reviewing the case in a general way we find in the first place the evidence of a general infection or autointoxication, for the explanation of which we naturally turn to the typhoid or gonorrhœal disease. The germs of both these diseases may remain in the organism in a latent form for a considerable length of time. The germs of typhoid fever, for instance, have been demonstrated in disease processes within the organism many years after the existence of the acute disease. The protective forces of the organism may be just sufficient to prevent the increase of an organism to a degree of virulence, but not strong enough to bring about its destruction, thus constituting the conditions recently described by Adami under the title of latent infection and subinfection. Such conditions may exist for a long time without manifest symptoms and may finally gain the mastery of the organism, the occurrence of which is heralded by general malaise and joint pains, as in this case, or by various functional and nutritional disturbances. The cause of fever must be sought in the reaction of the organism to the conditions just described, while the nephritis shown by the existence of albumin and casts in the urine may be regarded as the result of the irritant action of the toxins upon these organs in the performance of the function of their elimination. The further disturbances of the chemical processes of the body, which go to make up what is known as nutrition, are further evidenced by the deposition through the blood serum of lime salts beneath the capsules of the liver and spleen.

[1] "Diseases of the Heart and Aorta," 1898, p. 496.

Temperature as a Sign of Unsuccessful Nursing in the Infant.—During the first four or five days the most important sign of insufficient food is a rise of temperature, "inanition fever," so-called. The range may be from 101° to 102° F., or in extreme cases from 104 to 106° F. If no obvious symptoms of illness are present, such a temperature before the fifth day may be regarded as due to inadequate nursing.—Sajous' "Annual and Analytical Cyclopædia of Practical Medicine," vol. v., p. 219.

THE OPERATIVE TREATMENT OF VARICOSE VEINS OF THE LOWER EXTREMITIES.[1]

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In order to discuss intelligently the surgical treatment of varicose veins of the lower extremities, certain anatomical peculiarities of the vessels involved and the etiology and pathology of varix have to be considered, as they have a direct bearing upon the treatment of this disease.

Anatomy and Histology of the Saphenous Veins.—In considering the gross and microscopical anatomy of the saphenous veins, it will be necessary to consider only such details as relate particularly to the cause and treatment of the disease under discussion.

The internal saphenous vein in its course upward in the thigh is subcutaneous from its commencement to the saphenous opening, and is supported by the superficial fascia only. The external saphenous is supported by a fold of aponeurosis in the upper part of its course, while the deep veins are surrounded by compressing muscles. This accounts in part for the great susceptibility of the internal saphenous and its branches, and of the distal portion and branches of the external saphenous, to abnormal dilatation; for, the superficial fascia being extremely yielding, and the veins being covered only by it and the elastic skin and subcutaneous tissues, but little support is afforded the blood-vessels. Under the influence of gravitation and blood pressure, the veins contained within the superficial fascia dilate more readily, and can less readily overcome the blood pressure than those veins which run in deep aponeurotic structures and between muscles.

The valves of the veins play an important part in the etiology of varix; and, in this relation, their great variability in number, position, and development is to be noted. In the external saphenous vein, the valves vary in number from seven to twenty. One of these valves is generally situated just at the termination of the vein, and another just at the outer side of the cribriform fascia, but both of these valves are sometimes imperfect or absent. The valves of the external saphenous vary in number from nine to thirteen. In relation to the back blood pressure in the saphenous veins, it is to be noted that the femoral vein above the entrance of the saphenous and the external iliac vein are frequently, and the superior vena cava is constantly, devoid of valves.

Relative to operative procedures, it is important to remember that the saphenous veins are sometimes double and that the double veins are united by anastomotic branches.

It is also important to remember that an anterior branch which ascends the thigh over the position of the femoral artery, and a posterior branch, in the upper and back part of the thigh, which opens in the saphenous a little below the saphenous opening, are liable to enlargement, and that they give off frequent anastomotic branches to the main vein, through which communication may be established with the lower veins of the limb when the main trunk has been ligated. Another very important branch of the saphenous is the nearly constant, communicating vein which extends from the external saphenous near its termination, upward to the internal saphenous. In some cases the external saphenous itself takes the course of this branch and enters into the internal saphenous instead of the popliteal vein; while in other cases it sometimes ascends the back of the thigh to empty into the sciatic vein.

[1] Read before the Medical Society of the District of Columbia, Washington, D. C., October 3, 1900.

These anatomical variations are important to bear in mind when operating; for, if these blood channels exist, it is necessary to ligate or obliterate them, or the collateral circulation set up through them will lead to a recurrence of the disease.

The most important histological peculiarities of the saphenous veins are that the intima is well developed and the media is particularly thick and strong. The media is more developed in the veins of the lower extremities than in any other veins of the body; thus approximating their structure closely to that of the arteries—a structural condition due, probably, to the necessity for overcoming the force of gravity in the blood current in these dependent parts. The media in these veins consists of bundles of muscle cells concentrically arranged and associated with lamellæ of fibro-elastic connective tissue. The muscle cells are quite well developed and, in consequence, these veins have considerable contractile power. This development of the media enables these veins to empty themselves, as they frequently must, working against the force of gravity and without that support and intermittent pressure from surrounding muscles which is given to the deeper veins.

Longitudinal section of a vein shows that the wall of a vein on the cardiac side of the valves is dilated into a pouch or sinus, while on the distal side of the valve the wall is thinner than elsewhere. Under normal conditions the blood pressure and strain are less upon this weaker part of the vein wall, but in abnormal conditions the strain may be so great throughout the entire vein as to bring undue pressure upon the weak wall below the valve—a point of importance in the development of varix.

Etiology of Varix.—The causes of varix may be divided into predisposing and exciting. Of the predisposing causes, weakness of the vein, either congenital or acquired, and the existence of a small number of valves within it, are of major importance.

Soboroff has demonstrated that the veins vary in thickness and strength in different individuals from birth. Under normal conditions of the circulatory system, a perfect balance is maintained between the blood pressure and resistance to pressure by the walls of the blood-vessels. As a result of imperfect development of the vessels, either from hereditary influences (and there is evidence to show that a tendency to weakness of the veins may be transmitted) or their malnutrition, or other factors deleterious to normal tissue development, the vein walls may be weakened, the normal balance between the contained blood and the resisting walls may be disturbed, and, as a result, the veins may yield to the strain from the blood pressure.

When a vein with weak walls has few valves, the tendency to varix is increased; and even when the vein wall is of average strength, if the valves in the vein are few in number, this latter condition alone may act as a predisposing cause. For, with few valves, each segment of the vein between the valves will have to support a longer column of blood than would be the case if the valves were more numerous and nearer together. In consequence, the strain will be greater upon both the valves and the vein wall, and should an exciting cause occur, the vein or valve will be apt to yield to the increased blood pressure. These factors of inequality in vein strength and inequality in number of valves undoubtedly account in part for the asymmetry of varix. Varices, when they occur in both limbs, are rarely symmetrical; and cases are frequently seen in which they exist in one limb only. As statistics show that varix has no predilection for either the right or left lower extremity, the difference in vein strength or in the number of valves must account for the asymmetry of varix, except in those cases in which there is some local exciting cause which is present in one limb only.

Thinness of the vein wall just distal to the valves is, probably, also an important predisposing cause. Under ordinary conditions the strain upon the vein from the internal blood pressure is least just below the valves; but, when the venous flow is obstructed and the vein becomes fully distended with blood, abnormal pressure will be brought to bear upon the vein in this weak place. If such pressure is long continued or frequently repeated, the vein will dilate at this point, and in doing so will pull upon the valves and flatten them out, or separate them. As a result, the valves will become incompetent and the blood column will be extended to the next proximally situated valve, so increasing the height of the blood column, the internal pressure in the vein, and the likelihood to further extension. In this way the entire length of a vein may become varicose, unless the process is stopped by sufficient strength of the vein wall, or removal of the internal pressure by passage of the blood through anastomosing channels. Or, the process may occur in different parts of the same vein or in different veins, thus producing localized varices.

When the process continues until the whole length of a vein is involved, the most pronounced type of varix is produced. It is this process of vein dilatation and valve separation that explains why most varices proceed in a centripetal direction.

Verneuil first described the existence of varices of the deep veins of the lower extremities, and their existence has been noted by other observers, notably by Schwartz and Agnew. Verneuil was so impressed by the occurrence of these deep varices that he formulated: "that far from being rare, deep varices are more common than subcutaneous varices," and "the primitive state of phlebismus is in the deep veins."

While the testimony of numerous observers puts the occasional existence of varices of the deep veins beyond doubt, there is evidence that they do not exist in all cases, and, when they do occur, that they are most commonly associated with the most pronounced types of superficial varix. When the factors causative of varix are excessive, it is reasonable to suppose that varix will be produced in both the superficial and the deep veins. The deep veins, being supported by the deep fascia and subject to intermittent compression by the surrounding muscles, are in a much more favorable position to withstand the effects of the exciting causes of varix than are the superficial veins which have the support of the skin and superficial fascia only. Also, it is known clinically that superficial varices occur with no evidence of implication of the deep veins; and surgical interference often gives complete cure in these cases, which would not be the case if the deep veins were also involved. For these reasons Verneuil's conclusion that superficial varices are always accompanied by deep ones, and that superficial varices always originate in the deep veins, cannot be considered correct for the large majority of cases.

The remaining predisposing causes of varix are sex and age. The factor of age is closely connected with those changes in the walls of the blood-vessels which tend toward increased weakness as age advances. The factor of sex enters in that women are more liable to varix through pressure of the gravid uterus upon the iliac veins.

The exciting causes of varix are physiological or pathological conditions which produce back pressure in the veins by obstructing the venous flow.

Organic diseases of the heart, by causing back pressure in the vena cava and its branches, may be excitive; or back pressure may be produced by pressure upon the great veins in the body by the pregnant uterus; by ovarian or other tumors; by aneurisms of

the aorta; by fecal accumulations in the colon, and so forth; or back pressure may be due to pressure from a tumor in the groin or other part of the limb; or constrictions by artificial appliances. An excellent example of this latter cause is sometimes seen in women who have worn tight garters. In these cases varicosities are frequently very pronounced below the line of constriction by the garter, while above it the veins may be perfectly normal. These cases conclusively prove that varix may be produced by back pressure in the external veins, even when there is no predisposing cause; so disproving the conclusions of Van Lesser, who attempted to produce varicosities in animals by increasing the blood pressure and, failing to do so, assumed that increased blood pressure alone would not cause varix; and, in consequence, concluded that the formation of varix was analogous to the growth of tumors.

Trades and occupations act as exciting causes in persons predisposed to the diseases, particularly those occupations which necessitate the workers remaining long in the erect position, especially in overheated rooms, where tissue relaxation is favored.

Pathological Anatomy. — The first pathological condition in varix is a localized dilatation of the vein. This dilatation may be symmetrical or may be confined to one side of the vein only. Weakness of the vein is generally at first most pronounced in the tunica media, the muscular fibres of which lose their normal tone and contractile power. At the same time, from the continued distention of the vein, the elastic fibres of the connective tissues become stretched, and all three of the coats of the vein lose their contractility. In consequence, the vein remains permanently dilated, and blood stasis occurs. As a result of the blood stasis and the increased blood pressure, leucocytes pass out into the surrounding tissue in abnormal numbers, and transudation of blood serum into the surrounding tissues is increased. Through these pathological processes, the nutrition of the vein is progressively interfered with as these factors become more pronounced.

The passive congestion and the tissue malnutrition produce a condition of chronic inflammation with its accompanying connective-tissue formation. This chronic inflammatory condition affects the intima particularly, so that it frequently becomes greatly thickened, while the media, from destruction of the muscle cells, may become much thinner than normal. The adventitia may be affected in a similar way, and the process may continue so far that the intima may even bulge through the two outer coats, forming purse-like projections on the side of the vein. Even when these changes do not progress so far as this, the conditions of increased blood pressure, destruction of muscle cells in the media, and stretching of all the coats of the vein lead to local dilatations of the vessel wall. From the resulting inequalities of strength, lateral deviations in the course of the vessel are produced, which, with continuation of the trouble, may lead to marked convolutions in the course of the vein. With the dilatation of a vein the valves become incompetent, fall against the walls of the vessels, undergo atrophy, and may even become wholly obliterated.

As a result of the increased exudation of serum in the perivascular connective tissue and lymph spaces, the lymph channels are unable to carry away the excessive exudate and œdema occurs in the neighborhood of the varix. This œdematous condition, by pressure upon the arterial capillaries and venules, may produce such disturbance of nutrition in the surrounding tissues as to cause eczema, ulceration, pseudo-elephantiasis, pigmentation, etc.

From these observations it will be seen that varix may arise either from local insufficiency of a vein, or from excessive blood pressure within a vein, or from a combination of these factors. It will also be seen that varix is at the beginning generally localized and confined to one or several parts of a vein, that it is usually a progressive disease, and that the diseased condition is apt to continue and extend until the whole vein and its branches may be involved. These facts are of importance from a standpoint of treatment, in that, considering the tendency of varix to increase, the necessity for interference in early stages of the trouble becomes evident.

Operative Treatment.—In considering the operative treatment of varix, it is presupposed that it will be attempted only in those cases in which the diseased condition is primarily in the vein and is not due to central causes, such as heart disease, pressure by tumors, or like etiological factors.

Surgical interference in varix was so disastrous in pre-antiseptic days that traditionary timidity still obtains to a large extent, and has been a potent factor in preventing the more general use of radical methods. With the safeguards of modern aseptic methods, this attitude should no longer be maintained. In fact, the milder forms of the disease, in which palliative treatment is ordinarily the only measure thought of, are frequently the very ones in which operative treatment should be adopted. The course of the disease is so generally progressive that this characteristic of the trouble is one of the greatest reasons for early surgical interference. By doing away with the trouble before it has become excessive, extension of the disease may be prevented, as well as the necessity for large operations in the future.

Considering the pathological condition of a varicose vein and the malnutrition of the tissues surrounding it, the conclusion is reached that such a vein is not only physiologically useless but has a continued and increasing ill-effect upon the parts with which it is in relation. Retention of such a blood-vessel under the supposition that it is still functionally useful is an error productive of continued and probably increased trouble to the patient. Experience has demonstrated that the obliteration of one or both of the saphenous veins does not interfere with proper nutrition of the lower limbs—the other superficial and deep veins of the part being sufficient to carry on the circulation. When, therefore, a vessel becomes the seat of varix, that vessel should be removed or obliterated as a blood channel. When this is done, collateral circulation is established by means of the adjoining veins; and, by ridding the part of the diseased blood channel with its greatly increased blood pressure, blood stasis, with its resulting œdema, is done away with. With removal of the œdema, and consequent pressure upon the capillaries, the metabolic cell functions of the part may be normally resumed.

Relative to the surgical means employed to accomplish these results, all modern, approved methods of surgical intervention resolve themselves into two main classes: (*a*) Those procedures which aim to prevent further dilatation, and produce contraction of the vein by occluding it proximally, as in the operation of Remi or Schede; (*b*) those which aim to obliterate the vein by multiple ligation or total removal.

Method by proximal occlusion (single ligation). The first recorded operations by this method were those of Evard Holm, who, in 1799, reported the ligation of the saphenous just below the knee joint in twelve cases. This method was afterward occasionally practised; but, like other operative procedures previous to the discovery of aseptic methods, proved so disastrous from resulting phlebitis and pyæmia that it was seldom done.

After the discovery of aseptic methods, single ligation of the saphenous veins was first brought into

prominence by Trendelenburg, who, in 1890–91, advocated high ligation of the internal saphenous for advanced varix of that vein and its branches. It is interesting to note that a similar operation was advocated by Remi, of Venice, in 1825, and that he, in 1848, published a report of thirty-seven cases treated by high ligation of the internal saphenous with fourteen cures, thirteen cases improved, and but two deaths —a most excellent showing for those days of septic infection.

Remi, in advocating this operation, brought forward the theory that varix of the lower extremity is due to incompetence of the valves of the main saphenous vein; that, in consequence, the vein becomes filled with blood from above downward, distending it and producing the pathological changes and appearances present in this disease. In support of this theory, he showed that elevation of the limb caused the enlarged vein to empty itself, and that with the limb elevated, if the vein was compressed and the limb lowered, the vein would fill from above downward. He also showed that, if the vein was wounded in advanced cases of this touble, the blood flowed in larger quantity from the proximal than from the distal cut end, and adduced this as further evidence of the fact that the vein is filled with blood from above downward. He stated: "We considered ourselves even then (1825) in a condition to prove both by reasoning and facts that the cause of varix in the lower extremity consists in an inverse movement of the blood in the great saphena which gravitates in a column from above to below, from centre to extremity, that hence the valves are powerless and the venous tunicæ are in various ways obliterated." With this theory as a guide, Remi ligated the internal saphenous in the middle of the thigh in order to obliterate the vein at that point and so relieve the distal part of the vein from the pressure of the blood column; holding that, with the removal of this pressure, the dilated vein below the ligature would regain its normal volume and elasticity.

Trendelenburg, in advocating the same operation forty-two years later, brought forward arguments identical with those of Remi without mentioning the publication or work of the latter, apparently not having seen the earlier work of the Venetian surgeon. Trendelenburg's paper is so like Remi's as to appear almost like an amplified translation. There is some slight difference, though both writers are alike in statement of clinical facts and argue alike as to the indications for the operation which they advocate. The difference in the two papers is, that while Remi makes no mention of minor varicosities, referring only to the pronounced variety in which the main trunk of the saphenous is involved, Trendelenburg recognizes but does not discuss the treatment of the smaller varices.

Trendelenburg opens his paper by stating that varicose veins of the leg may be divided into two groups, and says: "There are cases in which the varicose degeneration is restricted to the branches of the vena saphena magna, while the trunk does not show any perceptible change, and again others in which the trunk of the saphena is likewise strongly dilated and varicosely degenerated. Only the last-mentioned group, the cases of simultaneous varicose dilation of the branches and trunk of the saphena, will receive attention." Following this, Trendelenburg confines himself to the cases in which the main saphenous trunk is involved, and advocates high ligation of that vessel for the same reasons that were brought forward by Remi.

With the cardinal indication for high ligation in mind, namely, complete involvement of the main trunk of the saphenous, the operation of high ligation may be resorted to in certain selected cases.

When a varix has extended so far as to involve the entire trunk of the saphenous, the dilatation of the vein and the absence or incompetency of the valves cause the vessel to support a column of blood extending from the lowest dilatation to the heart. In such cases high ligation, by removing the back pressure will in some instances do good, and numerous cures, both of the varix and accompanying ulcers, have been reported as a result of this procedure. In doing this operation, a short length of the vein should be excised between two ligatures; as simple ligation may be eventually followed by re-establishment of the patency of the vessel, while Minkewitsch has shown that no restoration of a vessel can occur after excision of a portion of it.

Unfortunately, relapse occurs in some cases from the free collateral circulation, and, to obviate this, Schede devised a more radical operation, the object of which was to occlude all the subcutaneous veins at the same level. His operation consists in making a circular incision about the leg just below the knee down to the fascia covering the muscles, and ligating the cut ends of all vessels above and below. The superficial nerves are severed, but the internal saphenous nerve may be saved by careful dissection. Cures have been reported, followed, however, in many cases by later breaking down of healed ulcers and persistent local anæsthesia from the severed nerves. In view of the etiology and pathology of varix, it does not seem to the writer that Schede's operation can be considered a proper procedure in any case, as the damage it does to the nerves, and the uncertainty of cure, makes it of doubtful propriety.

The operation of high ligation of the saphenous can well be employed in a certain number of cases, namely, those in which the trunk of the saphenous is dilated throughout, or in those in which the varix is too extensive to remove entire, or in which the condition of the patient is such as to contraindicate an extensive operation. The operation is a simple one, and does not prevent recourse to more extensive operations should they become necessary.

Methods by obliteration of the vein (multiple ligation and excision). Excision. Bearing in mind the fact that a varicose vein is in a pathological condition which makes it a source of continued trouble, it is the opinion of the writer that its entire obliteration or removal is indicated in preference to all other surgical procedures. Fortunately, the great majority of cases are suitable for this treatment. This is particularly the case in those instances in which the varices are localized; namely, in which only a portion of a vein is involved, or in which a vein or its branches are involved, in different parts, the intervening portions being normal.

A small varix will frequently produce great discomfort and almost incapacitate for manual labor through swelling of the limb, pain, soreness, and a feeling of intense fatigue in the part affected. When such cases are treated by excision of the diseased vein, the cure is often complete, particularly if the case is operated upon early—the completeness of the cure conclusively negativing the assertion that superficial varix is always preceded or accompanied by varix of the deep veins. The writer has had a number of such cases, and from them is fully satisfied that removal of the vein should be practised rather than palliative treatment in all localized varices in which the consent of the patient can be secured.

The removal of the more extensive varices by excision is to be recommended in all cases in which the condition of the patient will warrant it. The entire internal saphenous has been repeatedly removed with brilliant result. The writer, in the case of a soldier who was totally incapacitated from military duty on account of a varix involving the entire internal sa-

phenous and several of its branches, excised the vessel from the saphenous opening to a point midway of the leg, and either removed the varicose branches or placed multiple ligations upon them. Recovery was complete, and eight months later the soldier reported that he was doing full duty with no inconvenience.

In this, as in all operations on the veins, measures of strictest asepsis should be employed, and ulcers, if present, be thoroughly cauterized with the Paquelin cautery. Exposure of the vein is facilitated if the limb is depressed and constricted by an elastic bandage placed proximally to the enlarged vein. By beginning at the proximal end of the varicose portion and dissection toward the distal part, ligating the branches as they are reached, the vein is kept distended with blood, and its course and condition can be easily determined. If emptied, it contracts, and it then becomes difficult to determine where the varicose part of the vein ends and the normal begins.

Multiple ligation. Multiple ligation is to be resorted to in those cases in which the varix is so extensive as to render excision of the entire varix impossible, or in which the condition of the patient is such as not to allow the more extensive incision required for excision. In such cases multiple ligation, or multiple ligation combined with excision, is to be advocated.

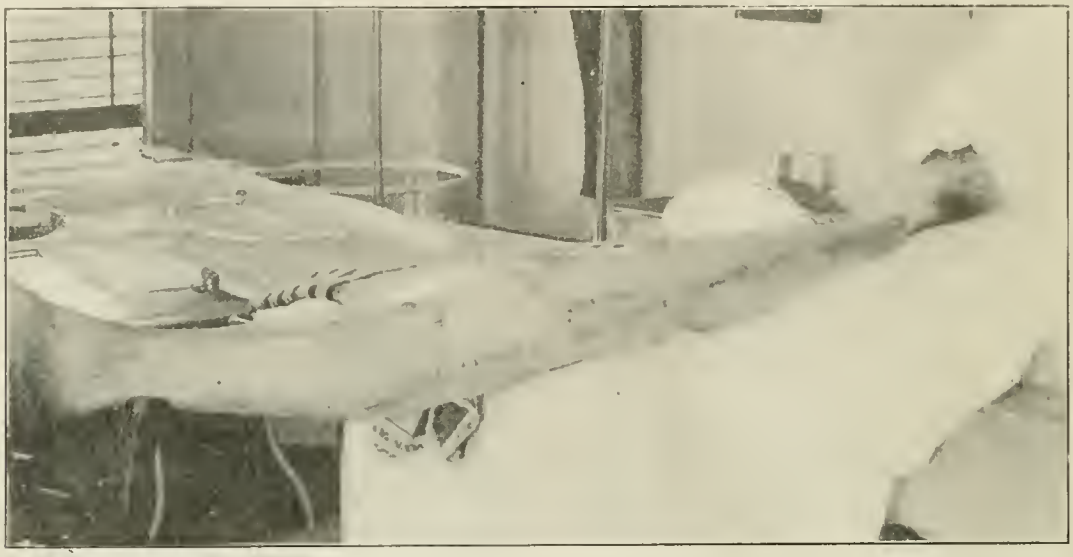
In the operation of multiple ligation it is of cardinal importance to apply the ligatures near together, at most not more than two inches apart. As early as 1772 Hewson demonstrated that blood does not coagulate in a normal blood-vessel, and Brücke and others have shown that the blood will remain fluid in a blood-vessel so long as the intima is not injured by mechanical or pathological processes. When, therefore, a vein is ligated antiseptically, the clot produced by mechanical injury to the intima in no case extends beyond the first anastomotic branch. In consequence, if ligatures are not placed so closely together as to occlude every anastomotic branch, the vein will remain filled with blood and the varix will not be cured.

In pre-antiseptic days the surgeon in operating upon varix was aided by septic infection, for the resulting endophlebitis extended along the vein and caused inflammatory changes in the intima which led to thrombosis and obliterative phlebitis. In aseptic ligation these changes do not occur, and obliteration of the vein can be accomplished only by placing the ligatures so close together as entirely to obliterate the vein as a blood channel.

The operation of multiple ligation is a simple one, only requiring care as to asepsis and in so placing the ligatures as not to include the nerve which accompanies the vessel. The operation is not so grave as complete excision, and is, therefore, indicated in weak individuals; but, if properly done, it is more tedious than excision.

Conclusions.—From the foregoing it will be seen that the writer, arguing from the pathological condition of a varicose vein, favors complete excision in all cases in which no contraindications are present; that, following this, multiple ligation, or excision combined with multiple ligation, is advocated; and, in cases in which these measures are contraindicated and the entire saphenous is dilated, trial of the high ligation of Remi and Trendelenburg.

Also, arguing from the etiology, pathology, and proneness of varix to extend, the writer advocates early operation. The tendency is too much toward palliative treatment in this disease, especially in its early stages. Under palliative treatment, the disease too often extends until serious complications occur, or operations of magnitude are demanded. By removing the diseased vein when the diseased area is small and localized, the varix may be permanently cured. If more early operations were done we would see fewer extreme cases in which the whole or a large part of the saphenous and its branches are involved.



Combined excision and multiple ligation. The photograph shows the condition of the part on the ninth day when the first dressing was removed. The skin was united with interrupted sutures of horsehair. Cure was complete and permanent.

The Curability of Inebriety by Medical Treatment.—T. D. Crothers believes that when inebrity shall be more generally studied and treated as a disease by the profession, a degree of curability will be obtained far beyond any present expectation. The continued or occasional excessive use of spirits to intoxication is not the disease, but is a symptom of some central irritation and exhaustion; also of poisoning and starvation. Many of these cases are self-limited, and follow a certain course, dying away after a time. The subsidence of the drink symptom by the removal of the exciting causes and building up the system to greater vigor and health is the only rational treatment. The highest medical judgment will be needed to determine the exact condition in each case, and the possible range of remedies required—not any one drug or combination of drugs, not so-called moral remedies, not appeals to the will power, but a clear, broad, scientific application of every rational means and measure demanded.—*St. Louis Medical Review*, October 13, 1900.

TWO UNUSUAL CASES OF APHASIA, WITH SPECIAL REFERENCE TO THE SO-CALLED NAMING CENTRE.[1]

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At the meeting of the American Neurological Association in 1899 I reported a case of aphasia which seemed to me, at that time, to be a most valuable contribution to the subject of cerebral localization. It was one in which a small circumscribed lesion in the posterior part of the superior temporal convolution was accompanied by an absolute inability for naming persons and things. In other words, it seemed to indicate the topographical position of the "naming centre."

A naming centre existed only as a proposition advanced by Broadbent[2] until Mills[3] reported a case which seemed to remove the naming centre from its theoretical position to one established upon a firm foundation of fact. In Mills' case, in which absolute anomia was the most prominent feature, a tumor was discovered post mortem in the inferior temporal convolution. Mills therefore concluded, and his conclusion seemed inevitable, that there is a distinct naming centre, and that it is situated in the inferior temporal convolution.

In my case the anomia was as prominent a symptom as in Mills' case, but the lesion, plainly brought to view by a surgical operation, was found to be in the posterior third of the superior temporal convolution, in no wise corresponding topographically to the lesion observed by Mills.

I attempted to harmonize these two cases, which seemed so hopelessly antagonistic from a localization point of view, by the following theory:[4] "The first cells in the higher auditory centre which begin to register the memory of words heard, register the memory of names. The first words the infant learns are names such as 'papa,' 'mamma,' 'bow-wow,' etc. These, with other simple names, for a considerable period of time constitute the child's entire vocabulary.

"Can it be claimed that all of the cells in the higher auditory centre in all infants develop simultaneously and with the same degree of perfection, and that therefore the cells in a particular and preordained part of the auditory word centre are ready and prepared for the reception of name sounds and the memorizing of those words? Is it not more probable, yes even certain, that some cells are in a higher state of development than others, and that the cells which are most highly organized are the ones which will naturally register and retain the memories of names? These cells of superior development may be situated in any part of the higher auditory centre. If this is the case the location of the group of cells in which name memories are stored, while being an integral part of the higher auditory centre, might differ widely in location in different individuals." But in the light of the subsequent study of both Mills' case and my own, and of another one of my own which I will present to you in a moment, it would seem that this theory, while possibly true in the main, is not necessary to explain the condition of anomia in limited lesions of the speech area. In order to make my remarks more comprehensive it will be necessary briefly to refer to the report of this case already published, otherwise the subsequent developments observed would lose their relevancy.

The patient, who is now brought before you for your inspection, is twenty-five years old, of fair education, and a clerk by occupation. He denies syphilis, and there is no evidence of his having had that disease. He admits that he drinks alcoholic liquors, but says he seldom does so to excess. His physician said he had observed albumin and granular casts in the urine for several months previous to his injury. He was apparently in good health at the time he was hurt. During a fight he was knocked down by being struck over the left temporal bone with a loaded whip-handle. He was not rendered unconscious. He did not have any difficulty in conversing for several hours afterward. At the end of that period he was suddenly seized with a general convulsion, which was severe and prolonged. When he regained consciousness it was observed he had completely lost the ability to name objects and persons.

He was brought to the Post-Graduate Hospital a few days later, when I first saw him. I had him under observation for several days, during which time his symptoms were carefully observed both by myself and by my colleague, Dr. Joseph Collins, who rendered me valuable assistance.

There were no disorders of taste, smell, vision, or hearing. There were no motor paralyses, and no disturbance of sensibility. There was no motor aphasia. All the words he could say were pronounced distinctly and fluently. There was no word blindness. All simple directions and orders written out for him were promptly understood and executed. He could talk and voluntarily say almost all words except the names of objects and persons. He readily recognized all objects he saw, and indicated by appropriate gestures that he understood what they were, and what they were used for, but he could not say the name of a single one, even when he was told what the name was. When shown a cup and asked if he knew what it was, he said: "Yes, sir; yes, sir," and raised it to his lips. When told to describe how he was hurt he said: "Yes, sir: I was struck on the—yes, sir; here, sir (pointing to his head), by (after an attempt to remember the person's name) an acquaintance. He hit me with a" (here a pantomime illustrating the size and shape of the implement he was struck with).

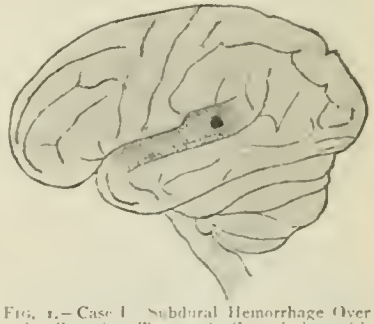

FIG. 1.—Case I. Subdural Hemorrhage Over the Superior Temporal Convolution with Laceration of the Cortex. Deep shading indicates the extent of the hemorrhage; the black spot, the location of the laceration.

He could copy both writing and printing. In voluntary writing and in writing from dictation he made frequent errors. When told to write the alphabet he made many mistakes, and when directed to write "cat" and "horse" he wrote "ceat" and "heort." He recognized that what he had written was wrong, but could not correct it.

He was slightly word deaf. Generally he comprehended all that was said, and almost always recognized enough words in every sentence to enable him to grasp the meaning. But occasionally a sentence had to be repeated, or some of the words changed before he could understand. There was slight choked disc in the right eye. The diagnosis was made of subdural hemorrhage over the posterior portion of the superior temporal gyrus. An operation was performed by Dr. Seneca Powell two weeks after the injury. A linear fracture was found in the left temporal bone, and there was a subdural clot which covered the entire superior temporal gyrus, but did not extend in any direction beyond that convolution. At a point at

[1] Read before the New York Neurological Society, February, 1900.

[2] Med.-Chir. Trans., 1872, vol. lv., and 1877–8.

[3] Journal Nerv. and Mental Dis., vol. xx., 1895.

[4] Hammond: "A Case of Subdural Hemorrhage, etc." Trans. Amer. Neurol. Assn., 1899.

about the junction of the posterior and middle thirds of this gyrus, there was a rupture of the cortex. This was about a quarter of an inch in diameter, and extended straight into the cerebrum to a depth of about an inch. The lesion was evidently caused by the pressure of blood, as it was certainly two and a half inches posterior to the fracture, and could hardly have been caused by the direct violence of the blow.

His present condition, now nearly a year after his injury, is as follows: In reading aloud he reads simple words and understands them. He says he reads the papers, but often comes across words he cannot comprehend. Such words as "originally," "incompetence," and "desirability," and, in general, words of more than three syllables he can understand neither when he hears them nor when he reads them. But he understands so many words that he is able to carry on a conversation so well that his friends think he has entirely recovered.

The tests for the various forms of aphasia were very thorough, but are too voluminous for production here in detail. It will suffice, I think, to present a single specimen of each, taken at random from a great many.

When given letters and told to arrange them so as to spell words, he does so correctly when he is not word deaf for the word given.

Writing spontaneously. When told to write the alphabet he wrote it correctly, except the letters v and x, which he printed. In writing the alphabet he often had to stop and think, saying the letters over from the beginning, until he could get the one he wished to write, and then he was able to write it. He printed x and v because he had forgotten how to write them. When directed to write me a note about his health he wrote. "I am much better. I think I will soon be well."

Writing from dictation. When told to write, "This is the 21st of January," he wrote "This is the 21st of Janure," and said he couldn't think of the letters, though he knew it was incorrect. In writing other sentences he made similar errors in spelling. When told to write "When in the course of human events," he was word-deaf for "in," "human," and "events." He wrote "when" readily, and although I repeated "in" for him four or five times, he could not understand it, but asked if I said "a," "and," and "on," and then was obliged to give it up.

Repeating words from dictation. He can readily repeat words of one or two syllables. He cannot say "arithmetic." He can say each syllable after me, but cannot say them all together. It is impossible for him to pronounce other words of three or four syllables.

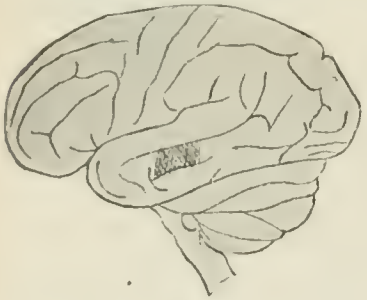

Fig. 2.—Case II. Thrombotic Softening of the Middle Third of the Second Temporal Gyrus. Deep shading indicates the position of the lesion.

Test for word blindness. He readily recognized all simple words when he saw them written or printed. Words of three syllables or more he could read but could not understand after he had read them, even when he read them aloud. This is, however, a condition depending upon a lesion of the higher auditory centre rather than of the higher visual centre.

The ability to name objects. He named all objects readily. The former difficulty which was so apparent when he first came under observation had entirely disappeared. Such articles as the telephone, the mirror, and various objects of furniture around the room, and the articles on my table and in my pockets he could name without hesitation.

This patient at first suffered from complete anomia, and was, and is, word deaf to a slight degree. His inability to comprehend some written and printed words and to write certain words from dictation is, of course, due to word deafness and not to word blindness. After a period of nearly a year from the date of his injury the anomia has almost, if not entirely, disappeared, while the word deafness, apparent at the very beginning, has not changed at all. The degree of word deafness from which he suffers is quite commensurate with the extent of cortical destruction in the higher word-hearing centre.

The second case is, as you will observe from your inspection of the brain which I now present for your observation, a case of softening of the middle third of the second temporal gyrus. It resulted from thrombosis. The patient entered the Charity Hospital on January 9, 1900. Of his family history nothing is known, but a few details of his personal history were secured for me by my house physician, who obtained them from the patient's friends. He was about forty years old and was a gambler. He was a man of good address, could read and write, talked well, and seemed to have a fair education. His memory, particularly for faces, was a matter of note. He seemed to be well up to three or four months before he came under our observation. During this time his memory became noticeably defective; he forgot people's names and faces, made errors in changing money and in playing roulette, which game he had charge of in the gambling-house. There were no ascertainable defects of speech.

When he entered the hospital he was in a semi-comatose condition. He could be aroused but did not seem to be conscious of his surroundings. The next day he began to regain consciousness, and in a day or two more his general intelligence seemed to be normal. From this time up to the day of his death, on January 23d, from cerebral hemorrhage, he seemed fairly bright. He always recognized me when I saw him, would shake hands with me, and always made tremendous efforts to express his feelings in spontaneous speech and to comprehend what I said to him. His face would flush with the effort, and finally putting his hand to his head, as if the strain had caused him pain, he would give up in despair. During the time he was under observation there was no motor paralysis in any muscle of the body, nor were there any disorders of sensibility. Many examinations were made until the exact conditions of aphasia were ascertained, and these were carefully verified by subsequent tests which also demonstrated the unchangeable character of the symptoms.

He did not show any evidence of the so-called motor aphasia. During the examinations he spoke many words, which, though they were seldom relative to the subject, were articulated plainly and distinctly and without effort. The special senses were unaffected so far as we could ascertain. He certainly heard with both ears, and seemed to see equally well with both eyes, and did not suffer from hemianopsia. Slight noises made on either side of him caused him to turn his head in the direction from which the sound came, and when he was spoken to even in low tones he invariably concentrated his attention upon the speaker. Anything handed to him from either side was quickly seen, and his hand would go out to receive it. The pupils responded well to both light and accommodation. He was almost completely word deaf. Even such simple commands as "give me your hand," "put the palms of your hands together," "pull up your bedclothes," were absolutely uncomprehended, though he readily understood what

I wanted him to do when the same things were communicated by signs, and immediately complied. When told to close his eyes, and the command was repeated two or three times, he did so; he also protruded his tongue, but only after being told to do so several times. Once when I told him to touch his eyes with his hand he passed the hand to his chin. Other speeches more complex in their scope seemed to be absolutely meaningless to him. When I spoke to him he would say "yes," and "no," or such words as "do tell," "any," "sometimes," "some," but all of them without any relevancy to the question asked. When shown a number of things together and told to select a certain one, he always took the one nearest to him. He was completely word blind. When given a book or paper he was as apt to hold it upside down as not, and when either was placed correctly in his hands, he could not read it. Written requests, as to pick up things, to put them down, to move parts of his body, to perform certain acts, were absolutely unheeded; but, as in former tests, he readily did as desired when shown by signs. When given a paper on which something was written he would take it in his hands, look at it intently, turn it around, then shake his head in negation, and hand the paper back without making any effort to obey the order.

Squares of pasteboard upon which were large printed letters were placed before him and arranged into words and sentences, but did not arouse any look or act of intelligence. He had absolute agraphia. When given a pencil and a piece of paper he took the pencil and placed it properly in his fingers, but did not write. When shown an object, such as a watch or a key or a knife, and it was indicated by signs and also by words that he was to write the name of the object exhibited, he could not do so. He could not write from dictation; he could not copy words, letters, numerals, or simple geometrical figures, such as squares and circles. He could not write spontaneously. He could not express his thoughts in spontaneous speech. He could, and often did, say a number of words, but they were uttered singly and disjointedly, and never in logical sequence. He could not name anything he saw, heard, or touched, though he was tested many times. He understood fairly well the uses of various objects, could feed himself, used his glass or cup properly, arranged his bedclothes to his satisfaction, and indicated by his handling such familiar objects as keys, match-boxes, nails, and other things that he knew their use. He was not by any means stupid. He took considerable interest in what was going on about him, would smile at many things he saw, and tried his utmost to understand and make himself understood, and ceased only after the effort gave him headache, or it appeared hopeless.

In this case of complete word blindness, agraphia, and almost total word deafness, with the consequent loss of voluntary speech, was not the diagnosis, during the life of the patient, of a lesion involving the superior temporal gyrus and the angular gyrus justifiable? And yet the inspection of the brain demonstrates that neither of these regions was diseased. The area of softening is confined to the middle of the second temporal gyrus, a region almost outside of the accepted word-hearing centre.

Another fact of great interest is that though the lesion was confined to the temporal gyrus word blindness was absolute, while word deafness possibly was not.

In Mills' case there was word blindness associated with anomia, and yet the lesion was farther from the higher visual centre than in my second case. Is it likely that in a case like this—word blindness with anomia—the real situation of the lesion in the third temporal gyrus would ever have been suspected without the actual demonstration afforded by the autopsy? In my first case the lesion was much nearer the angular gyrus than in either of the others, but there was no word blindness at all.

A careful consideration of these cases must enforce the conclusion that the presence of word blindness and word deafness, either alone or in combination, does not always imply that the lesion is to be found in the higher visual or higher auditory centres or in both, but that a lesion in any part of the speech area may so disorder the complex mechanism of the associated speech centres that any or all forms of sensory aphasia may be induced. This view of the case receives further confirmation by the conditions which almost invariably accompany the so-called motor aphasia. I refer to agraphia, the inability of the patient to tell the number of letters in a word and the number of syllables in words, the impossibility of combining numbers to any great extent, and the frequently coexisting amnesia. These factors are all evidences of the great disturbance which the partial or complete destruction of one centre induces in neighboring centres.

The ability of remembering names of objects and persons must be a part of the function of the higher auditory centre. It would, therefore, seem probable that any lesion destroying this area or a part of it, or, in fact, any part of the general speech area, may cause anomia. If this is so, and it seems to be, it can readily be understood how two such widely separated lesions as the ones observed in Mills' case and my own could both cause anomia.

The naming centre has yet to be found. It may be discovered some day, but at present it lies in the dreamland of theory only.

Antidotes for Iodism.—In a general article on iodism Douglass W. Montgomery says that iodism depends on a personal peculiarity of the patient, an idiosyncrasy, and nothing will absolutely prevent it where the tendency exists. There are some agents, however, which sometimes are capable of modifying some of the symptoms of iodism. They are belladonna, Fowler's solution, bromide of potassium, morphine, salol, sulphanilic acid, bicarbonate of sodium, chlorate of sodium. Belladonna is by far the best drug to relieve the coryza-like effects of iodide of potassium, and Montgomery generally gives five drops of the tincture with each dose of the iodide. Any other preparation of the drug, such as atropine, may be used. It may also control some other forms of iodism, as in the case mentioned, in which it prevented œdematous swelling in the neighborhood of the eyes. Fowler's solution is undoubtely the best associate drug to use when iodide of potassium causes indigestion. It is best given in one- or two-drop doses, just as one would prescribe it for indigestion.—*Medical Age*, October 25, 1900.

The Natural Process of Cure in Constipation.—Charles J. Hill Aitken reports in detail the progress of a patient who for more than three years suffered from dyspepsia with constipation. No drugs were administered, but he was put upon a simple, ordinary, well-cooked diet, which included fruit, vegetables, and fluids. He was ordered to go daily to stool after breakfast. His bowels became regular in their action, but any departure from his usual routine at once caused constipation. The intestinal muscles finally became so much more active that they reacted to the stimulus of food twice a day. To prevent the second motion which occurred at the inconvenient hour of 5 P.M., he was told to restrain his desire for evacuation if possible, but if not, to take chlorodyne. In time this treatment succeeded perfectly.—*The Medical Press*, November 14, 1900.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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REFORMS IN BELLEVUE.

THE necessity for reforms in the management of Bellevue Hospital has been painfully apparent for a long time, and discussion on the subject has worn itself threadbare in vain appeals for the institution of radical measures tending toward the accomplishment of desired results. The medical profession, deeply interested in its welfare as a great institution for the care of the sick poor, has been pardonably jealous of its good name and reasonably anxious concerning the grand opportunities it should afford for the study and treatment of disease on strictly up-to-date scientific principles.

Its greatest handicap has been its association with politics. This has been proven in every part of its government from the appointment of an attending physician or surgeon to the employment of the lowest menial. A medical man may be ever so well qualified for a position, but if he has no friend in the councils of the dominating party, or is not connected with some medical school, his chances for preferment are almost invariably discounted.

Fortunately, the present medical staff is in every way a good one, but under the circumstances it is more a matter of luck than grace, and the argument goes no farther than to show that with the same principle at work exactly opposite results may be obtained at any future time. Even in the face of facts bearing at present on the right side of this question, the whole system is wrong and calls for radical change. The latter remark applies with particular force at this time to the male-nurse scandal, which, during the past week, has been so freely ventilated by the daily press. The revelations of the brutal treatment of patients in the insane pavilions and the alcoholic wards seem almost past belief. That the charges made by the helpless victims of these outrages are substantially based on facts is evident enough by the admission of Commissioner Keller and his prompt suspension of the guilty parties.

The possibility for the disgraceful occurrences in question appears to have been due to the lack of a proper supervision of nurse work and of the appointment of unfit persons for its performance. The mere graduation from a male-nurse training-school does not, in itself, guarantee the proper discharge of some of the most responsible duties of the calling. In no other sphere is it more necessary to control one's temper and suppress vengeful and cruel instincts than in the care of the wild maniac, or in the control of the wilful and perverse alcoholic. It would appear, however, that these nurses were positively cruel without provocation, and that the slightest excuses for the exercise of their assumed privileges of beating, cuffing, and partially strangulating and stupefying patients were in most instances eagerly seized.

All this proves the absolute necessity for constant supervision of ward work, and the great danger of delegating discretionary power to incompetent agents. The managers of lunatic asylums have long since learned this lesson, and having taken its precepts to heart have virtually abolished every form of cruelty in their institutions. Bellevue was so much behind in this respect that she required a gross and horrifying scandal to bring her to her senses.

The strange part of the recent development is that all these things should have been going on so long without the knowledge of the house staff, the attending physicians, or the commissioner of charities. It is not necessary to discuss here whose duty it was to know that this shocking state of affairs existed. It is perhaps a matter for congratulation that the real truth has come out at last. Commissioner Keller has done his part after the matter has been so directly and forcibly brought to his attention. The appointment of a special physician whose duty it shall be to supervise the nurses and be responsible for every other detail of ward management is a very important step, and will at least tend to prevent the barefaced brutality which has existed in time past. While the alcoholic wards are necessities for Bellevue, there does not seem to be any good reason why the insane pavilion should be used for other purposes than those of diagnosis, immediately after which a transfer should be made to a State asylum.

Commissioner Keller, now that he is impressed with the fact that Bellevue Hospital, as a whole, is not what it should be, has promised to examine the working of every one of its departments, with a view of suggesting necessary reforms. We doubt not that the result of his inquiries may throw much light in the darker corners, and may be very forceful arguments in favor of an entirely different system of government for the great charity hospital. To this end the proposed amendments in the charter will especially appeal. The more we discuss the question from this standpoint, the nearer will we come to the truth and the right. So long as politics rules our hospital, so long will preventable abuses show themselves. At times there will be attempts to remedy existing evils, but the lapsing into old conditions is inevitable when party interests are at stake and favorites must be served. There is really no excuse for politics as such in the management of our hospitals. As charity has no creed, science should have no political complexion. What is needed is a radical reform of the entire system, a government by an independent board and a management on a par with the model public hospitals elsewhere. All this is contemplated in the proposed amendment to the charter, and as a reasonable

reform measure it should commend itself to the approval of every unprejudiced and broad-minded citizen.

METALLIC SUTURES.

Silver wire as a material for sutures has long been popular, and the reasons for this fact are more or less self-evident. The material is easily obtained, is easily and certainly sterilized, and it is strong. Recently some actual antiseptic properties have been attributed to it from the alleged action of the fluids of the tissues forming in the track of each stitch a minute quantity of silver salts which, as is well known, are antiseptic. In a recent publication (Fiore, *La Riforma Medica*, August 28, 1900) the use of gold wire has been suggested for much the same reasons as are cited in favor of silver wire, except that no intrinsic antiseptic properties are claimed in the case of the more expensive metal. Several cases of hernia are reported by this writer in which wire of this metal has been used with satisfaction, but nothing is offered to show any superiority of gold over silver in this connection, so that, surgically speaking, the two metals may be considered together, and are, as far as we can judge, of about equal value. The good points of metallic sutures may be freely admitted, but the possession of these desirable attributes does not by any means prove that such varieties of suture give better results in conditions in which permanence of suture material is supposed to be necessary than are obtained with any other form of suture. In hernia, for instance, when metallic sutures are used, the primary results are often excellent, but other varieties of suture are also employed with excellent result, and it is good secondary and late results which are claimed for the metallic sutures by those who urge their use most strongly.

In one recently described operation for hernia, in this country, the use of silver wire is advocated for suturing in all stages of the operation, the claim being made that the silver wire being used in the deeper parts of the wound forms a network in the tissues against which the intra-abdominal pressure spends itself harmlessly. The fallacy of this argument in favor of the permanent utility of this form of suture is evident when we remember that these sutures, on which so much reliance is placed, are passed through relatively soft tendinous and muscular tissues, and that, no matter how strong the bridge or mattress of sutures may be, the whole structure can be only as strong as the anchorage of the sutures, which is in soft tissue easily and certainly cut through by any undue tension. This is only another illustration of the trite saying that a chain is as strong as its weakest link. Yielding tissues, dragged into an abnormal position by a wire suture, will return to approximately their original position, by allowing the suture to cut through far enough to restore the circulatory equilibrium in the minute vessels of the tissue in the line of tension of the suture, and if tension is increased the sutures will cut farther, so that in the operation for hernia which we have mentioned we cannot logically expect a really permanent result. The true function of a suture is to hold surfaces in apposition with as little tension as possible, until union can occur by the formation of new tissue between the surfaces. Even in bone it is very rarely necessary to use a metallic suture, though such use is often made, for we can never be sure that there will not be some sort of irritation, which will make a secondary operation of greater or less extent necessary in order to remove the offending unabsorbed suture. The present supply of absorbable suture material is by no means satisfactory in all particulars, but it is improving continually. The ideal suture is certainly that made of a strong, sterile, absorbable material which does not slip when tied, and these requirements are so nearly met in the best specimens of prepared catgut, that it is in this direction that we should seek improvement which may lead to perfection. We need not introduce complications by employing new materials which possess no advantages over what we already have. Gold wire is, no doubt, a good enough material to use for suturing in a circumscribed field, but we do not need it, and it is much more expensive than silver, the good qualities and disadvantages of which it has in equal degree.

EPILEPTIC INSANITY.

The association with epilepsy of mental changes of a degenerative character is a well-known clinical fact, the explanation for which is probably to be found in alterations in the nerve cells of the cerebral cortex, which are being detected with increasing frequency and facility by means of modern methods of fixation and staining. In a discussion of the subject of epileptic insanity at the recent meeting of the British Medical Association, Pasmore (*British Medical Journal*, September 22, 1900, p. 792) describes as the characteristics of epilepsy and epileptic insanity their markedly hereditary and periodic character, the existence of a normal mental state in the intervals between attacks, with the development of dementia only after varying periods, the occurrence of maniacal attacks before and after the epileptic convulsions, the alternation at times of such attacks with the convulsive seizures, or the replacement of the latter by the former. The maniacal attacks are of a sudden, impulsive, and dangerous character, being attended with violence, suicidal and homicidal tendencies, and destructiveness. It was pointed out that epilepsy with insanity on the one hand, and recurrent mania on the other, have in common hereditary transmission, periodicity of occurrence, the presence of a normal state in the intervals between outbreaks. Further, epilepsy may alternate with maniacal symptoms, while mania may precede or follow epilepsy. Maniacal attacks may entirely replace the epileptic state, especially if of the minor type. There is marked similarity between the mania associated with ordinary epileptic insanity and recurrent mania. For the foregoing reasons it is suggested that recurrent mania is an epilepsy of psychic type, and the designation psychic

epilepsy or epileptic mania is proposed for it. The condition appears to occur especially in those who exhibit a dual family history of epilepsy and insanity. The following clinical classification of the insanities associated with epilepsy is proposed: (1) congenital, including (*a*) idiocy (epileptic), (*b*) imbecility (epileptic); (2) idiopathic epileptic insanity, the ordinary insanity of epilepsy as met with in the adult; (3) hystero-epileptic insanity, found chiefly in young girls about the age of puberty; (4) psycho-epileptic insanity: (*a*) recurrent or epileptic mania, (*b*) transitory amnesia, and masked epilepsy.

UNBRIDLED QUACKERY.

Dr. Kenwood writes in English *Public Health* of "the ways that are dark and the tricks that are vain" of the numerous members of the quack fraternity. Referring to indecent advertisements in the papers he says: "The advertisements of the sexual quack tend to corrupt the sense of public decency and propriety. His other literature is invariably of the same type. Those who care to read this sort of stuff will find in it long columns of puffery, inuendo, and 'dirt' in the files of many papers, but mainly in certain Sunday and weekly papers, which are the most frequently read by those female members of the community who are most likely to be in need of that relief promised and least likely to hesitate in accepting the specious offers made to them. The printed matter sent out with these pills and potions leaves no doubt as to what the vendors wish to be understood as selling. They deliberately advertise their wares as capable of producing abortion, although they avoid using the actual word. They are mostly thinly-veiled invitations to purchase and employ the advertised agents for the purpose of procuring miscarriage. As to their actual power in this direction it appears that some preparations contain well-recognized abortifacients (pennyroyal, aloes, etc.), and the vendors evidently aim at acting up to their professions, but others are designedly inert. The literature of the trade often contains a warning to the effect that the remedy must not be taken by those expecting to become mothers. This is, of course, a transparent device undertaken to attract attention in order to sell the goods." Whatever may be the situation in Great Britain with regard to quackery, and from all accounts it is bad enough, we venture to say without fear of contradiction that the custom is not nearly so widespread or unrestrained as in this country. The laws in the United Kingdom are, on the whole, much more stringent with respect to an individual practising without a proper qualification than here. Doubtless means can be and are found to evade the law, but at least quacks do not get direct encouragement to pursue their calling as in many States of the Union. It is undoubtedly largely owing to this cause that the medical profession in the United States is to a certain extent in a perilous condition, and that a large number of the rank and file find it difficult to earn their daily bread. Competition among legally qualified physicians is sufficiently acute, but when in addition to this the unfortunate practitioner has to contend with a numerous and ever-increasing horde of illegitimate followers of the healing-art it cannot be said that "his lines are cast in pleasant places." In the Medical Record some few months ago attention was drawn to the question of nauseous advertisements inserted in religious journals, and we are willing to imagine that our animadversions have done some good. Many suggestions have been from time to time thrown out with the object of protecting the ignorant public against its own folly, but no really effective steps have been taken to stamp out or even to scotch the evil. In the mean time it would seem that the most the medical journals can do is thoroughly to ventilate the matter and to urge on every possible occasion the need of prohibitive legislation against unbridled quackery. Dr. Kenwood has the courage of his opinions, and "hits from the shoulder." He is to be congratulated upon his public spirit, the only pity is that there are not more like him in the medical profession.

News of the Week.

The Committee on Scientific Research of the American Medical Association announces that it has the available sum of $500 for the assistance of researches to be undertaken in the next six months, and that the money will be appropriated if applications be received within the month of January, 1901. Applicants should state clearly the character of the research to be undertaken, and the facilities at their command, addressing Dr. H. C. Wood, chairman, 1925 Chestnut Street, Philadelphia, Pa.

The German Hospital of Brooklyn.—On December 1st the board of trustees celebrated the first anniversary of the opening of this institution for the reception of patients. Appropriate speeches were made by several of the gentlemen present. The ambulance service of the hospital was considered and a large district was asked for by the hospital authorities. There are at present accommodation for one hundred and ten patients in the main pavilions and for ten in the isolation building.

The Philadelphia Neurological Society.—At a stated meeting held December 17th, Dr. D. J. McCarty exhibited a man presenting atrophy of the muscles of the shoulder girdle, with fascicular twitching, and possibly dependent upon amyotrophic lateral sclerosis. Drs. Charles K. Mills and T. H. Weisenberg exhibited three cases of cerebral hemianæsthesia and reported one case of hysterical hemianæsthesia, and made some remarks on differential diagnosis. Dr. William C. Pickett (by invitation) read a paper entitled "A Study of the Insanities of Adolescence." Dr. Charles W. Burr read a paper entitled "Astereognosis," in which he reported several cases presenting this phenomenon, which he looked upon merely as a symptom and dependent upon impairment of various forms of sensibility. Dr. F. Savary Pearce read a paper entitled "Neurasthenia: Especial Involvement

of the Sensory Neuron." He exhibited a man presenting analgesia of both sides of the face and of the perineum, together with abolition of the knee jerks and periodic laryngeal spasm, but with good station and preservation of the pupillary reactions. Opinions were expressed that the disorder was hysterical, and that it might be due to tabes dorsalis.

The Chicago Eye, Ear, Nose and Throat College will soon occupy a new building at the corner of Franklin and Washington Streets.

Typhoid Fever prevails widely in Galveston, the estimated number of cases in the city being about five hundred. It is believed that the infection is spread by the use of cistern water, the cisterns having become contaminated at the time of the great storm.

Influenza is reported to be exceedingly prevalent in Chicago. It is of a comparatively mild type. This is far from being the case, however, in St. Petersburg, where, a press despatch states, the influenza epidemic is so severe that the mortality returns for the week have been the highest for a decade. A meeting of physicians was summoned to discuss remedies, but scarcely half a dozen responded to the call, the rest being overworked, or themselves being victims of the malady.

The Hospital Ship "Maine" is now making her last trip, the British government having decided that it will not need the vessel any longer. The ship sailed from China on December 1st, with one hundred and eight sick and wounded soldiers. The *Maine* was fitted out by a committee of American women resident in Great Britain, and was employed first in South African waters and later was sent to China. She has been in commission somewhat over a year.

The State Tuberculosis Hospital.—It is reported that a majority of the trustees of the new State tuberculosis hospital have practically decided upon Raybrook, in Essex County, as an alternative site for the new institution, and will so report at the next joint conference of the Forest Preserve Board, the State board of health, and themselves. Raybrook is between Saranac Lake and Lake Placid, and on the railroad connecting those places. The advocates of the Dannemora site still contend that that is the best place for the hospital, the main argument urged being that the buildings could be erected by convict labor at little or no cost to the State.

Pan-American Medical Congress.—Among the social features of the Pan-American Congress to be held in Havana in February will be a grand ball at the Tacon Theatre under the management of the entertainment committee and an auxiliary ladies' committee. There will also be an excursion to the sugar estate of Señor La Coste near Havana. The guests will be carried on three government transports, and on arriving at the plantation will be shown the manner of growing, cutting, and grinding the cane, and of boiling and refining the juice, as well as all other points of interest in connection with life on a sugar plantation. Refreshments will be served on the estate on the transports during their return trip to the city. On another day there will be a parade of the police and an exhibition drill of the fire department in honor of the visiting members of the congress. Public receptions will be held by various officials, and many private dinners will be given by the Cuban physicians to their acquaintances among the visitors.

Rabies is reported epidemic in Rochester, many dogs having died recently of the disease, and a number of persons having been bitten by rabid animals.

Animal Diseases in Germany.—The Imperial German Health Office has published statistics of animal diseases in 1898, showing that twenty-four of the twenty-six German States were affected by anthrax. All the States were affected with foot-and-mouth disease and with wildfire among swine. Various other diseases prevailed to a considerable extent.

A New Englewood (N. J.) Hospital.—A new building of the Englewood Hospital, New Jersey, will be ready for occupancy in a week or two. The new building provides for a men's ward and a women's ward of twelve beds each, a children's ward of eight beds, six rooms for private patients, nine nurses' rooms, a sitting-room, a large operating-room, an upstairs dining-room, an isolating-room, a morgue, and a dispensary. The old hospital had long been inadequate for the needs of the community, for it accommodated only sixteen ward patients, and had but three small private rooms.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy for the week ending December 22, 1900. December 18th.—Assistant Surgeon R. E. Ledbetter detached from the *Constellation* and ordered to the *Monongahela*. December 21st.—Assistant Surgeon J. A. Murphy detached from the *Solace* and ordered to the *Don Juan de Austria*. December 21st.—Assistant Surgeon Jacob Stepp detached from the *Solace* and ordered to the Cavite naval station. December 21st.—Assistant Surgeon M. V. Stone detached from the *Yosemite Isla* and ordered to the *de Luzon*. December 21st.—Assistant Surgeon J. C. Thompson detached from the naval hospital, Cavite, P. I., and ordered to the *Solace*.

Obituary Notes.—Dr. Charles James O'Hagan, of Greenville, N. C., one of the oldest and best-known physicians in that State, died suddenly on December 19th, of apoplexy. He was a graduate of the New York Medical College in the class of 1856.

Dr. Charles S. Taft died in Mount Vernon, N. Y., on December 18th, at the age of sixty-five years. He was born in this city, and soon after graduation entered the medical corps of the army, where he served until about fifteen years ago. Dr. Taft was in Ford's Theatre, Washington, on the night President Lincoln was shot, and remained in attendance upon him with the other surgeons until he died.

Dr. Richard A. Wise, member of Congress from the Second Virginia District, died at his home in Williamsburg, Va., on December 21. The cause of his death was chronic nephritis. He was born in

Philadelphia in 1843. He served in the Confederate Army during the Civil War, and then studied medicine, being graduated from the Medical College of Virginia, Richmond, in 1868. After practising in Richmond for two years, he became Professor of Chemistry and Physiology at William and Mary College until 1880, when he resigned, and was from 1882 to 1884 superindentent of the Eastern Lunatic Asylum in the same city. Dr. Wise became active in politics in 1877, and was a strong Republican. He entered Congress in 1898.

Dr. George H. Elliott, of this city, died in Manchester, N. H., on December 17th, at the age of fifty-five years. He was a graduate of the Medical Department of the University of Denver in 1882. At the time of his death he was a Commissioner of Lunacy in New York.

Dr. Frederick Osborn Lloyd died at Hamilton, N. Y., on December 19th of cardiac disease. He was a graduate of the New York University Medical College in the class of 1885. He was a member for a term of the house staff of the Presbyterian Hospital.

Dr. John E. Losee, one of the oldest and most prominent physicians in Northern Dutchess County, died on Saturday at his home in Upper Red Hook, N. Y., aged seventy-four years. He had practised his profession for forty-seven years in that locality. He was born in Saratoga County, N. Y., and was graduated from the Albany Medical College in 1852. He served for several months on the house staff of the New York Hospital.

Dr. Ephraim Ingals died at his home in Chicago on December 20th, at the age of seventy-eight years. He was a graduate Rush Medical College in the class of 1847. He was an energetic advocate of higher medical education and did much practically to promote it, both as a lecturer in and contributor to the medical institutions of the city. At the time of the affiliation of Rush Medical College with the University of Chicago he gave $25,000 to aid in paying off the college debt and to found a chair of therapeutics and preventive medicine. He also gave $10,000 to the Northwestern University Medical School for the equipment of its laboratories. For a number of years he was associate editor of *The Northwestern Medical Journal.* He was one of the founders of the Republican party.

Dr. John Henry Fruitnight, of this city, died on December 18th, at the age of forty-nine years. He was born in New York on November 9, 1851, and after graduating in arts from the College of the City of New York in 1872, received his medical degree from the Bellevue Hospital Medical College in 1875. His attention was early turned to the diseases of childhood, and he soon won an enviable reputation as a pediatrist. Among the many organizations to which he belonged were the American Pediatric Society, New York Academy of Medicine, Medical Society of the County of New York, Society of Medical Jurisprudence, Physicians' Mutual Aid Association, Medico-Surgical Society, Northwestern Medical and Surgical Society, Good Government Association, and St. John's Guild. Of the last named he was a trustee and the consulting physician.

Progress of Medical Science.

New York Medical Journal, December 22, 1900.

The Diagnosis of Empyema in Children—By F. L. Wachenheim. The general appearance of the patient is often suggestive. A waxy complexion suggestive of sepsis is often present. Local inspection frequently shows relative retardation and diminution of the respiratory excursion on the affected side, occasionally obliterating or even bulging the intercostal spaces. Right-sided exudation may displace the apex beat. Fever with remissions and with sweating is present, while the pulse is rapid and of poor quality. In examining, we should percuss lightly, use the tactile sense to determine if possible a feeling of resistance characteristic of effusion. Percussion gives more or less dulness over the affected area, usually increasing downward; sometimes we obtain a tympanitic quality, but more rarely than in solid infiltrations. In the upper part of the thorax we obtain more or less dulness or tympanitic resonance, according to the condition of the compressed lung. The upper line of fluid can hardly ever be so sharply mapped out in empyema as in serous effusion, owing to its irregular limitation by adhesions and the usual concomitant pneumonic infiltrations. The determination, by percussion, of small effusions may be quite impossible. In empyema of the left side, dulness over Traube's space is very characteristic. Auscultation fails to give as accurate and reliable results as in adults. We usually have bronchial breathing, sometimes hardly at all diminished in intensity over the affected area; entire absence of respiratory sounds is very exceptional. It will be useful to remember that râles over the dull area speak decidedly against fluid, while faint and distant respiration denotes its probable presence. Friction sounds are exceedingly rare. If the child is crying, as it usually is, we may obtain more information. The voice over a pleuritic exudate is almost always faint and distant, and increased vocal fremitus is the best auscultatory sign we have for excluding fluid. Differential diagnosis is especially to be made from pneumonia and pulmonary abscess and gangrene. Exploratory puncture must be employed to settle the diagnosis in doubtful cases.

The Treatment of Supra-Condyloid Fracture of the Humerus.—By A. R. Shands. When the least doubt exists as to the position of the broken fragments of the broken bone, the *x*-ray should be employed. The broken ends should be brought into the best possible approximation and held there until union is firm; when it is impossible to obtain a perfect approximation, an incision should be made exposing the fragments to view, which, when put in the desired relation, the one to the other, should be secured there by some extraneous means. There are many conditions that may oppose this end, such as intervening tissue and muscular action, especially when the line of fracture is oblique. His preference is to drill a hole through the fragments and then to suture them in position with kangaroo tendon. When the fracture is oblique, he has found the tendency for the fragments to override each other so great that suturing did not do so well. In these cases he has left the drill in, which is a perfect method of holding the fragments *in situ*. He uses a drill that is long enough to project through the dressings, including the plaster of Paris. The operation being done under the strictest antiseptic conditions, the wound is closed and the drill is removed at the end of the second week; the little wound closes almost at once.

A Case of Superimposed Uvula.—By T. A. De Blois. The writer found on examining the throat of a young man that while the anterior pillars appeared normal and there seemed to be a perfectly formed uvula, there hung from the posterior pillar a second uvula almost masked by the first. This additional organ was removed with the galvano-cautery snare, whereupon the front uvula fell right back into the median line. The part removed appeared normal in structure.

The Combination of a Plaster-of-Paris Jacket with a Brace to Correct and Retain Correction of the Kyphosis of Pott's Disease of the Spine.—By A. M. Forbes.

A Report upon One Hundred and Seventy Cases of Appendicitis.—By R. T. Morris.

Intraspinal Cocainization from the Anæsthetist's Standpoint.—By S. O. Goldan.

Recrudescing Angina due to Friedlander's Bacillus.—By Emil Mayer.

Medical News, December 22, 1900.

The Treatment of Bronchitis in Infants and Young Children.—Samuel S. Adams believes that the treatment of bronchitis in infants and young children is largely dependent upon the etiology of the disease. The disease may be pri-

mary or secondary. It may be excited by cold or atmospheric conditions or by microbial irritants. It is usually sporadic, but may become epidemic. Prophylaxis consists in attention to the laws of hygiene. Attempts to abort bronchitis by a hot foot bath, free purging, and profuse sweating are seldom successful. Local measures are often beneficial. The turpentine stupe or mustard paste may be used. Inhalations of medicated vapors are valuable, *e.g.*, tincture of benzoin, eucalyptol, carbolic acid, etc. Expectorants are not well borne by infants. In the dry stage of the disease small doses of ammonium iodide in an agreeable menstruum, to which a few drops of syrup of ipecac are added, will hasten the secretion. Opiates should be withheld as long as possible, but when necessary a little codeine or paregoric may be given. Emetics are seldom indicated. Cardiac stimulants are required in most severe cases. Respiratory stimulants are required in a few cases. Jacobi's plan of flagellation, which causes the infant to cry, will relieve feeble respiration and passive pulmonary congestion. The general hot bath is good. Oxygen may relieve the feeling of suffocation temporarily.

Some Notes on the Treatment of Rheumatism.—Alfred Stengel states that in considering the question of rheumatism several fundamental facts must be recognized: 1. The tendency in many cases of this disease toward spontaneous recovery. 2. Complications are frequent and are more likely to occur in protracted cases than in those of short duration. 3. The complications are probably, as a rule, secondary to the joint disease and not to the infective lesion that was the primary focus. Of the drugs used in treating rheumatism the derivatives of salicylic acid occupy the first place. The rapidity and thoroughness of action indicate a relationship of the drug to the disease or some cases of the disease that warrants a place near to the remedies we term specifics. The simultaneous or separate use of salicylate of methyl, applied to the skin in the form of a ten-per-cent. or twenty-per-cent. ointment and covered with lint and oiled silk, is extremely satisfactory. In certain cases of polyarticular rheumatism which do not yield to treatment with salicylic acid combined with rest, general tonics are often effective. The writer has employed bichloride of mercury in small doses with good effect. Thus far no useful results from serum treatment have been obtained. The writer speaks also of casts and the fixation method for affected joints.

Report of Two Cases of Sporadic or Family Trichinosis; with Remarks on the Importance of Eosinophilia in the Peripheral Circulation as an Aid to Diagnosis.—By Hermon C. Gordinier.

A Rapid and Simple Operation for Gall Stones, Found by Exploring the Abdomen in the Course of a Lower Abdominal Operation.—By Howard A. Kelly.

Fatal Angina Pectoris without Lesions of the Coronary Arteries in a Young Man.—By T. E. Bullard.

The Surgery of the Gasserian Ganglion.—By Wallace Neff.

Boston Med. and Surgical Journal, Dec. 13 and 20, 1900.

The Results of Operations on Varicose Veins.—J. B. Blake considers that the conditions which will probably militate against satisfactory results are: old age or extreme debility; excessive or very extensive varicosity; occupations which, to an extraordinary degree, favor the development of varicose veins. Cases which may be cured by a thorough and careful operation are: Local varix, particularly if thrombosis has occurred, either in thigh or lower leg; extensive varix limited to a single venous stem; varicosities which are a bar to passing civil service, military or naval examinations; cases in youth and middle life; cases in which the development of the permanent varicosity was at least partially due to more or less removable conditions (flatfoot, garters, etc.). Operation, even if not entirely successful, will usually relieve such complications as thrombosis, hemorrhage, and ulceration. The usual conditions which follow unsuccessful operations are: Pain in and around the scar; general swelling and tenderness of the leg; development of varicosities above or below the operation scar, but not at the site of the operation itself. In all operated cases, general systemic as well as local treatment should be prescribed, together with exercise and the avoidance of a continued upright position wherever possible.

The Value of the Hot-Water Immersion Bath in the Treatment of Threatening Puerperal Eclampsia.—Charles M. Green believes that the hot-air bath is most appropriately used in the treatment of actual eclampsia. The hot wet pack is often successful in its results, but when circumstances permit its use the hot-water immersion bath more satisfactorily meets the indications. Not only does it produce profuse diaphoresis and reduce blood tension, but it acts as a marked sedative to the nervous system. The bath is easily administered to a conscious patient, the aid of a single assistant being sufficient. The water should be as hot as can be borne, and the patient should remain therein until profuse perspiration of the face shows that the sweat glands are in full activity. If the heart's action is at all weak, it is wise to administer brandy before immersion. When free perspiration has been induced the patient should be rolled in a blanket, placed in a warm bed, and covered with several blankets and perhaps a rubber sheet. The author gives a number of cases illustrating the good effects of these baths.

A Plea for Larger Doses of Antitoxin in the Treatment of Diphtheria.—John H. McCollom says that the clinical observation of nearly eight thousand cases of diphtheria justify the following conclusions: That the ratio of mortality of diphtheria per ten thousand of the living was very high in Boston previous to 1895. That this mortality has been greatly reduced since the introduction of antitoxin. That the percentage of mortality in the south department is lower than that of any of the hospitals taken for comparison. That since larger doses of antitoxin have been given, the death rate has been materially reduced, this reduction having occurred in the apparently moribund cases. That no injurious effect has followed the use of the serum. That to arrive at the most satisfactory results in the treatment of diphtheria antitoxin should be given at the earliest possible moment in the course of the disease.

Remarks upon Questions Arising during the Removal of Fibroids, with Especial Reference to the Technique of the Operation.—By Maurice H. Richardson.

Notes from the Neurological Department of the Massachusetts General Hospital. IV. Case of Myasthenia Gravis Pseudo-Paralytica.—By W. E. Paul.

A Contribution to the Therapeutic Action of Heroin.—By Bernard Lazarus.

Cases of Acute Oral Inflammation.—By John C. Munro.

Pericarditis with Effusion.—By George G. Sears.

Journal of the American Medical Ass'n, Dec. 22, 1900.

Symmetrical Development, or does Our Present School System Develop the Highest Powers of the Pupil?—E. Stuver concludes that: 1. The physical, intellectual, and moral powers of the pupils should be developed at the same time. 2. Parents and teachers should realize that in its development the child is an epitome of the development of the race and possesses many characteristics of the savage, barbarous, and semi-civilized races, and that instruction must ever be adapted to its changing needs. 3. The successful teacher must understand his own powers and limitations; he must understand the growing pupil and be able to put himself in the latter's place; he should have a more comprehensive knowledge of the laws of mental development, a better understanding of educational methods, and the best means of imparting instruction. He should be better paid and thus encouraged to make teaching a life-work. 4. More enthusiasm is needed and less routine; more original investigation and search after truth for the truth's sake, and less cramming for examinations; less talking and lecturing on the part of the teacher, and more time devoted to training pupils in systematic and logical analysis, and in clearness and accuracy of expression. 5. So many studies should not be pursued at the same time. The number-drill and arithmetic, together with other formal and abstruse work, should be greatly curtailed for the younger children and more time be given to the study of natural objects in their natural surroundings. 6. More time should be given to manual training. 7. Greater care should be exercised in promoting the health and proper physical development of the pupils. 8. All harsh and dangerous punishments should be banished from the schools.

The Antecedents of Organic Heart Disease in Children.—Frederick A. Packard from a study of seventy-five histories gleans the following facts: Rheumatism occurred in only 34 of the cases, chorea in 16, scarlet fever in 11, diphtheria in 8, while in 14 of the cases none of these diseases had been experienced by the child. If the small control series of cases can be taken as any guide, it would seem that measles, varicella, whooping-cough, and typhoid fever have little or no influence in the production of endocarditis. Therefore many instances of inflammatory lesions of the endocardium must be attributed to the slighter infections, such as coryza, various skin lesions, affections of the mucous membranes of the throat and nose, and the infections of the gastro-intestinal tract. The study of these cases emphasizes the necessity of a careful examination of the heart, both during and after slight infections.

Separation of the Recti Abdominis Muscles and Stretching of the Linea Alba; Unnoticed Factors in the Production of Abdominal and Pelvic Disturbances in Women.—By J. Clarence Webster.

Arthritis Deformans; its Clinical Features; Differential Diagnosis and Pathogenesis.—By Aloysius O. J. Kelly.

The Control and Prevention of Ear Diseases among School Children.—By Louis J. Lautenbach.

The Essential Factors for the Cure of Hernia in the Male.—By Henry O. Marcy.

Improved Technique for the Cure of Ventral Hernia.—By M. M. Johnson.

Treatment of Hernia in Children.—By A. J. Ochsner.

Hydrencephalocele.—By Carl Beck.

Philadelphia Medical Journal, December 22, 1900.

The Use and Abuse of Zoological Names by Physicians.—Ch. Wardell Stiles states that: It is incumbent upon physicians to follow zoological customs in dealing with zoological subjects, as it is incumbent upon zoologists to govern themselves by the code of medical ethics in dealing with medical cases. He adds that the terminology in medicine is more or less subjective and based upon authority, without being bound by any regularly adopted national or international rules. In zoology the nomenclature is objective, based upon priority instead of authority, and subject to certain iron-clad rules and regulations, the result of a century and a half of study, and adopted by the national and international congresses; they are known as the code of nomenclature. To take a few examples of the liberties physicians take with zoological terms: Amibi coli is the technical name of a zoological object, and it should be written as above or Amœba coli; many write it Ameba coli, but this latter spelling is confusing and has no zoological authority. Tænia is the name of a genus of tapeworms and was proposed by Linnæus in 1758. Some write it Tenia, and others use Tinea, but Tinea is the name of a genus of lepidoptera, while Tenea is a genus of mollusks. Since in zoology there are several million systematic names, every genus must have a distiuct generic name, and every species in a genus must have a specific name distinct from the name of every other species in that genus. These facts make it imperative that the rigid rules which have been adopted governing the use of these names be enforced.

Angina Ludovici.—G. G. Ross declares that Ludwig's angina, or phlegmonous cellulitis of the floor of the mouth, is a comparatively rare affection. The tissue affected is rich in lymphatics and blood-vessels and contains the ducts of the subliugual and submaxillary glands. The disease may be either primary or secondary. In true angina Ludovici the infection is essentially primary. The point of entrance is in the mouth proper, and the disease manifests itself primarily in the floor of the mouth, and secondarily in the pharynx and larynx. The pathology is very similar if not identical with that of erysipelas. The organisms which have been discovered are the streptococcus and the staphylococcus. G. Leterier has collected thirty-one cases with thirteen recoveries. This series includes cases collected from old literature. The symptoms are marked from the onset, developing rapidly. They are very severe. Locally, there is a hard swelling, which spreads, however, till it involves the neck and face. Respiration is impeded. Deglutition becomes difficult or impossible. A marked general sepsis follows the local condition. The writer reports two cases. The clinical manifestations and pathologic finds so nearly resemble erysipelas that in an active surgical hospital these cases should be isolated.

The Diagnosis of Calculous Disease of the Kidneys, Ureters, and Bladder by the Roentgen Method.—By Charles Lester Leonard.

Primary Carcinoma of the Pancreas, with Reports of Four New Cases.—By Frederick A. Baldwin.

Acute Infective Endocarditis following Vaccination; Recovery.—By Warren Coleman.

Composite Teratoma of the Ovary; Pathologic Report.—By Edgar Allen Jones.

A Case of Deciduoma Malignum.—By Joseph McFarland.

A New Photographometer.—By John Milton Garratt.

Dermatomycosis Tonsurans.— By W. B. Reid.

The Lancet, December 8 and 15, 1900.

Concerning Certain Apparently Injurious Constituents of Potable Spirits.—By Lauder Brunton and F. W. Tunnicliffe. The main points in which potable spirits differ *inter se* are with regard to their aldehyde, compound ether, fusel oil, and certain volatile base contents. This article has to do with a special aldehyde—furfural. This comes from a class of substances known as pentosanes derived from the cellulose of grain husks. Furfural can be detected in whiskey by adding to a drachm of the latter in a test tube an equal volume of water and then a few drops of a sodium-carbonate solution and then a few drops of aniline-acetate solution. If the tube be shaken up and allowed to stand a rose-pink color will develop. Injections of furfural in cats, dogs, and rabbits caused paralysis of the voluntary muscles, later clonic and tonic convulsions, with rapid and irregular breathing. Rapid recovery, however, was the rule. In addition, spirits containing the furfural and spirits free therefrom were given to animals with a view to comparison of effects. Speaking generally it was found that the return from what may be termed profound drunkenness in the cases of animals was more sudden and was accompanied by less secondary symptoms when aldehyde-free spirit had been given. The interest of these observations lies in the fact that these disagreeable symptoms, which seem analogous to those occurring in the human subject after too free potations, seem to be more referable to the aldehydes in the spirit, including furfural, than to the spirit itself or any higher alcohols. Fusel oil was present in the spirit both before and after distillation.

Dietetic Problems.—Abstract of the Purvis lecture by G. V. Poore. After alluding to some of the advances made in the dietary of the sick, the lecturer cautioned his hearers against looking too exclusively at the chemistry of food. Who when they ate considered whether they were taking too much carbohydrate or too much proteid? It was what they digested that did good, and this depended on whether it was savory and stimulating to the glands of the palate, and so forth. If a person sat down to a repast selected so as to contain a certain percentage of proteids it was very likely that the stomach would rebel. He thought that there was too much of this sort of thing and that physiological chemistry was doing itself no good by it. He could not help thinking sometimes that there were manufacturing firms who kept chemists very much as advertising tailors used to keep poets and for the same reason. In conclusion, Dr. Poore referred to "shop eggs" and to the difference between fresh and frozen meat. He also gave a humorous account of a visit to a village on a Saturday night where the grocers' shop-windows were filled with potted vegetables and where the smell from shops in which slabs of semi-transparent flabbiness were frying in oil could be appreciated a quarter of a mile away. Replying to a note that was handed to him asking for his opinion on the doctrine of not taking any meat, he said, "All flesh is as grass."

The Bowel-Lesion of Typhoid Fever.—T. J. Maclagan enumerates as the special points to be considered the following: (1) That the structures on which the typhoid bacillus exercises its specific effects are the solitary and agminated glands situated in the submucous coat of the small intestine. (2) That the change which it causes in these glands is inflammatory in nature and essentially consists in proliferation of their cellular and granular contents, with consequent swelling and hardening of the glands. (3) That this inflammation is generally sufficiently severe to cause gangrene aud sloughing of the affected glands. (4) That the direct action of the typhoid bacillus is limited to the glands of the submucous coat; and that it has no direct action on the mucous, muscular, or peritoneal coats. (5) That the sloughing process which destroys the glands necessarily also destroys the mucous membrane situated over them. (6) That with the process of sloughing and suppuration there come into play other and new morbid agencies, the various forms of cocci associated with these processes. (7) That to these new agencies rather than to the typhoid bacillus are to be attributed all the more serious complications and all the formidable symptoms, general as well as local, which are apt to show themselves during the third and fourth weeks of the disease.

A Peculiar Case of Purpura.—H. W. Spraight reports the case of a girl of nine whose whole body, including the face and the scalp, was covered with purpuric spots, varying from petechiæ to large ecchymoses. When she was going to bed on the night before, the patient had noticed some dark-red spots about her abdomen and thorax, and in the morning she found her body covered with purple spots. She felt, and appeared to be, in perfect health. She was not anæmic and had not been ill since she was four years old, when she had measles. There was no history of scurvy, rheumatism, or hæmophilia. Her family history was good. Next day hemorrhages occurred from patches on the limbs and continued during the following day, when hæmatemesis, hæmoptysis, melæna, epistaxis, and bleeding from the ears came on and continued until the second day after. During these three days the patient had no symptoms besides those of hemorrhage. On the following day the patches on the limbs began to fade, and five days later the skin looked perfectly clear and healthy. She was treated medicinally with ℥ ii. of Fowler's solution and ʒ i. of compound syrup of phosphate of iron, three times daily.

Suggestions for the Practical Treatment of Typhoid Fever.—W. Ewart says that until we shall find a germicidal cure for this disease our efforts must be confined to limiting the extent of ulceration, treating the ulcers, and obviating their giving rise to hemorrhage and perforation. He finds

danger in the stagnation of putrid fæces, relative inactivity of the liver, and distention of the thinned and ulcerated membrane. He finds it a good plan to keep the patients lying in bed so as to be slightly inclined to the left side. This position seems to facilitate the emptying of the cæcum. Internally he advises the administration of ♏ xx. of the liquor hydrargyri perchloridi (B. P.) with ♏ xv. of the tinctura ferri perchloridi flavored with orange or lemon given in an ounce of water every six hours throughout the attack and for ten days after to prevent relapse.

Notes of Two Cases of Foreign Body in the Air Passages.—By E. F. Syrett. In neither of the cases was the presence of a foreign body suspected, and in neither were there any urgent symptoms present. Case I. was that of a boy of thirteen years with evidences of involvement of entire right lung, whose condition went on to convalescence and who some two months later coughed up a cherry-stone which it was afterward learned must have been in the bronchus for thirteen weeks. Case II. was that of a woman of thirty-three years who had swallowed a wisdom tooth during its extraction by a dentist. It was expelled twelve days later.

A Case of Puerperal Septicæmia Treated by Anti-Streptococcus Serum; Complicated by Pulmonary Embolism, Perimetritis, and Axillary Abscess; Recovery.—By B. T. Read. The episodes of the case are sufficiently indicated in the title. Serum was injected in doses of 10 c.c. daily for over a week. The author believes that recovery in this case can be directly attributed to its use.

A Case of Morphine Poisoning Treated by Atropine.—By E. Ground. The patient was a man of sixty-one years who was supposed to have taken a little over four grains of morphine. In all about one-eighth of a grain of atropine was given, together with the use of potassium permanganate. Recovery ensued.

The Condition Three Years after Operation of Fifty Successful Consecutive Ovariotomies; Five Patients Lost Sight of, Thirty-two in Excellent Health, Seven Cases Not Quite Satisfactory, Three Unsatisfactory, and Three Patients Dead.—By John D. Malcolm.

A Case of Complete Transverse Septum of the Vagina Impeding Delivery; Urethral Coitus.—By E. Rumley Dawson.

Prognosis and Treatment in Pulmonary Tuberculosis.—Second Harveian lecture, by Robert Maguire.

Prognosis and Treatment in Pulmonary Tuberculosis.—Third Harveian lecture by Robert Maguire.

Symptoms of Arsenical Poisoning Produced in a Young Child from Drinking Beer.—By J. Brown.

Operative Teatment of Fibroid Tumors of the Uterus.—Clinical lecture by Edward Malins.

An Obscure and Complicated Case of Carcinoma of the Stomach.—By C. F. Steele.

The Treatment of a Case of Acute Dilatation of the Stomach.—By George Coates.

Psoriasis with Insanity; Thyroid Treatment; Recovery.—By H. de M. Alexander.

A Note on Excision of Wrist-Joint by a Transverse Incision.—By J. C. Renton.

Mercurol as an Antiseptic in Diseases of the Nose and Ear.—By Richard Lake.

An Instance of Extensive Enteric Rash in Childhood.—By Arthur Maude.

A Case of Arsenical Beer Poisoning.—By J. H. Bailey.

British Medical Journal, December 15, 1900.

A Clinical Lecture on Polyorrhomenitis, or Combined Serous Inflammations.—Frederick Taylor reports the case of a woman aged thirty-nine years who was admitted to the hospital for pain and swelling in the abdomen. It was a case of ascites, and the point to be determined was the nature of the origin of the peritoneal effusion. The choice in this case seemed to lie between tuberculous peritonitis and cirrhosis of the liver. Dulness at the base of the left chest was discovered which in a few days increased in an upward direction. It then seemed probable that the case consisted of a liquid effusion into the pleura as well as into the peritoneum. Thereupon the diagnosis of tubercle became more probable, and that of cirrhosis was out of count as explanatory of the whole case, though it was conceivable that an ascites from cirrhosis might coexist with an independent pleural effusion arising in some other way. Still another disease would account for the simultaneous existence of pleural with peritoneal effusion—heart disease causing passive effusions into both these cavities. But there was no evidence that the valvular apparatus of the heart was actually upset. Polyorrhomenitis may be acute or subacute or chronic, and the causes of these varieties are likely to be different. One cause of the acute form is the pneumococcus. There may be also a streptococcal or staphylococcal invasion. Rheumatic fever is sometimes the cause of the acute form. Now and then the tubercle bacillus is found, but it plays its most important part in relation to chronic and subacute inflammations, and is by far the most frequent cause of them. Polyorrhomenitis is more frequent in males than females, and the majority of the cases occur between the ages of sixteen and thirty. It is generally the peritoneum which is first attacked, then follow the pleuræ, as a rule the right one first. Pericarditis generally follows a pleurisy, especially a left-sided pleurisy. The inflammation may first involve one pleura, then the peritoneum, then the other pleura. The duration is variable. The prognosis in general must depend very much on the cause. Tuberculous peritonitis, *e.g.*, is probably fatal in more than half the cases; pleurisy is directly fatal in much less; but the associated lesion is not likely to be less fatal than the more fatal of the two operating alone. The treatment must be conducted on the lines of the treatment of the separate tuberculous lesions concerned.

Myokymia, or Persistent Muscular Quivering.—R. T. Williamson reports a case of this kind, the patient being a young man of twenty-one years. The quivering, which had begun in the muscles of the right leg, spread to the muscles of the limbs, trunk, and face. It was persistent. During the four weeks he was at the hospital there was no definite change. The writer has found eight cases in medical records, the ages varying from twenty-one to seventy-one years. All were males. In all the legs were most affected. The treatment in the cases in which recovery occurred was by warm baths and galvanism, by bipolar faradic baths, and by rest in bed. Sodium salicylate has been recommended. The cause and pathology of this peculiar affection are at present unknown.

Quinine Hæmoglobinuria.—A. G. Welsford reviews two interesting cases of this nature. It is of very rare occurrence. Hæmoglobinuria may be produced by several poisons, among which are potassium chlorate, carbolic acid, and arseniuretted hydrogen. It is in this category that quinine hæmoglobinuria must be placed.

A Case of Varicose Aneurism of the Aorta Communicating with the Pulmonary Artery.—By J. Michell Clarke.

The Harveian Lectures on Prognosis and Treatment in Pulmonary Tuberculosis.—By Robert Maguire.

A Brief Account of the Recent Epidemic of Cholera in Kashmir.—By Ernest F. Neve.

The After-History of Applicants Rejected for Life Assurance.—By Andrew Macphail.

The Relation between Cause and Effect in Disease.—By Charles Powell White.

A Fatal Case of Poisoning with Zinc Sulphate; Necropsy.—By G. D. Mackintosh.

What is a Disease?—By S. W. MacIlwaine.

Metabolic Fever.—By Arthur Todd-White.

Finska Läkaresallskapets Handlingar, November, 1900.

Gastric Myasthenia.—Max Buch regards myasthenia of the stomach as a lessened tone of the muscular tissue without stenosis. Insufficiency is not identical with, but may be caused by myasthenia. By auscultation and percussion the author has found that a myasthenic stomach changes position even when empty, its mobility being due to a slight gastroptosis. It is larger than normal, but there is not always insufficiency. The cause of the affection is to be found in local muscular weakness, usually following chronic catarrh, or in nervous troubles such as those which follow infectious diseases, typhoid fever, dysentery, cholera, peritonitis, etc., in which we find the local sympathetic plexuses inflamed and many nerve cells degenerated, or irritated conditions of the cœliac plexus or the sympathetic nerve.

Hernia of the Linea Alba.—A. F. Hornborg reports thirty cases due to subserous lipomata, traumatism, emaciation from tuberculosis or gastric cancer (loss of fat and general relaxation of the tissues), and, finally, to a general predisposition to hernia. The usual symptoms were digestive disorders occurring immediately after a shock or a fall, or there might be pain after muscular efforts, or in certain positions of the body, or after meals, etc., which always disappeared when the patient assumed a horizontal position. The indications for radical operation are many. The author was able to follow the after-history of twenty-two of the thirty operated upon. Seven died, twelve were completely cured, two had relapses—one in the cicatrix, the other in the neighborhood of the former hernia.

Dysentery in Finland.—F. E. Hellström observes that during the last century this disease has assumed a more and more benign character, as it has in all northern Europe. It is therefore often difficult to distinguish it from intestinal catarrh. He gives the mortality per 100,-

000 of the population, and notes that it is greatest when the temperature is highest in any given season. He gives tables of the mortality of dysentery in the various months, and at different ages. In early childhood there is the greatest mortality.

Temporal Hemianopsia due to Lesion of the Chiasm.—By Emile Juselius.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

POISONED BEER—GENERAL MEDICAL COUNCIL—THE COLLEGES, THE BIRMINGHAM CONSULTATION SCHEME—SURGERY OF THE BLADDER—THROMBOSIS AND SYPHILITIC FEVER—SPLENECTOMY—NEPHRITIS WITHOUT ALBUMINURIA—ROYAL SOCIETY.

LONDON, December 6, 1900.

BEER—arsenic in beer—peripheral neuritis and poisoned beer. If you could have heard our conversation all the week, you might have thought that beer monopolized all our thoughts. Unquestionably it has bulked largely in all the talk of the day. Even those who never drink beer cannot but feel shocked at the epidemic of poisoning about which I wrote to you last week, and the epidemic is spreading. One naturally expected a further crop of cases in the district affected, as the arrest of the consumption of beer, even if complete, would not stay the effects of that which had been previously drunk, and in many cases the time for the appearance of symptoms must have only just been reached. For the same reason, further cases may still be anticipated. But, what is worse than this, there is evidence that poisoned beer has had a wider distribution than was at first believed. Even London has not been without cause for alarm—one case of death having been found, by a coroner's jury, due to peripheral neuritis. The inquests held in the northern district have been adjourned for the purpose of analyses and some outcry has been raised against this as an attempt to shield those on whom the responsibility rests. The public does not understand why an analyst should not detect the arsenic in the tissues of a body as quickly as in the beer. Certainly the adjournments need not have been for so long a period. Meantime, the brewers have emptied thousand of gallons of their beer down the sewers and taken all precautions for the defence of their interests. Some of them have announced that in future they will use only malt and hops, and the public ask whether all should not be compelled to do so.

The matter is to be raised in parliament, and it is probable that a government inquiry will be insisted on. Perhaps it may result in some stringent measure against substitutes as well as adulteration.

Meantime I may note that in some cases the diagnosis has been confirmed by the detection of arsenic in the urine of the patients. This fact may go far to defeat the defence threatened that the poison has not been found in the bodies of those who have died of it.

The Medical Council has taken its full time and nullified the reports that the session would be a short one. It continued its work until Wednesday evening. To the surprise of some of its friends and critics, the council has shown some signs of backbone, but you need not run away with the idea that it is a fully developed vertebrate; a little stiff-neckedness is not a very portentous symptom. The council has actually resolved to adhere to its former resolutions on two subjects. One is the diploma in public health, which affects only a few persons, but it is intended to be a high distinction, and the council has determined to maintain the standard. The other subject is much more important—the conflict with the two royal colleges which stood over from last session. You will remember I gave you an outline of the dispute. The two colleges want to neutralize the effect of the five-years' curriculum by recognizing the teaching of science in grammar schools and even in board schools. The other corporations have fallen in with the views of the council, and the move of the two colleges looks like an attempt to outflank their rivals. Counsel's opinion has been taken on both sides, and the two agree no better than a couple of doctors. Litigation is most undesirable, and I hope the two colleges will fall into line with the other medical authorities now they have exploited their chartered rights; for, if insisted on, they might become "chartered wrongs." But will the council carry out the resolution to which it now "adheres"? Of any other body we might expect it. But, alas! we remember how, having threatened the Obstetrical Society, it climbed down.

Another subject on which the council has displayed unexpected firmness is the consulting institution at Birmingham, which I formally described. The "consultant" was summoned on the ground of the canvassing and advertising of this new aid society, and the case was conducted by Dr. Bateman of the Defence Union. The witnesses for the institution contradicted themselves as to whether it was a charity or not. Mr. Arthur Chamberlain, who seems to be the father of the scheme, came up and tried to bounce the council, and talked of the Birmingham practitioners as "street doctors," and of the "higher skill and knowledge" his plan would supply. But he exemplified only his own want of knowledge of the subject and his own self-importance.

The council listened and eventually informed the consultant that the charge had been proved, and that he would have to appear before them at the next session. The president informed him that the council regarded his conduct as serious, and in adjourning the case gave him the opportunity of reconsidering his position.

If the council adheres to this and the two other resolutions the profession will certainly rejoice in its new-found decision of character.

The surgery of the bladder occupied the attention of the last meeting at the Medico-Chirurgical. Sir Thomas Smith read a paper offering some suggestions for a possible improvement in the method of removing stones and morbid growths from the interior of the bladder. He brought the subject forward in order to hear the opinions of other surgeons before carrying out the suggestions in practice. The proposals were not very favorably entertained by most of the speakers, but received some support from Mr. Bennett and Mr. W. G. Spencer. The latter, indeed, said the suggestions commended themselves to him very strongly. Sir Thomas did not seem discouraged, for he remarked that when years ago he made analogous suggestions as to the removal of stone from the kidney by operation, the proposal was less favorably received than the present one. The new suggestion is briefly this: In view of the diminished risk of interfering with the peritoneal cavity, might it be worth considering whether the operation should be intra-peritoneal in cases in which it is desirable to obtain immediate union of the bladder wound? The precautions which would have to be adopted were pointed out, as well as the modifications in the mode of performing supra-pubic cystotomy. These included the adoption of the Trendelenburg position, distention of the bladder with air rather than fluid, opening of the abdomen at a higher point than usual, immediate closure of the bladder wound by suture, and after-treatment as required after traumatic rupture. In the discussion Mr. C. Lucas said supra-cystotomy is now very different to what it was when Sir H. Thompson revived it. Then the bladder was torn and drainage above the pubes used; now the bladder is cut. It was a great thing to clear the bladder thoroughly, but he saw no advantage in going through the peritoneum, and septic matter could not be excluded. Mr. Bruce Clark also insisted on the sepsis that was sure to occur. Mr. Freyer said the proposal opened up the question of supra-pubic operation, the ease and simplicity of which were its dangers, and the mortality was very heavy. Mr. H. G. Barling had collected statistics from six London and six provincial hospitals. Out of one hundred and eighty cases the mortality was twenty per cent., while lateral lithotomy averaged only five per cent. The supra-pubic operation was adapted only for very large stones or tumors. He did not think distention with air would be advantageous, and held that the intra-peritoneal plan must be very dangerous. Mr. Christopher Heath agreed with this, and thought it flying in the face of Providence to open the peritoneum when it could be avoided.

After this discussion Mr. W. G. Spencer described a mode of performing median perineal urethrotomy and cystotomy through a transverse superficial incision—a plan similar to that of Celsus, and which he recommended in certain cases. Mr. Barling's statistics were referred to by Mr. Freyer, who said lateral lithotomy was still employed in India and elsewhere, but Mr. Heath supported Mr. Spencer in the statement that it was obsolete. He said this subject came up periodically, and referred to Mr. Ward's paper in 1860, which contained much of what Mr. Spencer now said.

After this Dr. Bradshaw, of Liverpool, exhibited a crystalline deposit, previously undescribed, from an alkaline urine of a patient with dilated stomach, who was taking large quantities of magnesia. The crystals were of extreme tenuity and consisted of monohydric magnesium phosphate ($MgHPO_4$).

At the Clinical Society Dr. S. Phillips narrated a case of thrombosis of the inferior vena cava, iliac and femoral veins, setting in suddenly in an anæmic maid-servant aged nineteen, who had had symptoms of indigestion. She was seized with symptoms resembling perforation of gastric ulcer, and a few days later with swelling of the lower extremity, abdominal pains, etc. At the post-mortem the thrombosis was found, and Dr. Phillips regarded it as primary and infective.

Mr. Campbell Williams reported to the same society a case of late syphilitic intermittent pyrexia treated by mercury. Such cases do not seem to be so rare as might be supposed from the text-books not describing them; for several speakers mentioned having met with them. One of them said there was always a periostitis or some gummatous deposit as a cause for the constitutional disturbance, though it might not always be discovered. In Mr. Williams' case he had mentioned periostitis of the right clavicle as once detected. There were differences of opinion as to the treatment—some thinking mercury acted more quickly than iodide, others thinking the reverse.

Mr. Bland Sutton then reported a case of splenectomy for an enlarged and wandering spleen in a woman of thirty-four years, mother of seven children and pregnant at the time of operation. Since 1892 he has performed splenectomy nine times with two deaths. The seven survivors are in good health. He always avoids operating in cases of leucocythæmia. His rule is that the operation may be undertaken if the white corpuscles do not exceed twenty to the one thousand. He looks out for an accessory spleen so as to leave it if present.

Dr. Herringham then related a case of nephritis without albuminuria in a boy of four years, which he thought unique. The child was under observation in hospital and convalescent homes three months before the onset, so that scarlet fever could be excluded. At the post-mortem the viscera, including the kidneys, seemed normal, but microscopic preparations showed cloudy swelling in some convoluted tubes and albuminous plugs in many. An exudation was found in almost all the glomeruli.

Dr. S. West said he had seen several cases of this sort. It was not uncommon in infants, and up to two years; they had all the symptoms of renal disease without any albumin, and all got well. Dr. Ewart mentioned acupuncture, but Dr. Herringham said he had never seen a recovery after treatment by acupuncture.

The death-rate of London has been rising lately. The return for last week was 17.9. In the thirty-three largest towns it was eighteen per one thousand. The deaths from respiratory diseases were rather over the average.

Lord Lister's farewell address at the Royal Society was largely devoted to the recent discoveries as to malaria. He is succeeded in the presidency by Sir William Huggins.

SOME ASPECTS OF MEDICAL GYNÆCOLOGY FROM THE STANDPOINT OF THE GENERAL CONSULTANT.

To the Editor of the Medical Record.

Sir: "Next to the originator of a good sentence is the first quoter of it," dogmatizes Emerson. If "sentence," so much the more in the case of a scientific observation.

Therefore—having thought much and written some along the same line, and frankly envying the priority of succinct statement—I beg to throw into the black type of quotation the following from Dr. Beverley Robinson's masterful paper on "Some Clinical Aspects of Gout," published in the Medical Record, November 10, 1900:

"The most evident tendency (in medicine) is the all-pervading disposition to localize human ills. . . . From the laboratory point of view . . . micro-organisms are brought to the front almost invariably, and serve to explain whatever morbid sequences may arise. . . . The general pathology of other days saw undoubted facts also in atmospheric changes, constitutional peculiarities, habits of mind or body . . . now relegated frequently to the past. . . . And yet how true it is for the man of large observation and philosophic mind to trace many of our ills to purely functional disturbances."

The following is fruitful for those of us who work in gynæcological lines, and as a consequence fall more or less under the inevitable sway of the rule of environment, from which none are exempt:

"In some persons the gouty disturbance is apparently ushered in with functional upset of the liver. Under these circumstances I have known the urinary excretion to present nothing abnormal, or, at all events, not enough to be in any way characteristic of an impending gouty seizure. Rapid dyspnœa has occasionally followed, of a distressing type, which nothing organic would explain, and relief was obtained only when colchicum was duly administered.

"I have little doubt, it is true, that many gouty manifestations which appear to be functional . . . are of the nature of congestive or inflammatory disorders. *I have seen this notably in the prostate, the uterus and ovary, and rarely the intestines.* My views in regard to the probable rheumatic or gouty origin of not a few cases of appendicitis are already known to many. . . . For example, I do not believe because a tonsil occasionally becomes inflamed and enlarged under rheumatic or gouty influences, it should therefore be removed. . . . *What is true of the tonsil is true of the ovary*, with added force in the latter case because . . . more dangerous . . . and affecting child-bearing . . . and future changes of qualities and disposition of the woman."

The italics above are mine. Having pointed on every possible occasion to the frequency with which pelvic diseases of woman are associated with renal insufficiency, lithæmia, rheumatism, gout—and all the group of troubles included in passive congestion, faulty muscular development, and elimination—the above observations from another standpoint, to the same end, are welcome and significant.

A study of these medical aspects of modern gynæcology is sometimes dangerous because to cite surgical results seems to be making a criticism of the surgeons who operated. It would be impolitic for any one but a general consultant to utter the following:

"We are apt, I believe, also to regard an operation from the point of view of mere danger and not enough from the standpoint of what shall be the ultimate result. How many times have I seen patients operated on, even by surgeons of widest experience and most careful, conscientious judgment, who have few or no thoughts subsequently except to wish that they had never had recourse to the knife. Sometimes the patient's bodily disability or suffering has been greater than if they had really borne the trouble they already had and had become accustomed to."

Opposition to operations (other than plastic) in a large class of female troubles has become a fixed rule of practice with me, and I am happy to note a growing support from the profession. The class of cases is with me almost a hobby class—my environment pressure—and comprises the soreness in the venous system of women, the headaches and reflex neuroses, the abdominal ptoses, due to congestion, mal-elimination, and muscular debility, which properly applied régime almost invariably clears up. It is upon patients in this class that operations (other than plastic) so frequently fail to restore health. It is with patients in this class that local treatment is sometimes no more indispensable than it is for a periodical mammary tenderness: it is, of course, always an aid, but a minor detail of the general plan.

This statement, these quotations, all seeming agitations against surgery, may do great harm with those who do not understand and cannot discriminate between case and case. But while we may be justified sometimes in taking the esoteric position with the laity, no specialist is right in assuming this attitude toward the rest of the medical profession.

Yet the modification of standpoint by environment—as important as the personal equation in astronomical calculations—suggests that a routine warning should accompany every discussion of the medical side of gynæcology. It is an unpardonable error to delay surgery in a large and well-defined group of female troubles.

Eugene Coleman Savidge, M.D.

66 West Fiftieth Street, New York.

MALARIA AND MOSQUITOS.

To the Editor of the Medical Record.

Sir: Once more malaria and mosquitos. There is railroad being built from here running south and east to join the railroad of the Isthmus of Tehuantepec at a certain place. At a distance of 93 km. from Cordoba is a marshy plain with a few houses and no drinkable water. The place is called "Tierra blanca." When I went there I was greatly surprised not to find any mosquitos, and yet the place is a first-class malaria breeder.

F. Semeleder, M.D.

Cordoba, Mexico.

Treatment of Acute Alcoholism.—The expectant plan is the most rational. Opiates are dangerous, because they additionally derange digestion, and, acting as powerful cardiac sedatives, tend to paralyze the heart, and, finally, because they check elimination, interfere with the normal secretions and digestion. Sleep is never to be attained at risk or hazard to the patient, but is to be expected as one of the harbingers of a convalescence not to be enforced. In acute alcoholism, as in many other acute diseases, the vis medicatrix is fully adequate in most cases to produce the happiest results.—Dr. J. K. Bauduy, *St. Louis Medical Review*, December 1st.

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held December 18, 1900.

JOHN H. HUDDLESTON, M.D., IN THE CHAIR.

Treatment of Acute Alcoholism at Bellevue Hospital.—DR. A. R. BRAUNLICH read this paper. The cases treated were divided into three clases: 1st. Acute alcoholic intoxication. 2d. Delirium tremens. 3d. Alcoholic mania. On admission all cases received a cathartic consisting of calomel gr. x., bicarbonate of sodium gr. xx.

1st. Acute alcoholic intoxication. These cases were divided into two classes: (*a*) Those in the emotional and boisterous stage. These were given bromide of potassium gr. xxx., and chloral hydrate gr. xv., to be repeated in an hour if necessary. They were put to bed and next morning were discharged. Lack of room prevented the treatment of after-symptoms. (*b*) The stage of "dead" drunkenness. Here the patient was in a semi-conscious state or in a wholly unconscious condition. The stomach was evacuated and washed out with the siphon. External heat was applied and the patient rolled in a blanket, and, if necessary, stimulants were given, such as hypodermics of strychnine gr. $\frac{1}{30}$, or digitalis (fl. ext.) ♏ i. or ii. Patients were usually better in from six to twenty-four hours, or else they gave symptoms of another form of acute alcoholism, usually those of delirium tremens. These cases frequently developed an acute gastritis, for which small doses of morphine gr. $\frac{1}{30}$ were given, to be repeated every fifteen minutes to half an hour until they were able to retain small quantities of fluid, beginning with one drachm of milk or water.

2d. Delirium tremens cases. This occurred in chronic alcoholics, or in other persons after one or more excessive drinking bouts. These were the difficult cases to treat. The withdrawal of all stimulants from these patients was, at times, a very serious procedure, and he had seen cardiac failure supervene upon such a course, and œdema of the brain and lungs set in. The treatment of these cases was directed toward the circulatory apparatus. Alcohol was seldom given. The drugs which held first place for stimulation were strychnine in doses of gr. $\frac{1}{60}$ to $\frac{1}{20}$ and atropine in doses of gr. $\frac{1}{150}$. To produce sleep and rest, sodium bromide gr. xxx., and chloral hydrate gr. xv., were given, to be repeated in an hour if necessary. Morphine gr. ¼ and hyoscine gr. $\frac{1}{100}$ were also used. On account of these drugs producing depression, hypodermics of strychnine and atropine, and at times digitalis, had to be used. Patients who received large and frequent doses of the above and in whom it produced a fitful and unnatural sleep did not seem to derive much benefit, but appeared to be worse. He thought that a doctor who attempted to keep a quiet delirium-tremens ward fattened the grave-yard. For its soothing effect upon the nervous system and to reduce the temperature, the wet pack was successful in many cases. Patients were restrained as little as possible, the strait-jacket never being used. To prevent patients from leaving their beds their wrists were tied to the side of the bed, which allowed considerable freedom of movement. The question of food was an all-important one, and they were given milk and raw eggs by the mouth or rectum. Six to eight eggs a day was not unusual for a patient. So many eggs were used that a serious clash with the authorities had almost resulted. The unquenchable thirst present was treated by large quantities of water. Freshly prepared liquor ammoniæ acetatis was given in half-ounce doses every hour or two, and seemed to produce great benefit.

3d. Acute alcoholic manias. These patients were given the combination of morphine and hyoscine mentioned above, and this seemed to be the only combination that would procure them a moderate amount of rest. The neuritic cases, the epileptic cases, and epileptic-mania cases were transferred elsewhere. He wished to emphasize that alcoholics should be as closely watched as cases of pneumonia. Complications, as they arose, received appropriate treatment. In the anorexia, so common to alcoholics, a mixture containing tincture of capsicum ♏ x., tincture of nux vomica ♏ x., and tincture of ginger ♏ x., was given three times a day.

In closing his paper Dr. Braunlich mentioned some of the treatments followed by others. All the hypnotics had been tried. Some, on the advice of their visiting physicians, had tried exercise in the acute delirious stage, by walking the patient between two attendants until he was somewhat exhausted and able to sleep. Under this treatment the mortality was increased. The digitalis-and-capsicum treatment for delirium tremens consisted in the administration of one-ounces doses of the infusion of digitalis every four hours, for the purpose of eliminating the poison and stimulating the heart; with it were given large doses of powdered capsicum. A severe gastritis, of course, was a contra-indication. By giving an egg-nog before the capsicum the latter could usually be retained. The capsicum was supposed to increase the appetite. Lumbar puncture for wet-brain had been performed, but no conclusions as to its efficacy had been drawn. One of his successors followed this treatment, dividing his cases into three classes: (1) The emotional and boisterous alcoholics. These were quieted and subdued by bromide of potassium gr. xxx., and chloral hydrate gr. xv., repeated at short intervals if necessary. (2) Those on the verge of delirium tremens. These patients received solution of Magendie ♏ v., hyoscine gr. $\frac{1}{100}$, and strychnine gr. $\frac{1}{50}$. (3) Delirium-tremens patients. These received ♏ x. of solution of Magendie, gr. $\frac{1}{50}$ of hyoscine, and gr. $\frac{1}{30}$ of strychnine. His idea was to knock them out with one blow. He reasoned that one big dose of the hypnotic was not so depressing as frequent small doses and, therefore, not so apt to cause heart failure. He was a firm believer in the hot bath for delirium, although, not knowing its efficacy while on service, he did not use it at Bellevue. His own personal belief was that the important elements in the treatment were forced feeding and sufficient stimulation.

Classification and Asylum Treatment of Chronic Alcoholism.—DR. T. D. CROTHERS, of Hartford, Conn., read a paper with this title. He made the following divisions: 1st. The paroxysmal inebriates; 2d. The delusional inebriates; 3d. The senile and demented inebriates.

1st. The paroxysmal inebriates. This included the largest class of alcoholics. There were two divisions of this class of so-called periodical drinkers—one in which the spirit was taken at stated times, followed by a distinct interval of abstinence. The onset and termination of these periods comprised a distinct neurotic cycle; in one instance a man drank every ninety-one days, this period rarely varying more than four or five hours. The other division included those in whom the abstinent period and the time of using spirits were irregular and uncertain, depending upon causes both known and unknown.

2d. Delusional inebriates. These exhibited an increasing confidence in their power to control the desire for drink. This grew and became a veritable delu-

sion of strength of will and ability to regulate conduct under all circumstances and conditions. These cases were usually ascribed to outside causes which could not be foreseen. A certain number developed paresis, and it was difficult to say whether the early drink symptom was not due to the oncoming paresis or whether the paresis followed the poisoning from drink. Persons of this class were voluble, assertive, and dogmatic, and were imperious for help when suffering from the desire for spirits, and the moment this had passed the delusion of confidence and ability to care for themselves appeared again.

3d. The senile and demented inebriates. These, it was stated, drank without any motive or purpose, depending largely upon their ability to procure spirits. They were wanting in vigor and persistent energy to procure spirits, and while they seemed always alert to seize the opportunity to drink, were averse to any particular effort for this purpose. Most of these people were degenerate from birth; some were traumatic cases; some had suffered from profound wasting disease. Many persons of this class had been paroxysmal and delusional inebriates, and finally had come down to this senile stage.

Treatment.—In the treatment of these cases there must be control of the patient, and a change of surroundings and conditions of life. He must go away from home and all home associations and be placed among strangers. The author thought a hospital or asylum a long distance away, where the patient was unknown, the first requisite. If he belonged to the paroxysmal class, and the drink storm was beginning, spirits must be continued for a day or two. If the drink storm was ending, spirits could be removed at once. In the other two classes it was found most desirable to cut off all spirits at the beginning. The withdrawal of spirits should always be followed by calomel or a saline purge, with a prolonged hot-air or hot-water bath, followed by vigorous massage. Irritation following the withdrawal of the spirits could be readily overcome by strong infusion of quassia in ʒ ii. doses every hour until a profound disgust and sudden voluntary abstinence came on. The removal of alcohol and the breaking up of the demand for spirits were only a small part of the treatment. Giving remedies to produce a disgust and destroy a craving was simple, and could easily be accomplished. The use of strychnine after the quassia had been discontinued was very effectual. Nux vomica was often more valuable and could be used for a longer period of time. On the subsidence of the craving for spirits two conditions seemed to be very prominent—one of poisoning, and the other of starvation. The condition of poisoning required continuous treatment for a long time. The hot-air or electric bath seemed to be almost specific in these cases. The object to be attained was the rapid elimination of the toxins through the skin; also, of the waste from faulty assimilation and of the products of decomposition. The electric-light bath seemed to have the power of combining the effects of both light and heat in stimulating the surface circulation. The removal of the spirits often revealed conditions unsuspected before, which would require special treatment. Narcotics should be given with great caution. In his experience lupulin, lactucarium, valerian, and others of this class were more valuable than the stronger drugs. The general treatment, after the first acute stage was over, should consist largely of rest, foods, baths, and mineral tonics. The mental treatment was very important and effort should be made to foster and impress dominant ideas and direct the activities of the unstable mind along exact lines of living. One great object in the treatment was the removal of the causes and conditions for which spirits were taken. The full recognition of inebriety as a neurosis due to degeneration from inheritance and to physical and psychical injuries, also to the corroding and destructive influences of alcohol, must be noted. The principal points of treatment might then be grouped as follows: The patient should be placed in exact surroundings, the alcohol removed, and, if necessary, quassia or cinchona bitters should be substituted until all desire for spirits subsided. This was usually accomplished in a day or two. Then Turkish baths with salines and free elimination through the bowels and kidneys should follow. The baths should be given daily, with rest in bed and hot liquid foods. Beyond this the judgment of the physician should determine when narcotics were to be given, and when they should be abandoned; also, the value of strychnine or nux vomica or any of the tonics required by the conditions. The cessation of the drink craze was always temporary and the latter was likely to recur unless conditions of vigor and strength to overcome it were created. The medical judgment would determine the exact conditions and requirements in each case; not any particular drug or combination of drugs or so-called moral remedies, but a broad, accurate, scientific application of every rational means and measures which might be demanded.

The Treatment of the Drink Habit by Hypnotic Suggestion.—Dr. J. D. Quackenbos read this paper. He had been requested, he stated, to discuss the treatment of the drink habit by hypnotic suggestion, with reference especially to the technique, the class of cases that were amenable, the time limits of treatment, with the general results and the permanency of cure. In default of a more perspicuous philosophy, he had accepted the theory of a duplex personality, and explained the phenomena of hypnotism on the supposition of a double self, each self having a distinct state of consciousness. One of these states was called the primary consciousness, and for want of a better definition it might be explained as the self-luminousness of the objective mind, the inner light in which all the actions of the waking mind were made visible to that mind. The other, called the secondary consciousness, held those mental procedures of which, objectively, we knew nothing—all automatic actions. Each human being was thus an individual with two distinct phases of existence, a combination of two personalities which did not shade into each other—the personality by which he was known to his associates, which took cognizance of the outside world and consciously carried on the ordinary business of life; and a higher, more subtle personality, which science had demonstrated to be capable of acting independently of a physical environment, which intuitively apprehended, and which automatically controlled the physical and intellectual man in the line of its apprehensions. Through hypnotization this subliminal or submerged self, which spontaneously asserted itself in the natural somnambulistic state, was brought into active control. The technique adopted by him involved the conventional concentration of the visual attention upon some brilliant object, the securing of the patient's confidence in the physician's desire and ability to help him, and the usual sleeping suggestions, as an accompaniment of impression by the personality of the doctor. Dipsomaniacs, as a rule, were easy subjects, in that they yielded readily to the hypnotic influence and accepted unconditionally the suggestions communicated by the operator. Regular drinkers might be dealt with whenever they could be induced to sober. He had found it unprofitable to attempt the hypnotization of an intoxicated person. Periodic drinkers should be treated just before the close of the cycle of sobriety. Regularly recurring debauches have periods of varying length, the longest in his experience being three years; and he had satisfied himself that in some in-

stances a relationship existed between the abuse of tobacco and the oncoming of the irresistible thirst, the depressing effects of the nicotine instinctively suggesting resort to the antidote. Periodic drink-storms were usually forecast by significant indications—well known to the family and friends of the victim—irritability of temper, unreasonable suspicion, so-described "crank spells," abnormal restlessness, unaccountable depression. Immediately upon the appearance of these symptoms the patient should be treated by suggestion. Many such subjects recognized their danger, and sincerely wished to be cured. They were hypnotized and assured that they had lost their craving for beer, wine, or whiskey; that alcohol in any form would disgust them, and that they could not take it, could not carry the containing glass to their lips. The society of low companions was tabooed; the pleasures associated with drink and the glamour of the bar-room were pictured as meretricious and placed in vivid antithesis to the chaste delights of home life. The physical, mental, moral, and financial bankruptcy that accompanied dipsomania was held up before the view of the sleeper, and he was forced to the conviction that, begotten of this apprehension, had come into his soul an abhorrence for drink and all that it stood for. The subpersonal mind was then directed to the vocation or the avocations, or both, as circumstances suggested, and a career of wholesome activities and satisfactory successes was imaged as the legitimate result of the abandonment of the compromising habit. It would thus be seen that hypnotic suggestion was of the nature of inspiration. It was a summoning into control of the true man; an accentuation of insight into life and its procedures, a revealing—in all its beauty and strength and significance—of infinite, absolute, universal, and necessary ethical truth; and a portraiture of happiness as the assured outcome of living in consonance with this truth. It was not a mere pulling up of weeds by the roots, as Horace Fletcher described it in "Menticulture;" but it was a sudden overshadowing and starving out of character defect and mental weaknesses by a tropical growth of ethical energy which sought immediate outlet in the activities of a moral life. The patient freely expressed his best self post-hypnotically, without effort, from a plane above the will—the plane of apprehension and spontaneous control along lines of thought and action that were high and true. Such inspiration could not be mere lip-work or rote lesson. It implied a belief in the suggestions offered, an eloquent and incisive manner born of the courage of conviction; in short, a reciprocal transfer of personality. Perfunctory speeches were of no avail, for the mind of the mesmerized was endowed with supra-normal insight, instantaneously detected the disingenuous, and rejected the counsel of an uncandid or lukewarm guide. In practical hypnotics, the best thing one had to give was himself. A sine qua non of success was the consent of the patient, an honest desire on his part to reform. Habitual drinkers, those who "soaked," as Goldsmith described it, did not, as a rule, wish to be cured. They enjoyed indulgence in alcoholic fluids and the false pleasures that attended it; and about ninety per cent. of them, women as well as men, resented the approaches of those who desired to save them. Sometimes, when no other form of appeal was effective, they might be frightened into a realization of the fact that constant use of alcoholic stimulants would result in organic changes in the liver, kidneys, and brain; or by lowering the general powers of resistance and at the same time irritating the bronchial tubes and the lungs, through which the alcohol was in part eliminated, markedly predisposed to pneumonia and pulmonary consumption. In fact, immoderate drinkers might, in sober intervals, be made to realize, not only that they were physically depraved, but intellectually deteriorated as to the faculties of memory, attention, concentration, judgment, and that they were deficient in business tact and in the general address essential to success. Once apprised of their enervated mental condition, they honestly desired to correct the habit, but could not of themselves, the craving simulated a mania. Under these circumstances it was comparatively easy to persuade a patient to accept treatment, and a rescue might be effected in a week's time. But the treatment must be persisted in for a much longer period, the tendency being to abandon it too soon because of a belief in cure. A patient, whose language he quoted to show his confidence after a single treatment, subsequently fell: "I am getting on splendidly, and my better self still has complete control, causing me to feel that I shall never return to those miserable times again, for I have not the slightest desire in the world for anything in the alcohol line." It was quite common for patients to express themselves similarly after the first series of suggestions, and for relatives to write that they were "astounded at the result." But if some unlooked-for pressure of passion and allurement was brought to bear on the self-confident subject, he was almost sure to yield. An inebriate patient who went two months in New York without experiencing the slightest desire for alcohol, and was proof against all solicitations to enter a saloon, encountered in Philadelphia a combination of business disappointments and temptation that proved irresistible. Could the operator foresee such a contingency, he might avert it. It was not claimed that the tendency to relapse was obliterated by hypnotism. The cure might or might not be permanent, as was the case with rheumatism, quinsy, bronchitis, intermittent fever with its distinct germ and distinct specific. No physician was asked to guarantee a patient against a recurrence of tonsillitis, especially when the patient deliberately exposed himself to the appropriate conditions for a relapse. No more could be expected of the physician suggestionist, who was not a miracle-monger The utmost he could do in a prophylactic line was to reject all compromises in his treatment, suggest total abstinence, forbid exposure to temptation, and render insensible to the psychology of the saloon. Experience proved that it was always better to deal, in drink-habit cases, with the nearest of kin rather than directly with the patient, who naturally overestimated his powers of resistance. Courting a conflict with the demon of drink, as many did, was playing with fire. A dipsomaniac who was sent to him from Paris a year ago, for treatment at his summer home, was practically cured in a week. He returned to New York, and there insisted on living in a cabaret. The inevitable soon occurred. There were cases in which the drink habit had become so ingrained that the early promise of post-hypnotic suggestion was gradually brought to naught by continual returns, seemingly inexplicable, of the uncontrollable craving. The automatic mind struggled in vain for mastery of a habit, which had not only evolved into a second nature, but was forever converting an unnatural appetite into a fiery passion. Suggestion in such an event should be supplemented by appropriate drugs, and in some instances by discipline. The physical side must not be lost sight of. While hypnotic suggestion might regulate a disturbed metabolism in the nerve organs or check atrophic changes in cell protoplasm, it could not be expected to repair lesions in the blood-vessel sheaths or suddenly atone for the results of an exaggerated destructive metamorphosis in the nerve-cell bodies. Fortunately, the damage to the cells was measurably reparable by discontinuance of the poison and judicious administration of nourishment. Therefore, in his treatment, alcohol was immediately withdrawn, stimulating liquid

food was given every two hours for a day or two, a phospho-glycerite was administered with a view to refining the quality and increasing the quantity of the lecithin, also a tablet containing strychnine, nitroglycerin, and capsicum, fluid extract of coca if required, a valerianate to control undue nervous expression, and bromide and chloral to induce sleep. In the insanity of extravagant drinking, coupled with chronic nicotine poisoning, suggestive treatment might sometimes be delayed with advantage until after the compulsory reduction or withdrawal of the artificial stimulant. Patients who, to rid themselves temporarily of the importunity of relatives, accepted an institutional life, with mental reservation as to their habits at the termination of the period of treatment, were proper subjects for suggestion while in sanatoria. "The tongue has taken the oath, but the mind is unsworn." Under such circumstances, with the craving in lull, the subliminal self might be successfully impressed. The views advanced were based upon an experience with some forty cases, extending over a period of nearly two years. Of these cases, some of which were quite recent, fifty per cent. had not returned to drink, approximately thirty-three per cent. had been lost sight of and could not be heard from, approximately seventeen per cent. were known to have relapsed, without rebound. More than half the latter were practically hopeless from the beginning. The success of the treatment bore a distinct relation to the amount of injury already inflicted upon the brain cells and the accompanying mental deterioration. Its advantage consisted in the rapidity of restoration to self-control without the necessity for effort, without the physical discomfort or suffering that usually accompanied abandonment of the habit, and most conspicuously without the breaking of family ties and the enforced absence from professional or business duties that were implied in sanatorium treatment.

Medical Items.

Diseases of Samoa.—Dr. Edward M. Blackwell, assistant surgeon U.S.N., discusses in the report of the surgeon-general, U.S.N., the disease of the Samoan Islands. He says concerning the maladies which attack the natives of the harbor of Pago-Pago, Tutuila Island, that "the most common of these are bronchial, rheumatic, neuralgic, and digestive troubles. The first three are probably due in great part to the fact that the natives get their clothes wet very often, and allow them to dry upon their bodies. Those who wear least clothes are generally least affected. The digestive troubles are probably due to the character and mode of preparing and eating their food, and to sedentary habits. Blindness in one eye is very common, and it is generally due to ophthalmia in childhood, which has been neglected. The cornea is opaque, and the lens generally bulges forward and adheres to it. As a rule, all the children have a peculiar eruption, which I have been unable to diagnose. It generally spreads over the whole body and limbs. It is macular, papular, vesicular, and pustular in the different stages, and often in the later stages there are large foul ulcers. The natives think it is a necessary disease of childhood, and if it is late in making its appearance they sometimes inoculate the child with virus from the pustules of another child. There appears to be very little constitutional disturbance attendant upon it. . . . A lady who lives at Faga-Toga has practised considerably among the natives and with very good results. She has had no medical education, except what she has picked up from a United States dispensatory, and from surgeons who have visited the harbor. She keeps the commoner drugs, and appears to understand their uses fairly well, and to prescribe them intelligently. I have seen several fractures she has reduced and treated with very good results. Two amputations that she has performed, one of the arm and one of the forearm, have come under my observation, and the results were very good. She had native assistants, and the only instruments she had were a hand saw and a razor."

A Toe for a Finger.—Nicoladoni has recently published a case in which a toe was surgically substituted for a lost finger. Four months before operation, the patient lost his right forefinger by accident. The second toe was so divided that an attachment still remained to his foot by means of the soft parts, and the toe was applied in the place of the absent finger, the parts being kept in position by a plaster cast. For twelve days a gradual severance of the connecting bridge of tissue was carried out, until a complete separation was effected. The whole toe retained its vitality, and it is further reported that it has developed sensibility, although the power of movement has not yet been established. Nicoladoni hopes that it will occur. This is his second case of the kind.—*Medical Times and Hospital Gazette.*

A New Detention Hospital for Minneapolis.—Philanthropic citizens of Minneapolis have generously subscribed $24,000 for a new detention hospital on the city hospital grounds.—*The Medical Dial*, December.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 21, 1900:

		Cases.	Deaths.
Smallpox—United States.			
District of Columbia, Washington	December 15th	5	
Illinois, Chicago	December 8th to 15th	2	
Kansas, Wichita	December 8th to 15th	11	
Kentucky, Lexington	December 8th to 15th	2	
Michigan, Detroit	December 8th to 15th	2	
Minnesota, Minneapolis	December 8th to 15th	7	
Nebraska, Omaha	December 1st to 8th	3	
N. Hampshire, Manchester	December 8th to 15th	22	
New Jersey, Jersey City	December 8th to 15th	1	
New York, New York	December 15th	15	
Ohio, Ashtabula	December 8th to 15th	2	
Cleveland	December 8th to 15th	37	
Portsmouth	December 8th to 15th	2	
Pennsylvania, Erie	December 15th	5	
South Carolina, Greenville	December 8th to 15th	2	
Tennessee, Memphis	December 8th to 15th	1	
Texas, Houston	December 15th	16	
Utah, Salt Lake City	December 8th to 15th	49	1
West Virginia, Wheeling	December 15th	8	
Wisconsin, Milwaukee	December 8th to 15th	1	
Smallpox—Foreign.			
Bohemia, Prague	November 24th to December 1st	49	1
Brazil, Pernambuco	November 15th	1	
Rio de Janeiro	October 1st to 31st	43	
Egypt, Alexandria	November 27th	3	1
England, London	November 24th to December 1st	14	1
Sunderland	December 1st	1	
France, Paris	December 1st	17	
Gibraltar	November 25th	1	
Greece, Athens	December 1st	2	
India, Calcutta	November 3d to 15th	3	
Mexico, Mexico	December 2d	1	
Tuxpan	December 3d to 10th	3	
Russia, Moscow	November 17th to 24th	3	1
Odessa	November 24th	62	15
St. Petersburg	November 24th	5	2
Warsaw	November 24th		25
Scotland, Glasgow	December 7th	45	1
Spain, Corunna	November 3d		2
Valencia	December 2d	1	
Yellow Fever.			
Brazil, Rio de Janeiro	October 16th to 31st		2
Mexico, Vera Cruz	December 8th		2
Yucatan	November 30th		1
Cholera.			
India, Bombay	November 13th to 20th		7
Calcutta	November 3d to 15th		35
Madras	November 10th to 16th	2	1
Straits Settlements, Singapore	November 3d		6
Plague—Foreign.			
Brazil, Rio de Janeiro	October 16th to 31st		9
India, Bombay	November 13th to 20th		125
Madras	November 10th to 16th		1
Philippine Islands, Manila	November 3d	3	1

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